SECOND EVALUATION REPORT

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Evaluation of the Vermont All-Payer Accountable Care Organization Model (VTAPM)

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List of Exhibits

Contributors

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

Executive Summary

Key Takeaways

Contextual Factors

- The COVID-19 public health emergency (PHE) stretched resources and disrupted normal operations for the state, providers, payers, and broader health system partners.
- The cyberattack on the University of Vermont (UVM) Health Network in October 2020 disrupted the ability of UVM Health Network hospitals and other providers to provide care and bill for services and had a downstream impact on access to care across the state.

Participation (PY3)

- All but one eligible hospital participated in the Medicaid Accountable Care Organization (ACO) initiative. Approximately half of eligible hospitals participated in the Medicare ACO initiative—one fewer than in performance year (PY) 2.
- Most critical access hospitals (CAHs) in Vermont's rural areas opted not to participate in the Medicare ACO initiative, citing the organizational financial reserves required for the Medicare ACO initiative as a barrier to participation.

Implementation (PY3)

- The care coordination infrastructure supported by the Model provided critical support to those most at risk from COVID-19 and helped communities respond to the COVID-19 PHE. Increased collaboration between hospitals and community organizations enabled communities to quickly respond to COVID-19 PHE-related needs.
- Medicare payments to hospitals remain primarily fee-for-service (FFS). There is a desire to see Medicare payments align with Medicaid; Medicaid's predictable and reliable payments were particularly beneficial during COVID-19 PHE-related patient volume fluctuations.

Medicare Spending (PY1-PY3)

- Medicare saw gross spending reductions at the state and ACO levels, as well as net spending reductions at the state level.

Utilization (PY1-PY3)

- Due to influences of the COVID-19 PHE, Medicare utilization saw a steep decline in both the VTAPM and comparison group in PY3 relative to PY2.
- There were reductions in acute care stays at the ACO and state levels, as well as a reduction in 30-day readmissions at the state level.

The Centers for Medicare & Medicaid Services (CMS), through the Center for Medicare & Medicaid Innovation (CMMI), designed the Vermont All-Payer ACO Model ("VTAPM" or the "Model") to test whether scaling an ACO model across all major payers in the state would incentivize broad care delivery transformation and ultimately reduce statewide spending and improve population health outcomes. Under the Model, which initiated 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 population targets (i.e., Model participation), financial targets, and population health targets. The VTAPM builds on nearly two decades of payment and delivery system reform initiatives in Vermont.

NORC at the University of Chicago is conducting an independent evaluation of the VTAPM to assess the implementation and impact of the Model. Findings on implementation are based on thematic analysis of semi-structured virtual interviews with state officials and a Web-based survey of providers in Vermont. 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 descriptive analysis of the effect of the COVID-19 PHE on health care utilization patterns in 2020. We made several adjustments in our evaluation approach for PY3 in response to the PHE, including virtual data collection and adding area-level COVID-19 PHE variables to the entropy balancing (EB) and impact models. Claims-based outcomes in this report are limited to FFS Medicare beneficiaries and include findings from PY1 (2018) through PY3 (2020). We present findings for ACO-attributed Medicare beneficiaries and for the statewide Medicare population to reflect the VTAPM's accountability for outcomes at both the ACO and state levels. Because the University of Vermont (UVM) Health Network experienced a cyberattack in October 2020 that disrupted access to care, we also provide the results of sensitivity analysis that excluded the fourth quarter of 2020 from impact estimates.

Overview of the Vermont All-Payer Accountable Care Organization Model

VTAPM's underlying aim is to increase value-based payments across major payers using an ACO structure to accelerate care delivery transformation in Vermont. The Model encourages providers to move from FFS to value-based payment by aligning 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.

Accountability Structure. Vermont developed a multi-layered accountability structure among CMS, state agencies, payers, and the health care delivery system—hospitals, practitioners, and other providers—as illustrated in **Exhibit ES.1**. 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.

Exhibit ES.1. Accountability Structure of the VTAPM
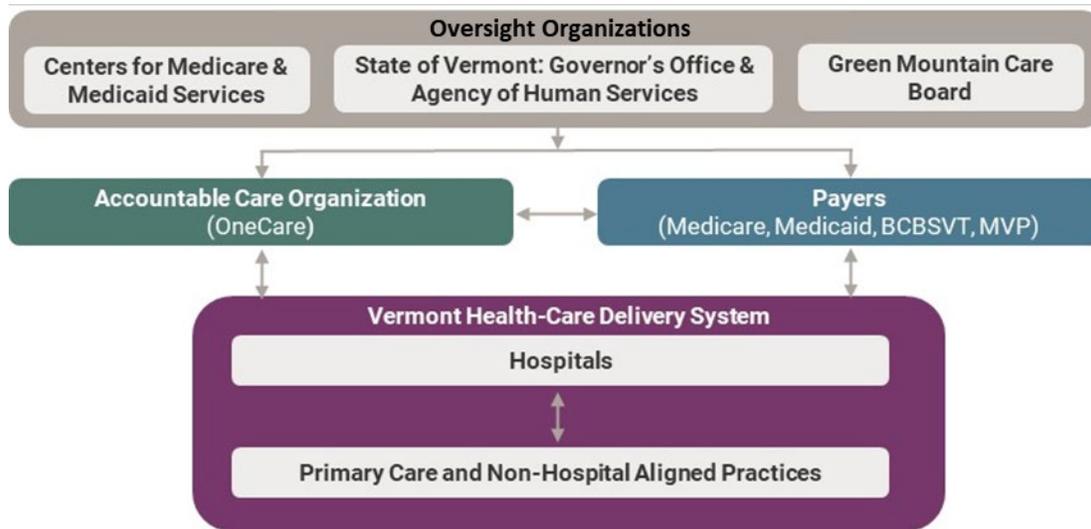
Model Targets. The ACO, state leaders, and providers participate in activities to meet Model targets and benchmarks for financial, population health, and beneficiary attribution. Financial targets and benchmarks include Medicare ACO Initiative Benchmarks and Statewide Financial Targets based on the Annual Projected National Medicare Total Cost of Care (TCOC) per Beneficiary Growth Rate.[a] The Population Health Outcome Goals are to increase access to primary care, reduce deaths from suicide and drug overdose, and reduce chronic disease morbidity. ACO benchmarks can be reduced if Quality-Related Benchmarks are not met. The Model State Agreement signed in 2016 required that by the end of PY5 (2022) 70 percent of all insured Vermonters be aligned to a Scale Target ACO Initiative (Medicare, Medicaid, or commercial) and 90 percent of Vermont Medicare beneficiaries be aligned to the Medicare ACO Initiative. In October 2021, CMS waived enforcement of the ACO Scale Targets.[b]

Financial Structure. 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; in 2021, OneCare introduced a primary care accountability component. 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

[a] Centers for Medicare & Medicaid Services, Governor of the State of Vermont, Green Mountain Care Board, Vermont Agency of Human Services. Vermont All-Payer Accountable Care Organization Model Agreement. Green Mountain Care Board; 2016. Accessed May 19, 2022. https://gmcboard.vermont.gov/sites/gmcb/files/files/payment-reform/All%20Payer%20Model%20ACO%20Agreement.pdf
[b] CMS temporarily waived enforcement of scale targets, noting that ACO Scale Targets set forth in the State Agreement are unattainable for Vermont based on information not available when the State Agreement was drafted. The new information includes the significant increase in Medicare Advantage penetration, as well as the ACO attribution methodology, which excluded the many Vermont beneficiaries who were not attributed to the ACO due to primary care utilization outside the state, For more information, see the October 12, 2021, letter from CMMI to the State of Vermont, available at VAPM_WoE_2021_signed_0.pdf (vermont.gov).

mechanisms are Medicaid's Fixed Prospective Payment (FPP)—which is not reconciled with FFS payments—and traditional FFS.

Challenges in 2020. Vermont faced two major challenges in 2020, including the COVID-19 PHE and a ransomware cyberattack against the UVM Health Network that resulted in delayed and foregone care, as well as providers delaying or opting not to file claims with Medicare.

Model Changes in 2020. There were several changes to the VTAPM in 2020, most related to the COVID-19 PHE:

- The PY4 (2021) prospective benchmark was revised to use the observed change in spending between 2019 and 2020, and Medicare Parts A and B FFS claims for inpatient episodes of care for COVID-19 were removed.
- CMS reduced PY3 shared losses by the proportion of time affected by the PHE and removed COVID-19 episodes from Parts A and B costs.
- Under the Model State Agreement, PY3 became a "reporting only" year for population health and quality of care measurement.
- CMS extended the deadline for submitting the final Medicare provider participation roster for PY4.
- The Department of Vermont Health Access (DVHA) made several design-related changes to the Medicaid ACO in PY3, including decreasing the risk corridor, aligning with Medicare changes due to the COVID-19 PHE, and implementing an expanded attribution methodology that does not rely on past utilization with a primary care provider (PCP) to attribute members to the Model, as well as adding a year-end quality adjustment (in PY4).

Payers and Payment Model. Medicare, Medicaid, and Blue Cross Blue Shield Vermont (BCBSVT) continued participation in PY3. The Model added one commercial payer, MVP Health Care (MVP), who joined with its qualified health plan (QHP); BCBSVT added a segment of its self-insured employer plans. 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. While the VTAPM was designed to provide an avenue for all payers to participate in payment and delivery system reform through alignment of incentives across payers, it has faced challenges in achieving maximum participation. 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.

Across state-level stakeholders, hospitals, and providers, there is a desire to see Medicare payments align with Medicaid. Medicaid's predictable and reliable payments were particularly beneficial during COVID-19 PHE patient volume fluctuations. Medicare payments to hospitals remain primarily FFS. For CAHs, clear communication around cost reporting guidance has been an ongoing challenge.

H **Hospitals.** All but one eligible hospital participated in the Model in PY3. As in previous years, there was broad participation in the Medicaid ACO initiative (all 14 participating hospitals). Most CAHs in Vermont's rural areas opted not to participate in the Medicare ACO initiative, citing the organizational financial reserves required for the Medicare ACO initiative as a barrier to participation.

Practices and Practitioners. The Model added 269 practitioners in PY3, slightly over half (54 percent) of whom were participating in all three ACO initiatives (Medicare, Medicaid, and commercial). Across all payer programs, approximately 82 percent of Vermont providers who could potentially be attributed are participating in the Model. While most Vermont clinicians were aware of the Model, only half of participating practitioners identified themselves as participants. For non-participants, concerns about financial capacity were the primary reasons cited. Participation in the Medicare ACO was most common among large practices.

Accountability Structure. With regulatory authority over hospitals, the ACO, and individual, small-group, and large-group market insurance premium rates, and oversight over the VTAPM, the GMCB is in a unique position to help shape thinking across stakeholders. However, the GMCB's mechanisms for controlling hospital spending are limited in a primarily FFS payment system.

Care Delivery Transformation Responding to the COVID-19 PHE was the priority for the state of Vermont, the ACO, hospitals, and community organizations during 2020 and into 2021. The acute demands of the COVID-19 PHE strained hospital budgets and required hospitals to halt many population health investments.[1] Communities harnessed Community Health Team (CHT) infrastructure and OneCare tools to support primary care practices and their patients most at risk from COVID-19 and to stand up testing and vaccination capacity.[2,3]

While the ACO, hospitals, and community organizations responded to the COVID-19 PHE, other initiatives such as those focused on reducing preventable readmissions and emergency department (ED) visits were put on hold. Workforce shortages also posed a challenge to expanding access to care, especially for mental health and substance use disorder treatment services.

Participating hospitals and practitioners noted several implementation challenges. First, hospitals need more timely data to understand impacts of investments; some need support to analyze and interpret data. Primary care practices also need more financial and technical support for practice transformation. While the Model is beginning to break down provider silos, there are opportunities to improve engagement of non-hospital providers.

The care coordination infrastructure supported by the Model provided critical support to those most at risk from COVID-19 and helped communities address the COVID-19 PHE. Hospital leaders credited the VTAPM as a "catalyst" for increasing collaboration between hospitals and community organizations.

These relationships enabled communities to quickly respond to COVID-19 PHE-related needs, including testing and vaccination.

Model Performance on Spending, Utilization, and Quality Outcomes in the First Three Performance Years (2018–2020)

Our quantitative analysis reflects the VTAPM's multiple layers of accountability, with incentives focused both on the ACO's attributed population and Vermont's statewide population. NORC 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.

Medicare Spending. Over the first three PYs, the VTAPM Medicare ACO initiative achieved statistically significant reductions in cumulative gross spending, totaling $655 per beneficiary per year (PBPY), or 6 percent (see Exhibit ES.2). After considering shared savings and incentive payments from Medicare, the VTAPM Medicare ACO saw a statistically insignificant spending reduction of $577.13 PBPY (5.3 percent). When including just the first three quarters of PY3 to mitigate the effect of the cyberattack on the UVM Health Network, we observed statistically insignificant reductions in gross cumulative spending ($470.53 PBPY; 4.7 percent) and net cumulative spending ($381.76 PBPY; 3.9 percent).

Exhibit ES.2. Medicare ACO-Level Spending Impacts
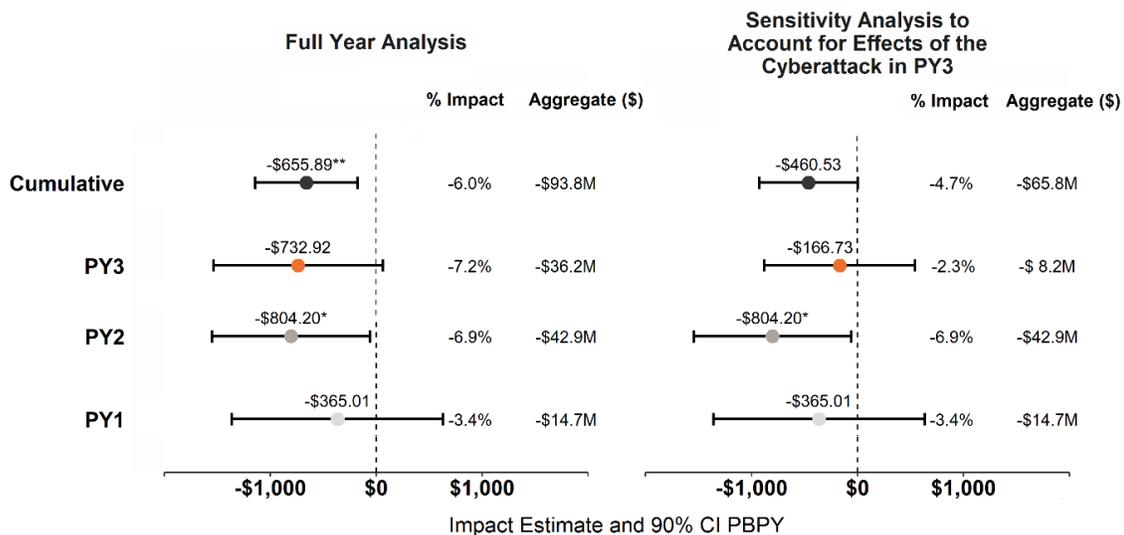
SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Impact in 2020 USD ($) per beneficiary per year (PBPY) or in aggregate for all beneficiaries in PY(s). Estimated aggregate gross impact is the DID estimate multiplied by the number of attributed beneficiaries in PY(s). Full-year analysis includes calendar year 2020; sensitivity analysis includes the first three calendar quarters (January–September) of 2020. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Statewide, the VTAPM achieved statistically significant reductions in cumulative gross ($782.58 PBPY; -6.8 percent) and net ($748.74 PBPY; -6.5 percent) total Medicare Parts A and B spending (see Exhibit ES.3). When including first three quarters of PY3 (2020), we observed significant reductions in gross spending ($921.34 PBPY; 8.7 percent) and net spending ($876.62; 8.2 percent).

Exhibit ES.3. State-Level Spending Impacts
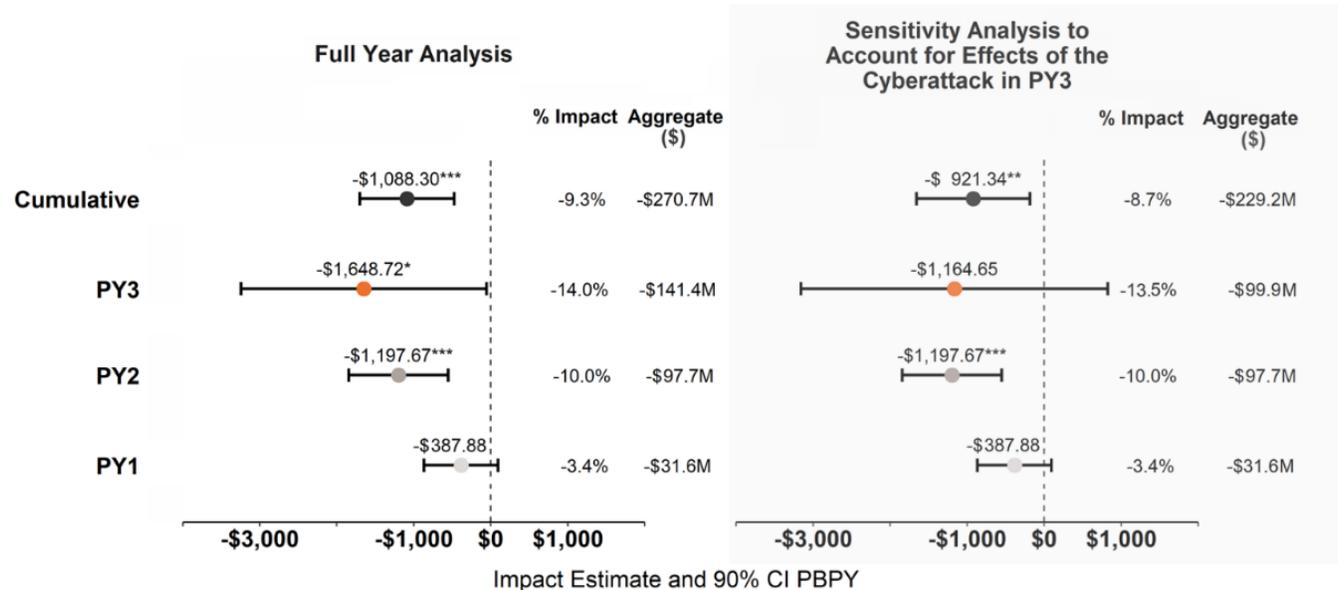
SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Impact in 2020 USD ($) per beneficiary per year (PBPY) or in aggregate for all beneficiaries in the PY(s). Estimated aggregate gross impact is the DID estimate multiplied by the number of attributed beneficiaries in PY(s). Full-year analysis includes calendar year 2020; sensitivity analysis includes the first three calendar quarters (January-September) of 2020. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Observed reductions in Medicare spending—for both the Medicare ACO and statewide—reflect rising spending in the comparison groups and relatively flat spending in the VTAPM groups, beginning prior to the end of the baseline period and continuing through the first two PYs.

Utilization. Due to influences of the COVID-19 PHE, Medicare utilization saw a steep decline in both the VTAPM and comparison groups in PY3. Despite shifts in utilization and care-seeking patterns in PY3, many of the trends observed in PY2 persisted in PY3, including decreases in acute care and specialist evaluation and management (E&M) visits (**See Exhibit ES.4**). The decline in specialist E&M visits may be driven in part by specialist shortage in Vermont and long wait time for specialty care.[c]

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[c] The State of Vermont Wait Times Report released in February 2022 reported a 3 percent decrease in specialist utilization between 2016 and 2019 and longer wait times in Vermont compared to peer states. The report identified some potential factors influencing wait times, including a complicated referral process, technology-related challenges, workforce availability, and distribution of care between primary care and specialists. See https://dfr.vermont.gov/sites/finreg/files/doc_library/vermont-wait-times-report-021822.pdf for additional detail on findings.

While statewide findings are relatively consistent with previous years, there is more variation for the ACO-attributed beneficiaries, which may be due to the UVM Health Network cyberattack and the Model's more coordinated response to the COVID-19 PHE (See Exhibit ES.5).

Exhibit ES.4. Impacts on Medicare-ACO Level Utilization

	PY3 Analysis	Sensitivity Analysis to Account for the Effects of the Cyberattack in PY3
Acute care hospital stays	-7.9%	-3.5%
Acute care hospital days	9.0%	5.6%
ED visits and observation stays	11.3%**	15.0%***
Total evaluation & management (E&M) visits	-6.6%***	-5.5%**
Primary care E&M visits	1.6%	3.1%
Specialty care E&M visits	-15.3%***	-15.3%***
Hospice days	-18.6%	-13.0%
Imaging, procedures, and tests	0.4%	5.4%
Annual wellness visits	-34.1%***	-26.9%*
Ambulatory care-sensitive hospitalizations	21.8%	15.9%
Unplanned 30-day readmissions	-38.9%	-27.2%

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

Exhibit ES.5. Impact on State-Level Utilization

	PY3 Analysis	Sensitivity Analysis to Account for the Effects of the Cyberattack in PY3
Acute care hospital stays	-9.8%***	-4.0%
Acute care hospital days	-13.3%**	-10.3%*
ED visits and observation stays	-1.6%	0.5%
Total evaluation & management (E&M) visits	-9.3%***	-9.4%***
Primary care E&M visits	5.3%	5.5%
Specialty care E&M visits	-19.7%***	-20.6%***
Hospice days	-37.2%	-24.8%
Imaging, procedures, and tests	0.6%	1.8%
Annual wellness visits	-2.1%	-1.4%
Ambulatory care-sensitive hospitalizations	20.2%***	23.3%***
Unplanned 30-day readmissions	-17.7%***	-14.4%**

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

Quality of Care. Overall, in PY3 (2020), we observed continued progress toward 2022 performance targets for the majority of the Model's population health and quality of care outcomes that are part of the Model State Agreement (see Exhibit ES.4). The Model maintained statewide chronic disease prevalence (chronic obstructive pulmonary disease, diabetes, hypertension); increased the

Model population's initiation and engagement for treatment for alcohol and other drug dependence and timely follow-up after ED discharge; and almost halved the percentage of Medicare beneficiaries with diabetes experiencing poor HbA1c control.

Discussion

In the third PY of the VTAPM, the COVID-19 PHE and UVM Health Network cyberattack presented health systems and providers across the state of Vermont with unprecedented challenges. There are several challenges inherent in the Model's design and implementation that limit participation and impact, including the inability of CAHs to take on risk and the inconsistency between Medicare and Medicaid payment mechanisms. Nonetheless, Vermont's established primary care and care management infrastructure helped providers address residents' changing needs during the COVID-19 PHE, allowing for reduced utilization and spending at both the Medicare ACO and state levels.

There are limitations to note, including the fact that the Medicare spending reductions were not robust to the exclusion of the fourth quarter of PY3 to account for the cyberattack. The statewide impacts remain, as the entire population was less sensitive to the cyberattack than the Medicare ACO beneficiaries. Due to Vermont's unique context and reform history, including the creation of the GMCB and participation in prior value-based care initiatives, the impacts observed may be a continuation of previous trends and may only be partially attributed to the VTAPM.

Future reports will explore how the VTAPM is able to achieve spending and utilization reductions despite the contextual implementation challenges, monitor the ongoing effects of the COVID-19 PHE and 2020 cyberattack, and include impact estimates for enrollees in the Medicaid ACO.

Chapter 1: Introduction

The Centers for Medicare & Medicaid Services (CMS), through the Center for Medicare & Medicaid Innovation (CMMI), designed the Vermont All-Payer Accountable Care Organization (ACO) Model ("VTAPM" or the "Model") to test whether scaling an ACO structure across all major payers in the state would incentivize broad care delivery transformation and ultimately reduce statewide spending and improve population health outcomes.[4] Under the Model, which initiated in 2017 and went into effect in 2018, 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 (i.e., Model participation), financial targets, and statewide health outcomes and quality of care targets.[5]

CMMI contracted with NORC at the University of Chicago to conduct an independent evaluation of the Model.[d] This report, the second in a series of reports for CMMI to be released as part of NORC's evaluation, includes results of impact analysis for Medicare beneficiaries in the first three performance years (PYs) of the Model (2018–2020) and a discussion of implementation experience in 2020 and early 2021.The coronavirus disease (COVID-19) public health emergency (PHE), along with a cyberattack in late 2020 that disrupted care across the University of Vermont (UVM) Health Network, presented unique challenges that altered health care utilization in PY3 (2020) of the VTAPM. Below, we provide an overview of the Model, including design changes in response to the COVID-19 PHE; our updated evaluation approach, including adjustments in response to the COVID-19 PHE and cyberattack; and the road map for the remainder of the report.

1.1 Overview of the Vermont All-Payer Accountable Care Organization Model

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 (Blueprint), and a multi-payer ACO Shared Savings Program (SSP) pilot under Vermont's State Innovation Models (SIM) Testing Grant. The VTAPM launched in 2017 (Performance Year 0 [PY0]) with the Medicaid Next Generation ACO pilot, which represented Medicaid's participation in the All-Payer ACO Model.[e] The Model expanded in PY1 (2018) to include Medicare and commercial beneficiaries, aligning with some of the design features used in the Medicare Next Generation ACO Model.[f]

The VTAPM Model State Agreement specifies financial targets and benchmarks aimed at bringing health care spending in line with Vermont's overall economic growth and achieving population health

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[d] NORC's evaluation is of the All-Payer Accountable Care Organization Model as a whole; it is not an evaluation of any individual participating or nonparticipating organizations (i.e., payers, regulatory authority, care providers, or other stakeholders).

[e] CMS provided $9.5 million in start-up funding in PY0 (2017) to support care coordination activities, facilitate connections with community-based resources, and support practice transformation.

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

goals. Through the Model State Agreement, CMS holds Vermont accountable for meeting financial and population health targets while providing flexibility to tailor the Model to the state's distinct characteristics. The state, and therefore its payers, is also responsible for meeting beneficiary scale attribution targets for Model participation by attributing a minimum percentage of Medicare, Medicaid, and commercially insured beneficiaries to the VTAPM across each PY.[g]

The Model aims to encourage providers to move from fee-for-service (FFS) to value-based payment by aligning financial incentives across payers through risk-based payments tied to provider performance on quality and financial metrics, using an ACO structure to accelerate care delivery transformation. ACOs are arrangements in which hospitals, clinicians, and other providers voluntarily work together to provide coordinated and high-quality care to patients.[6] The VTAPM currently includes one private-sector statewide ACO: OneCare Vermont (OneCare).[h] 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.

State Oversight

As discussed in the First Evaluation Report, Vermont developed a multi-layered accountability structure among CMS, state agencies, payers, and the health care delivery system—hospitals, practitioners, and other providers—in the state (see **Exhibit 1.1.1.**). Multiple stakeholders developed and negotiated the Model State Agreement with CMS, including the Vermont governor, the Green Mountain Care Board (GMCB), and the Vermont Agency of Human Services (AHS).[10] These signatories are responsible for jointly overseeing Model implementation.

The GMCB, an independent entity with a five-member board appointed by the governor for six-year terms, plays a critical role in Model implementation, including regulating Vermont ACOs, certain health insurance rates, individual hospital budgets, and major health care capital spending.[11] The GMCB certifies ACOs (if required) when ACOs begin operating in Vermont and annually confirms their eligibility for continued certification. The GMCB also annually reviews, modifies, and approves ACO budgets. The GMCB is required to coordinate with OneCare to achieve the Model's ACO scale beneficiary attribution targets, statewide financial targets, and statewide health outcomes and quality of care targets.[12] Under the Model State Agreement, the AHS is responsible for developing and implementing the Medicaid ACO initiative and ensuring that Vermont Medicaid participates and acts as a reliable payer. The AHS has an intergovernmental agreement with the Department of Vermont Health Access (DVHA) to administer Vermont's Medicaid program. DVHA offers an ACO program that meets Medicaid scale attribution target criteria.[13] To facilitate Model participation, DVHA sets Medicaid ACO

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[g] In October 2021, CMS temporarily waived enforcement of scale targets, noting that ACO Scale Targets set forth in the State Agreement are unattainable for Vermont based on information not available when the State Agreement was drafted. The new information includes the significant increase in Medicare Advantage penetration, as well as the ACO attribution methodology, which excluded the many Vermont beneficiaries who were not attributed to the ACO due to primary care utilization outside the state, For more information, see the October 12, 2021, letter from CMMI to the State of Vermont, available at VAPM_WoE_2021_signed_0.pdf (vermont.gov).

[h] 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, LLC (CHAC), a primary care association, and Vermont Collaborative Physicians, LLC (VCP), an independent practice association, did not join the Model. The Agreement does not limit how many ACOs can participate.

program rates prospectively for each calendar year to provide predictability for OneCare and participating providers.[14] The AHS supported the alignment of Medicaid ACO requirements with Medicare ACO standards, including modifying ACO-level quality and performance measures to harmonize measures across payers and reduce administrative burden for providers.[14]

Exhibit 1.1.1. Accountability Structure of the VTAPM
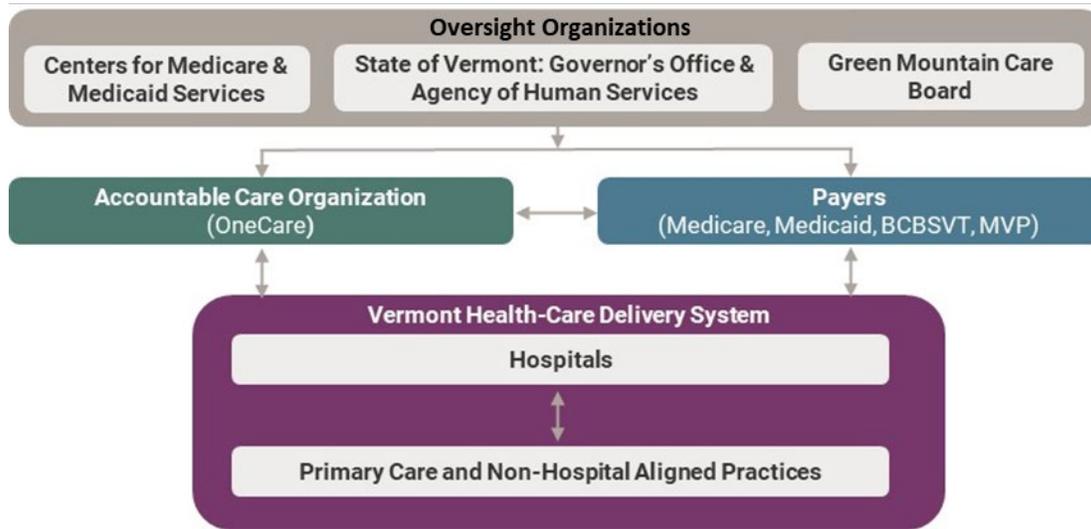
Model Targets

The ACO, state leaders, participating providers, and beneficiaries participate in activities to meet Model targets and benchmarks for financial, population health, and beneficiary attribution (**see Exhibit 1.1.2**).

Exhibit 1.1.2. Features of Original Model Aims and Targets

Financial Targets and Benchmarks	
Medicare ACO Initiative Benchmarks	• 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. First, the All-Payer TCOC per Beneficiary Growth Target limits spending growth to 3.5% annually. Second, the 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.[12,15]

Population Health and Quality of Care	
Population Health Outcome Goals	• The population health goals are to increase access to primary care, reduce deaths from suicide and drug overdose, and reduce chronic disease 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 next years' Medicare performance benchmark if the ACO does not achieve a specified quality score for Medicare beneficiaries.[16]

Scale Target	
Beneficiary Attribution	• The state and federal governments set scale targets for the VTAPM's participating payers to attribute 70% of all insured Vermont residents and 90% of Medicare beneficiaries to participating ACO providers by 2022.[12]
Attribution Method	• The VTAPM employs a prospective attribution[i] methodology to attribute to each ACO initiative—Medicare, Medicaid, and commercial.[17] Vermonters are attributed to the Model if they receive a meaningful level[§] of primary care services from the Model's attribution-eligible, participating practitioners during a 2-year period before each PY.[14,18] In 2020, Medicaid implemented an expanded attribution approach across all participating health service areas (HSAs), under which all Medicaid enrollees in participating HSAs are attributed to the Model regardless of historical primary care utilization, with the exception of enrollees who see primary care providers (PCPs) that are not OneCare Vermont participants.

NOTE: [§] Defined as a plurality of the eligible E&M visits being rendered by practitioners with attribution-eligible specialties.

Financial Structure

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).[10] Hospitals are the only risk-bearing entity in each HSA in Vermont. The prospective population-based payments from each payer flow through the ACO, which distributes the prospective payments to participating hospital providers based on their attributed patients.

The VTAPM enables flexible Model implementation across Medicare, Medicaid, and commercial payers and includes payment mechanisms and funding streams that vary by payer. As shown in **Exhibit 1.1.3**,

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[i] Although voluntary attribution (i.e., allowing beneficiaries to opt into the Model by identifying a Model participant as their primary care provider online or by mail) was a feature carried over from the Next Generation ACO Model; attribution occurred solely through prospective means, and voluntary attribution was not used in the VTAPM.

Medicare and Medicaid provide OneCare with a fixed per beneficiary per month (PBPM) prospective payment.[6] The ACO uses these funds, along with hospital participation dues paid to OneCare, Medicare shared savings, and CMS upfront payments, to fund population health management and care delivery activities.

Exhibit 1.1.3. Financial Structure of the VTAPM
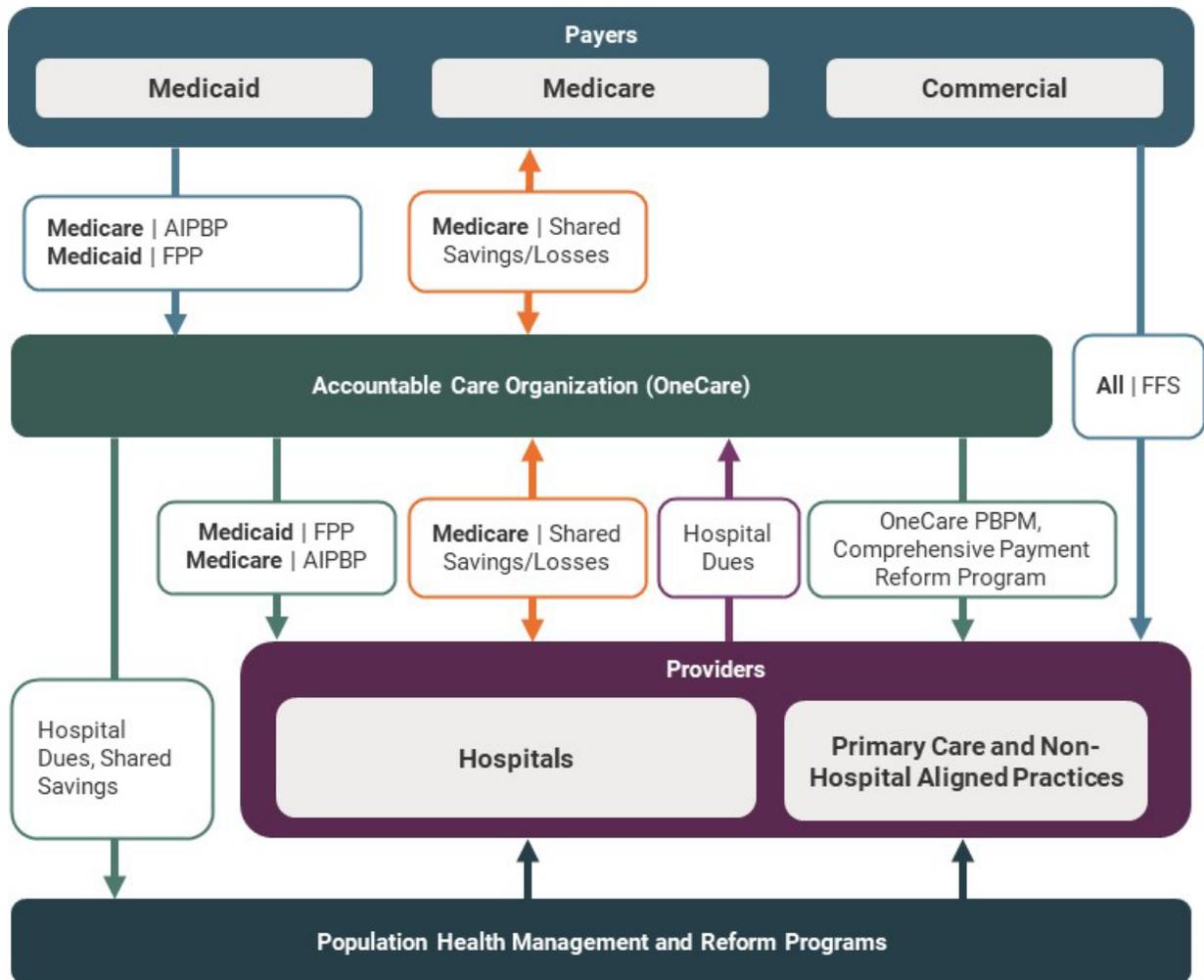
Notes: All-inclusive population-based payment (AIPBP), Fixed Prospective Payment (FPP), Per Beneficiary Per Month (PBPM), Fee-for-service (FFS). CMS also provided an upfront Cooperative Agreement Payment of $9.5 million to support population health investments and hospital participation dues.

There are three main payment mechanisms in the Model. The Medicare optional all-inclusive population-based payment (AIPBP) pays expected FFS claims in prospective monthly payments for each attributed beneficiary, with reconciliation to Medicare FFS payments at the end of the year. The optional AIPBP mechanism is available for eligible participants, while non-eligible participants continue to receive FFS payments. The second payment mechanism is Medicaid's Fixed Prospective Payment (FPP), which is not reconciled with FFS payments.[19,20] The third payment mechanism is traditional FFS. For non-attributed beneficiaries, all payers continue to reimburse practitioners and institutional

providers using FFS. DVHA continues to pay Medicaid FFS claims for non-hospital providers in OneCare's network, for all providers outside of OneCare's network and independent physician practices who have not elected to be paid through an FPP, and for all services excluded from Medicaid's FPP.[21] The commercial health plans in the VTAPM—BCBSVT self-insured employer plans, the BCBSVT qualified health plan (QHP) offered through the state health insurance marketplace, and the MVP Health Care (MVP) QHP—also reimburse providers using FFS payments.[22]

In addition, OneCare established agreements with payers to create risk corridors to limit insurer losses and gains to maintain stability, which include shared savings/loss rates and shared savings/loss limits. OneCare is responsible for both upside and downside financial risk (i.e., sharing with CMS in both potential savings and losses), but participating hospitals assume a portion of OneCare's risk. The flexible design of the VTAPM and implementation by OneCare enable payers to assume various amounts and types of risk.

Challenges in 2020

Vermont faced two unique challenges in 2020, as illustrated in **Exhibit 1.1.4**. The COVID-19 PHE had a major impact on the Vermont health care delivery system, as it did across the country. The number of confirmed and probable COVID-19 cases in Vermont between March 5, 2020, and January 6, 2021, totaled 8,403. In 2020, Vermont was distinct among states in terms of the COVID-19 burden and response, with smaller caseloads, strict travel and quarantine measures, and ultimately fewer COVID-19-related deaths.[23] While Vermont COVID-19 rates were lower than elsewhere, the state and hospitals faced many COVID-19 PHE-related demands that stretched resources and disrupted normal operations.

In addition to the COVID-19 PHE, in late October 2020, the UVM Health Network experienced a ransomware cyberattack, which disrupted their ability to provide care and bill for services.[24] The electronic health record system (EHR), staff email, and phone systems were unavailable during the initial days of the cyberattack.[25] Many appointments, including surgeries and diagnostic imaging, were canceled, and other services, such as COVID-19 test results, were delayed.[25,26] Despite restoring access in November 2020, UVM Health Network noted that billing statements and payment processing would be delayed by an unknown number of months.[27]

Exhibit 1.1.4. Unique Challenges in 2020
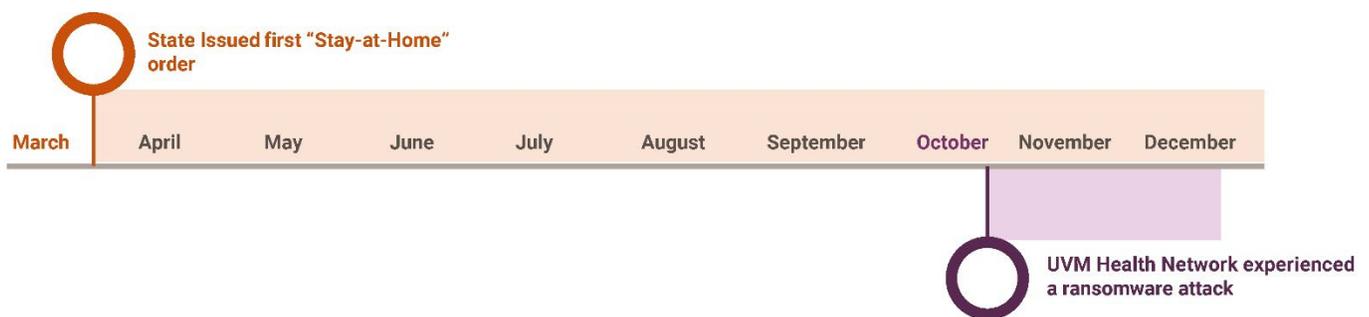
1.2 Model Design Changes in 2020 and 2021

In 2020, several changes were made to Model requirements. Some changes were administrative decisions and unrelated to the COVID-19 PHE; others were made in direct response to the COVID-19 PHE.

Changes Related to the COVID-19 PHE

Given the challenges stemming from the COVID-19 PHE, VTAPM leadership and participants were concerned about hospitals' ability to meet financial and quality performance targets, as well as ACO beneficiary scale targets and statewide health outcome targets.[28] Within the Model State Agreement, the "exogenous factors" clause permits the GMCB, in consultation with the AHS, to request that CMS consider significant external events, such as the COVID-19 PHE, when assessing the Model's financial benchmarks. In April 2020, Vermont Governor Phil Scott, the AHS, and the GMCB requested modifications to the VTAPM Medicare initiative.[28] In June 2020, CMMI approved the requested changes, except for a request to remove the Medicare process to reconcile AIPBP to FFS for Vermont's fiscal year (FY) 2019 and FY2020 (see **Exhibit 1.2.1**).[29] Vermont remained responsible for existing Model design features, including meeting financial targets, benchmarks, and scale targets designed to bring health care spending in line with Vermont's overall economic growth and to achieve population health goals.

Exhibit 1.2.1. VTAPM Medicare Model Changes in Response to the COVID-19 PHE

Financial Benchmarks	The PY4 (2021) prospective benchmark was revised to use the observed change in spending between 2019 and 2020, as measured in April 2021, to allow for three months of paid claims runout.[30,31] Medicare Parts A and B FFS claims for inpatient episodes of care for COVID-19 were removed.[32]
Population Health and Quality of Care	PY3 (2020) and PY4 (2021) became "reporting only" years for ACO/Payer quality measurement and state-level Agreement measurement (which is broader than just Medicare), with the understanding that the COVID-19 PHE may have impacted providers' capacity to meet quality targets.[28,32]
Scale Target	The deadline was extended for submitting the final Medicare provider participation roster for PY4 (2021) to enable providers to focus on patient care rather than on administrative tasks.[33]
Risk Sharing Arrangements	The Medicare Shared Savings Program's (SSP) Extreme and Uncontrollable Circumstances policy was adopted, reducing PY3 (2020) and PY4 (2021) downside risk by reducing shared losses by the proportion of time affected by the COVID-19 PHE, and removed Parts A and B FFS claims for "an episode of care for treatment of COVID-19, triggered by an inpatient service."[32]

Other Model Changes in 2020

Medicaid. The DVHA updates the Vermont Medicaid ACO program at the beginning of each calendar year. Beginning January 1, 2020, Medicaid expanded testing statewide of an alternative attribution methodology, known as expanded attribution. Under the alternative method, beneficiaries are attributed to the ACO based on their eligibility for full Medicaid benefits, lacking other insurance, and having no demonstrated relationship with a PCP outside the OneCare network.[34]

Beginning in January 2021, DVHA implemented three Medicaid design-related changes (see **Exhibit 1.2.2**), to align with the Medicare initiative changes made and implemented in 2020.

Exhibit 1.2.2. VTAPM Medicaid Changes

Category	Description
Decrease in the Risk Corridor	The risk corridor for the traditional attribution cohort decreased from 4% to 2%. The risk corridor for the expanded attribution cohort decreased from 2% upside and 1% downside risk to 1% upside and downside risk.[34]
Alignment with Medicare Initiative Changes due to the COVID-19 PHE	Reduced the ACO downside risk proportional to the number of months in 2020 that the COVID-19 PHE was active and excluded COVID-19 episodes of care and vaccine administration from the actual TCOC.[34]
Addition of Year-End Quality Adjustment	In addition to the existing Value-Based Incentive Fund (VBIF), the new features 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.[34]

NOTE: Changes went into effect in early 2021.

The VTAPM continues to evolve in terms of participation, implementation, and outcomes, as discussed in Chapters 2-4. This is due to the original goals of a state-centric and flexible design that is responsive to state needs in achieving cost and quality of care goals.

1.3 Overview of Evaluation

NORC's five-year evaluation will answer questions about how participants and oversight organizations implemented the Model, associated challenges, and lessons learned. Our evaluation will also examine the impact of the Model on spending by public payers (Medicare and Medicaid[j]); population health outcomes; delivery system reform and process measures; and other measures of health care utilization, spending, and quality of care.

Conceptual Framework

As established in the First Annual Report, the conceptual framework (**Exhibit 1.3.1)** is adapted from Damberg et al.[35] and informs our understanding of the Model and our approach to evaluating the

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[j] Assessment of the Model's impact on the commercial payer population is outside the scope of this evaluation.

VTAPM's implementation effectiveness and impact. Key framework constructs include **contextual factors**, such as Vermont's history of health care reform efforts and the GMCB regulatory role. To understand the context in which the ACO is implementing the Model, the evaluation also considers the characteristics of local health care markets, organizations, provider networks, and ACO beneficiaries during implementation. In addition, we consider VTAPM **design features**, such as the GMCB's regulatory and implementation oversight authority for the Model and Vermont's flexibility to determine ACO outcomes; set ACO benchmarks; structure risk arrangements and payment mechanisms; and invest in care management, monitoring, and enhanced benefits. We explore how oversight organizations and participating providers implement these design features in local communities.

Additionally, we assess stakeholder, hospital, and practitioner perspectives on the **implementation** of the Model, including alignment of incentives across payers, population health initiatives, coordination of care across settings, performance monitoring and oversight, stakeholder collaboration, and community engagement. Understanding implementation experiences and progress informs our interpretation of **state- and ACO-level outcomes**. Implementation effectiveness measures focus on ACO Scale Targets[k] and participant, provider, and beneficiary use of Model features, while program effectiveness measures focus on spending, utilization, and quality of care.

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[k] 'Scale targets' are goals for scaling the model to all Vermonters through staged participation of payers and practitioners.

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

- 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

Our evaluation employs an embedded, mixed-methods design that facilitates an iterative approach to data collection and analysis and allows for quantitative and qualitative data to inform one another across the PYs. Due to the COVID-19 PHE and cyberattack in 2020, we made several adjustments to our methodology in PY3. We took a mixed-methods approach to understand the effects of the COVID-19 PHE and cyberattack in Vermont, adapting our approach to qualitative data collection and quantitative analyses. **Exhibit 1.3.2** provides an overview of our evaluation methods and the data sources for each methodological approach.

Exhibit 1.3.2. Overview of Evaluation Methods and Changes in 2020

	Design	Changes in 2020
Qualitative	• Annual site visits • Document review	• Shifted to virtual data collection in Spring 2020 • Virtual data collection enabled us to engage stakeholders throughout the state

Survey	• Provider survey
	• Web-based survey
	• Key domains:
	  • Model awareness and participation
	  • Implementation and engagement
	  • Practice and care delivery
	  • COVID-19 PHE
		• Delayed fielding from 2020 to 2021
		• Added a domain regarding impact of COVID-19 PHE

Quantitative	• Quasi-experimental DID analysis • ACO-level analysis • State-level analysis	• Included one area-level COVID-19 PHE variable in the entropy balancing model and beneficiary- and area-level COVID-19 PHE variables as covariates in the impact models • Descriptively assessed beneficiary- and area-level COVID-19 PHE-related characteristics, and telehealth services used and telehealth E&M visits • Assessed robustness of the impact analysis findings after accounting for changes in utilization and spending attributable to the UVM Health Network ransomware attack

Impact Analysis Methods

We 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 relative to a comparison group drawn from 26 states with similar histories of health reform initiatives relevant to the evolution of the VTAPM.

We assessed the Model's impact on all eligible Medicare FFS beneficiaries at the state and ACO levels:

- **ACO-level analysis:** We assessed whether the VTAPM Medicare ACO initiative (i.e., OneCare) is achieving spending, utilization, and quality of care goals for the Medicare beneficiaries attributed to practitioners participating in the VTAPM. The comparison group for the ACO-level analysis comprised FFS Medicare beneficiaries attributed to upside-risk ACO Medicare SSP participating practitioners in comparison states.

- **State-level analysis:** We assessed whether Vermont is achieving spending, utilization, and quality of care goals statewide for the Medicare population. The comparison group for the state-level analysis consisted of FFS Medicare beneficiaries residing in comparison states.

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 such an extensive health care reform history. To address these challenges, we employed a flexible DID framework that allowed groups to have differing baseline trends for outcomes[l] while prioritizing area-level characteristics that were most likely to influence outcomes in the weighting stage.[m] For a more detailed account of the quantitative methodological challenges posed by Vermont's unique context and the mitigation strategies developed in response, see **Appendix C**.

To address the challenge of the COVID-19 PHE in 2020 and its effect on the outcomes for the treatment and comparison groups, we included an area-level covariate to account for geographic variation in the COVID-19 PHE's severity. To address challenges posed by the ransomware attack on the outcomes for the treatment group, we conducted robustness checks by excluding the time period during which the ransomware attack occurred (Q4 2020) from the analysis. Additional information regarding the quantitative methods is available in **Chapter 4** and **Appendix D.**

Qualitative Methods

Qualitative methods included both annual document review and semi-structured interviews. To develop a comprehensive understanding of the Model's design and implementation to date, we reviewed existing documents, such as state- and ACO-level budget documents and a wide array of public information available on the state and the GMCB websites. Between April and November 2021, we conducted 32 semi-structured interviews with state officials, OneCare leaders, commercial payers, trade association leaders, hospital leaders, and physicians. The evaluation research questions (see **Appendix B**), conceptual framework, and document review informed the interview guides for each stakeholder group. Additional information regarding the qualitative methods is available in **Appendix C**.

We report qualitative findings in **Chapter 2** (Model Participation) and **Chapter 3** (Implementation Experience). In **Chapter 4** (Impact of the Model), qualitative findings provide context for impact findings.

Survey Methods: Clinician Survey

To assess clinicians' perceptions of the Model and Vermont health reform efforts, we conducted a survey of Model-eligible clinicians ("clinician survey") from March through July 2021. The survey included questions about Model awareness, participation, implementation, and engagement; practice care delivery and transformation; and the impact of the COVID-19 PHE. More information about our

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[l] The flexible DID framework enabled us to relax the Common Trends assumption that is required for producing unbiased DID impact estimates. Instead, our approach assumes that the differential trends in the baseline period take a linear form and that they would have continued to persist in the absence of the VTAPM.
[m] We prioritized factors such as demographics and socioeconomic characteristics over the characteristics of the health insurance market in our weighting methodology and multivariate models.

survey methodology, results, and limitations can be found in **Appendices G and H**. Survey findings are incorporated in **Chapters 2 and 3**.

1.4 Overview of This Report

Our report provides information on program design features, implementation experiences, and state- and ACO-level Model impacts on Medicare spending, utilization, and quality of care in PY1 (2018), PY2 (2019), and PY3 (2020). This report leverages the assessment presented in NORC's First Evaluation Report in addressing the research questions in **Exhibit 1.4.1.**

Exhibit 1.4.1. Research Questions

Domains	Research Questions (RQs)
Program Design Features	• How ACO program design features compare across payers and to other Medicare ACO programs (RQ1) • Key issues for the GMCB when setting the trend factor for the benchmark of the modified Next Generation ACO/Vermont Medicare ACO initiative (RQ5)
Participation	• Characteristics of providers and Medicare, Medicaid, and commercial beneficiaries in the Model across PYs (RQ2/RQ9) • How the state, ACO, and payers are working together to reach the statewide ACO targets and barriers they are encountering (RQ3) • Why providers refuse or cease to contract with the ACO (RQ11)
Implementation	• How the health care delivery and public health systems are collaborating to reach the population-level health goals (RQ4) • How the GMCB uses its regulatory authority to influence ACO care management programs and organizational structure (RQ6) • Influence of the Model's key design features on care delivery transformation; challenges participating providers are encountering (RQ7) • How program design features impact implementation at the community level (RQ8)
Model Impact: Spending, Utilization, and Cost of Care	• What impact did the Model have on the Model-specific health care delivery system and monitoring measures (RQ12) • Change in population health measures during the performance period (RQ13) • Impact of the Model on statewide Medicare spending, utilization, and quality of care outcomes (RQ14) • Impact of the Model on spending, utilization, and quality of care outcomes for Medicare beneficiaries attributed to the VTAPM (RQ15)

Appendix A provides a list of the Model's common terms and acronyms. **Appendix B** includes the complete list of RQs cross-walked with the conceptual framework domains for this evaluation.

Exhibit 1.4.2 presents a summary of chapter organization for the report. Chapter 2 describes payer, hospital, practitioner, and beneficiary participation in the Model, including a discussion of changes over time, successes to date, and opportunities for increasing participation. In Chapter 3, we discuss

implementation experience during 2020 and early 2021, drawing on findings from interviews and a review of program documents. Chapter 4 presents findings on the impact of the Model on ACO- and state-level gross and net Medicare spending, utilization, and quality performance outcomes in the first three PYs (2018–2020). Chapter 5 features a synthesis of findings and a discussion of implications. Future reports will incorporate Medicaid claims to add to the key findings from the PY1-PY3 impact analysis in the context of stakeholders and providers implementing the Model and assess the Model's cumulative impacts on the Medicare and Medicaid populations during the full performance period (PY1-PY5).

Exhibit 1.4.2. Second Evaluation Report: Early Findings on Implementation Experience and Impact

Chapter 1 Introduction	**Chapter 2** Payer, Practitioner, and Beneficiary Model Participation	**Chapter 3** Implementation Experience	**Chapter 4** Model Performance on Spending, Utilization and Quality	**Chapter 5** Discussion
Model aims and key program design features (RQ1, RQ5)	Characteristics of hospitals, practitioners, and beneficiaries (RQ2, RQ9) ACO and statewide scale targets (RQ3) Participating and non-participating clinician experience (RQ10) Provider contracts with ACO (RQ11)	Statewide oversight and monitoring (RQ6) Implementation of the payment model, provider engagements, and efforts to address population health goals (RQ2-4, RQ7-10)	Change in population health measures (RQ13) ACO and statewide impacts on spending, utilization, and quality for the Medicare populations in PY1-3 (2018-20) (RQ12, RQ14-15)	Triangulation of key findings Evaluation limitations and challenges Next Steps

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

Chapter 2: Payer, Hospital, Practitioner, and Beneficiary Model Participation

Key Takeaways

Payers

- All three payers (Medicare, Medicaid, BCBSVT) from PY2 (2019) continued participation in the Model for PY3 (2020), and the Model added one commercial payer in PY3 (MVP Health Care's QHP). BCBSVT also expanded participation in the Model, adding a segment of its self-insured employer plans.
- While BCBSVT and MVP together account for approximately two-thirds of Vermont's commercial insurance market, the remainder of the market is highly fragmented, limiting the opportunity to expand 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 challenges to wider commercial payer participation.

Hospitals

- Fourteen of 15 eligible hospitals participated in the Model in PY3. As in previous years, there was broad participation in the Medicaid ACO initiative (all 14 participating hospitals).
- Most critical access hospitals (CAHs) in Vermont's rural areas opted not to participate in the Medicare ACO initiative, citing the organizational financial reserves required for the Medicare ACO initiative as a barrier to participation.

Practices and Practitioners

- The Model added 269 practitioners in PY3, slightly over half (54 percent) of whom were participating in all three ACO initiatives (Medicare, Medicaid, and commercial). Across all payer programs, approximately 82 percent of Vermont's attribution-eligible clinicians were participating in the Model as of PY3.
- While the majority of Vermont clinicians were aware of the Model, only half of participating practitioners identified themselves as participants. For those who were not participating in the Model, concerns about administrative burden and financial capacity were the primary reasons cited.
- Participation in the Medicare ACO was most common among large practices (46 percent of practices with 31 or more clinicians), while smaller practices had lower Model participation (15 percent of practices with five or fewer clinicians).

Vermonters

- Growth in Model-attributed Vermonters in PY3 was driven by the extension of BCBSVT's reach in the Model, the addition of MVP QHP members, and the introduction of a more expansive Medicaid attribution approach.

In this chapter, we present findings on the extent of payer, hospital, and practitioner participation, as well as characteristics of eligible Vermonters in the VTAPM during the first three PYs. Additionally, we consider the Model's progress toward achieving the scale targets and barriers to and opportunities for increasing Model participation. Sources for the analyses presented in this chapter include Model practice and practitioner participation lists; Model documents, including GMCB and OneCare reports; the National Plan and Provider Enumeration System (NPPES); Medicare Provider Enrollment, Chain, and Ownership System (PECOS) data; American Hospital Association Annual Survey Database; NORC's clinician survey; Medicare FFS claims; and stakeholder interviews. Qualitative findings and survey results apply to all three payer models. Some quantitative findings—including practice and practitioner characteristics and scale targets—apply to Medicare only. Each exhibit includes an explanation of data sources and additional notes.

2.1 Payer Participation

While the VTAPM was designed to provide an avenue for all payers to participate in payment and delivery system reform in Vermont through alignment of incentives across payers, only two commercial payers had joined the Model through PY3. The two major public payers—CMS (Medicare) and DVHA (Medicaid)—have participated since the Model's inception, but commercial uptake has been limited to the two payers with the majority of the commercial market: BCBSVT and MVP Health Care:

- BCBSVT has participated since PY1 through its QHP and a self-insured plan covering UVM Medical Center employees. In PY3, BCBSVT meaningfully expanded participation with both fully insured and self-insured commercial plans, adding approximately 22,000 members to the Model across both plan types.[36]

- MVP Health Care, a nonprofit health plan headquartered in upstate New York, was the Model's only new commercial payer entrant in PY3, joining with a QHP that added approximately 9,000 members[36] to the Model across Vermont. MVP, which has experience with value-based payment initiatives in New York (including CMMI's Comprehensive Primary Care Plus Model), first entered the Vermont market in 2016 and has since expanded market share in the state.

In PY3, BCBSVT and MVP combined accounted for two-thirds of all health care premium payments in Vermont's commercial health care market (including major medical insurers, self-insured plans, and other medical-related insurers), representing 55 and 13 percent of the market, respectively.[37] All commercial ACO initiatives used FFS payment mechanisms.

2.2 Hospital Participation

Although the VTAPM aims to align incentives across major payers, hospitals in the VTAPM are not required to participate with all payers; each hospital can choose to participate in any or all payer ACO initiatives (Medicare, Medicaid, and commercial). Because hospitals were the primary risk-bearing entities in the VTAPM in PY3 (2020), health care practitioners and providers are eligible to participate only if the "home" hospital in each HSA opts to participate in the VTAPM.

Hospital participation in the Medicaid and commercial ACO initiatives increased in PY3 as OneCare Vermont continued to expand its network, while one hospital discontinued participation in the Medicare ACO initiative. In PY3 (2020), 14 of the 15 eligible hospitals participated in one or more ACO payer initiatives (Exhibit 2.2.1), an increase of one hospital from PY2.[n] Seven hospitals participated in all three payer initiatives, and seven hospitals participated in the Medicaid and commercial (BCBSVT and/or MVP) ACO initiatives.

Limited CAH Participation in the Medicare ACO Initiative

Rural hospitals designated as CAHs aim to ensure the sustainability of hospital services in rural communities. Unlike hospitals under the prospective payment system, Medicare reimburses CAHs for most inpatient and outpatient services at 101 percent of costs.

Of the eight CAHs in Vermont, only two participate in the Medicare ACO initiative, representing an area of potential growth. However, interviews with CAH leadership indicated that there are serious barriers for CAH participation in the Medicare ACO, including the upfront funding, the potential for larger shared losses than in other ACO initiatives, and perceived uncertainty around how the Model's financial requirements align with Medicare cost reporting.

As in previous years, all hospitals that are participating in the Model participate in the Medicaid ACO initiative. In PY3, Copley Hospital, an independent CAH in the Morrisville HSA, joined the Model's Medicaid ACO initiative, extending the Model's reach to 14 of 15 eligible HSAs.

The commercial ACO initiative also meaningfully expanded in PY3, both with the addition of a new payer (MVP) and expansion of BCBSVT's reach in the Model. MVP began participating in the Model's commercial ACO initiative in 13 HSAs across the state in PY3, including two HSAs where MVP was the only commercial payer participating in the ACO initiative (Morrisville, Randolph). BCBSVT also extended its reach in the Model, contracting with hospitals in four additional HSAs (Springfield, Newport, Rutland, and St. Johnsbury). See **Appendix Exhibit E.1** for additional details on which commercial payers were operating in the Model in each HSA in PY3.

The gains in the Medicaid and commercial ACO initiatives in PY3 were not replicated for the Medicare ACO initiative. Due to bankruptcy, Springfield Hospital discontinued participation in the Medicare ACO initiative but opted to remain in the Medicaid and commercial ACO initiatives, noting that the greater Medicare ACO initiative risk and financial requirements were incompatible with the hospital's financial situation.[36-38,o] Across all PYs, six of the eight hospitals that did not participate in the VTAPM's Medicare ACO initiative were CAHs.

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[n] 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.
[o] In June 2019, Springfield Medical Care System and Springfield Hospital filed for Chapter 11 bankruptcy. As part of its financial restructuring, the hospital withdrew from the Medicare ACO in PY3. Springfield Hospital has remained in the Medicaid, BCBSVT, and MVP ACOs, noting that its risk is limited to $1 million. While the hospital emerged from bankruptcy in December 2020, it did not rejoin the Medicare ACO in PY4.

Exhibit 2.2.1. 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
Burlington	University of Vermont (UVM) Medical Center	PPS	415	UVM Health Network	Medicaid	All	All	All
Berlin	Central Vermont Medical Center	PPS	76	UVM Health Network	Medicaid	All	All	All
Middlebury	Porter Medical Center	CAH	25	UVM Health Network	Medicaid	All	All	All
St. Albans	Northwestern Medical Center	PPS	53	Independent	Medicaid	All	All	All
Brattleboro	Brattleboro Memorial Hospital	PPS	47	Independent		All	All	All
Springfield	Springfield Hospital	CAH	25	Independent		All	All	Medicaid & Commercial
Lebanon	Dartmouth-Hitchcock Medical Center	PPS	374	Dartmouth-Hitchcock Health		Medicaid & Commercial	Medicaid & Commercial	Medicaid & Commercial
Bennington	Southwestern Vermont Medical Center	PPS	78	Independent		Medicaid	All	All
Windsor	Mt. Ascutney Hospital	CAH	25	Dartmouth-Hitchcock Health		Medicaid	All	All
Newport	North Country Hospital	CAH	25	Independent		Medicaid	Medicaid	Medicaid & Commercial
Rutland	Rutland Regional Medical Center	PPS	124	Independent			Medicaid	Medicaid & Commercial
St. Johnsbury	Northeastern Regional Hospital	CAH	25	Independent			Medicaid	Medicaid & Commercial
Randolph	Gifford Medical Center	CAH	25	Independent			Medicaid	Medicaid & Commercial
Morrisville	Copley Hospital	CAH	25	Independent				Medicaid & Commercial
Townshend	Grace Cottage	CAH	19	Independent				

SOURCE: FY2022 Budget Submission, OneCare Vermont ACO; NORC analysis of Hospital Cost Report public use file.

NOTE: PPS is prospective payment system hospital; CAH is critical access hospital. †The number of beds available for use by patients at the end of the cost reporting period. A bed means an adult bed, pediatric bed, birthing room, or newborn intensive care unit bed (excluding newborn bassinets) maintained in a patient care area for lodging patients in acute, long-term, or domiciliary areas of the hospital. Beds in labor rooms, birthing rooms, post-anesthesia or postoperative recovery rooms, outpatient areas, emergency departments, ancillary departments, nurses' and other staff residences, and other such areas that are regularly maintained and used for only a portion of patient stays (primarily for special procedures or not for inpatient lodging) are not termed a bed for these purposes.

2.3 Practice and Practitioner Participation

Practitioners are a key component in linking patients to the Model and enacting delivery system reform initiatives, and so a broad network of practitioners across the state is essential to the Model's success. In each year of the Model, patients who historically received a meaningful amount of their primary care, as measured by qualified evaluation and management (QEMs) services, from eligible Model practitioners are identified as "attributed" to the Model.[p] Per the Model's rules, only QEMs furnished by a subset of primary and specialty care practitioners (i.e., "participant" practitioners) are considered when determining whether a patient is attributed to the Model.[41,q] However, practitioners who are *not* eligible to attribute patients are also able to join the Model and are still included in the Model's network as "preferred" practitioners. Participant and preferred practitioners work together to provide care to patients attributed to the Model, share resources, and promote more coordinated care. Independent practices have the option of joining any of the Model's payer ACO initiatives (Medicare, Medicaid, and/or commercial) in which the hospital in their HSA is participating; for practices affiliated with a hospital, the decision to join is made at the hospital level.

In this section, we describe the Model's network of participant and preferred practitioners—who they are, the scope of their participation across ACO payer initiatives, what types of care they provide and in which settings, and their knowledge of the Model. For additional details on practices and practitioners in the Model, see **Appendix Exhibits E.2** through **E.5**.

In PY3, the number of practitioners in the Model's network increased to 5,156, adding 905 practitioners and losing 636 practitioners since PY2 (Exhibit 2.3.1).[r] The Model's network expansion in PY3 was driven by the addition of 21 entities: nine participant organizations (one hospital, three FQHCs, four independent primary care practitioners, and one naturopath), and 12 preferred organizations (three independent specialists, three SNFs, one outpatient care center, four independent physical therapy practices, and one designated mental health agency). In addition to providers lost when Springfield Hospital exited the Medicare ACO initiative, one PCP and five specialist practices exited the Model's practitioner network in PY3.[42] OneCare cited closures and mergers as a main reason that practitioners left the Model.

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[p] The Model uses "prospective" attribution, wherein patients are attributed to the Model based on their QEM utilization in the two years ending six months before the performance year (e.g., for PY3 [2020], patients are attributed based on their service use between July 2017 and June 2019).

[q] Participant practitioners in the following specialty areas can attribute patients to the Model: primary care specialists (general practice, family medicine, internal medicine, pediatric medicine, geriatric medicine, nurse practitioners, clinical nurse specialists, 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.2** for additional details on beneficiary attribution.

[r] Lists of participant and preferred practitioners are from OneCare's FY2020 budget submission, submitted in October 2019. 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. For instance, MVP and BCBSVT practitioners serving self-insured plans are not included in the FY2020 list because those contracts were not yet finalized at the time of budget submission.

Exhibit 2.3.1. Practitioner Participation in VTAPM, PY1–PY3 (2018–2020)
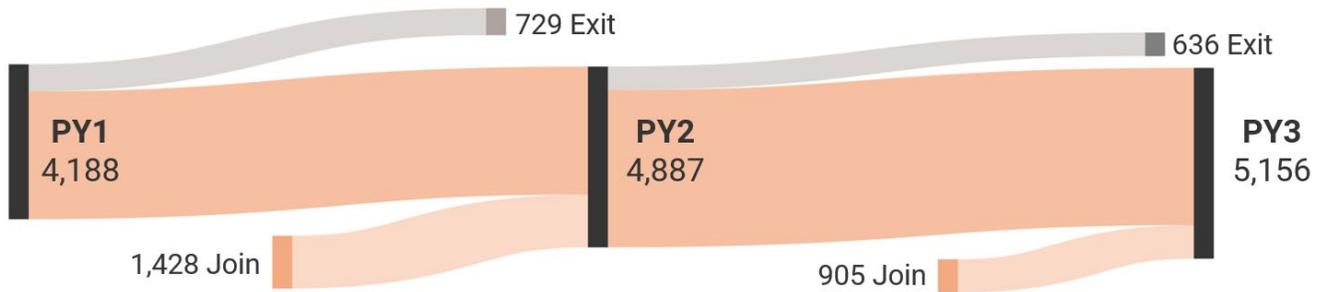
SOURCE: OneCare 2020 Provider Network (Appendix 2, FY2020 budget; October 2019); PY2020 Medicare Provider List (October 2020).

NOTE: All OneCare contracted participant and preferred practitioners are shown in this exhibit. Participant practitioners can attribute beneficiaries to the Model; preferred practitioners cannot.

Similar to the Model's first two years, slightly over half of the Model practitioners contracted with all three available ACO payer initiatives (Exhibit 2.3.2), with approximately one-quarter of practitioners contracting with one or two ACO payer initiatives. Of practitioners only contracting with one ACO payer initiative in PY3, the majority (70 percent) were participating only in the Medicaid ACO, reflecting areas of the state where only the Medicaid ACO initiative is operating. In PY3, all practitioners in two ACO payer initiatives wre in the Medicaid and commercial ACOs, again reflecting the lower participation in the Medicare ACO initiative in more rural areas of the state.

Exhibit 2.3.2. Practitioner Participation in ACO Payer Initiatives, PY1–PY3
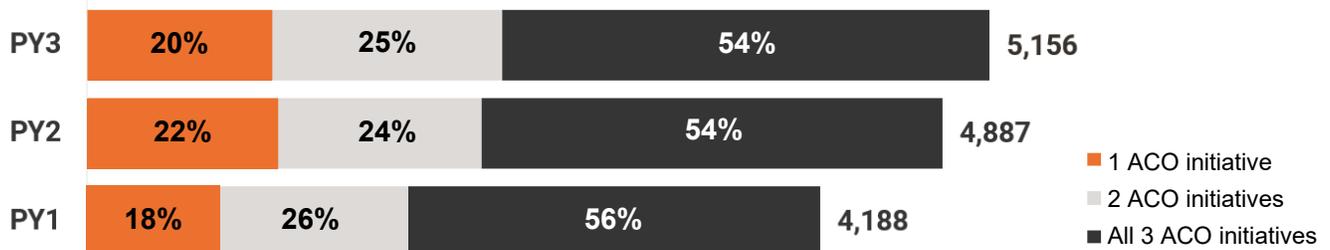
SOURCE: OneCare 2020 Provider Network (Appendix 2, FY2020 budget; October 2019); PY2020 Medicare Provider List (October 2020).

NOTE: All OneCare contracted participant and preferred practitioners are shown in this exhibit. Participant practitioners can attribute beneficiaries to the Model; preferred practitioners cannot. Numbers may not add to 100% due to rounding.

Across the first three PYs, approximately half of the Model's network consisted of participant practitioners, with three-quarters in primary care (Exhibit 2.3.3). The other half of the Model's network consisted of preferred practitioners who are ineligible to attribute beneficiaries to the Model (e.g., practitioners in SNFs, home health, hospice). Given this split between participant and attribution-eligible practitioners and preferred practitioners who are ineligible for attribution, the Model's attributed population may include far fewer beneficiaries than those receiving care from both participant and preferred practitioners in the OneCare network. According to a GMCB analysis of Vermont Department of Health survey data, approximately 82 percent of eligible participant practitioners in Vermont participated in at least one of the Model's ACO initiatives as of PY3,[22] indicating that the Model may be nearing the upper limit of practitioners who can attribute beneficiaries under existing attribution methods. Given the fact that not all attribution-eligible practitioners can participate in all three ACO initiatives (e.g., the hospital in their HSA may not be participating or they may not be a part of all participating payers' provider networks), focusing efforts on enrolling hospitals and payers in all three ACO initiatives may be the most meaningful way to increase downstream practitioner participation. At the practitioner level, the Model should strengthen efforts to recruit the remainder of eligible participant practitioners and to retain current Model participant practitioners.

Exhibit 2.3.3. Model Practitioners by Specialty, PY1–PY3 (2018–2020)

	Primary Care Participant	Specialty Care Participant	Preferred	
PY3	38%	12%	50%	5,156
PY2	42%	11%	47%	4,887
PY1	39%	12%	49%	4,188

SOURCE: OneCare 2020 Provider Network (Appendix 2 FY2020 budget; October 2019); PY2020 Medicare Provider List (October 2020); NPPES.

NOTE: All OneCare contracted participant and preferred practitioners are shown in this exhibit. Participant practitioners can attribute beneficiaries to the Model; preferred practitioners cannot.

Although a large share of eligible participant practitioners are in the Model's network, GMCB estimates that the entire network comprises only about one-fifth of active and licensed clinicians in Vermont who are eligible to join the Model.[22] Findings from NORC's statewide clinician survey indicate that lack of Model awareness is likely not driving the low overall participation rate. Overall, 72 percent of clinicians in Vermont reported awareness of the Model (Exhibit 2.3.4). Unsurprisingly, participating clinicians were more likely to be aware of the Model than nonparticipating clinicians (80 percent and 52 percent, respectively). Clinicians unaffiliated with a health system were more aware of the Model than clinicians affiliated with a health system (75 percent and 69 percent, respectively). Unaffiliated or independent practitioners may have had more involvement in the decision to participate in the Model compared to those employed by a hospital.

Interviews with hospital leadership suggested that hospitals' decision to participate was made by executive leadership. However, findings from our clinician survey indicate that only half (51 percent) of

participating practitioners who responded to the survey were aware that they were participating in the Model. This discrepancy between clinicians' awareness of the Model and their understanding of their individual participation status may reflect both the Model's complex design and the lack of outreach to practitioners. Implementation of the Model has focused primarily on organizational leadership, not individual practitioners, which may be contributing to this gap in awareness.

Exhibit 2.3.4. Clinician-Reported Awareness of the VTAPM
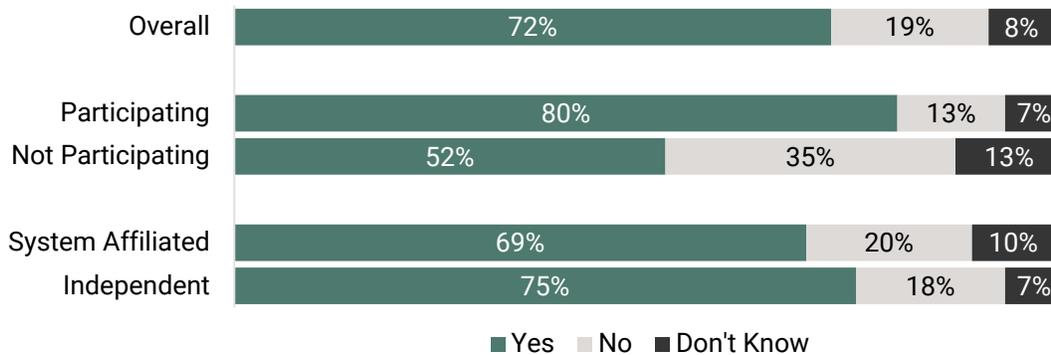
SOURCE: NORC's VTAPM 2021 Clinician Survey.
NOTE: Unweighted n=541. Estimates were weighted to reflect eligible clinicians (including participants and non-participants) who practice in Vermont or provide care to Vermont residents.

Over the last decade in Vermont and nationwide, clinicians more frequently are choosing employment in larger hospitals and health systems, leading to fewer small, independent practices. According to GMCB's 2017 Payment Differential and Provider Reimbursement Report, consolidation has been occurring quickly in Vermont, with the percentage of independent clinicians dropping from approximately half to one-third over six years. This change is in large part driven by consolidation of specialty care clinicians, of whom three-quarters were employed by a health system by 2017.[43] This is reflected in the distribution of practices in Vermont with attribution-eligible clinicians; when considering the 281 Vermont practices that had at least one clinician with an attribution-eligible specialty in PY3, the majority (192) had less than five clinicians. However, two-thirds of the attribution-eligible clinicians (2,162 of 3,319) work in large practices of 31 clinicians or more, while less than 10 percent (327 of 3,319) work in practices with five or fewer clinicians, reflecting the larger national trends toward consolidation and away from smaller independent practices.

In the Model's first three PYs, participation in the Medicare ACO initiative for practices with at least one practitioner with an attribution-eligible specialty varied by practice size. Participation among small practices—with five or fewer practitioners—was much lower than among large practices with 31 or more practitioners (Exhibit 2.3.5). By PY3, nearly half of eligible large practices participated in the Medicare ACO initiative (12 of 26), a meaningful increase from the Model's first year when less than 30 percent (8 of 29) participated. This difference in Medicare ACO participation by practice size is likely due to additional challenges faced by smaller practices in the required funding, financial risk, and infrastructure to participate, mirroring challenges reported by CAHs considering Model participation.

Exhibit 2.3.5. Practices with Attribution-Eligible Clinicians in the Medicare ACO Initiative, PY1–PY3

	Small Practices (5 Clinicians or Fewer)	Medium Practices (6-30 Clinicians)	Large Practices (31 Clinicians or More)
PY1	11% of 196	24% of 42	28% of 29
PY2	17% of 191	28% of 50	46% of 24
PY3	15% of 192	30% of 63	46% of 26

● Participating in Medicare ACO   ○ Not Participating in Medicare ACO
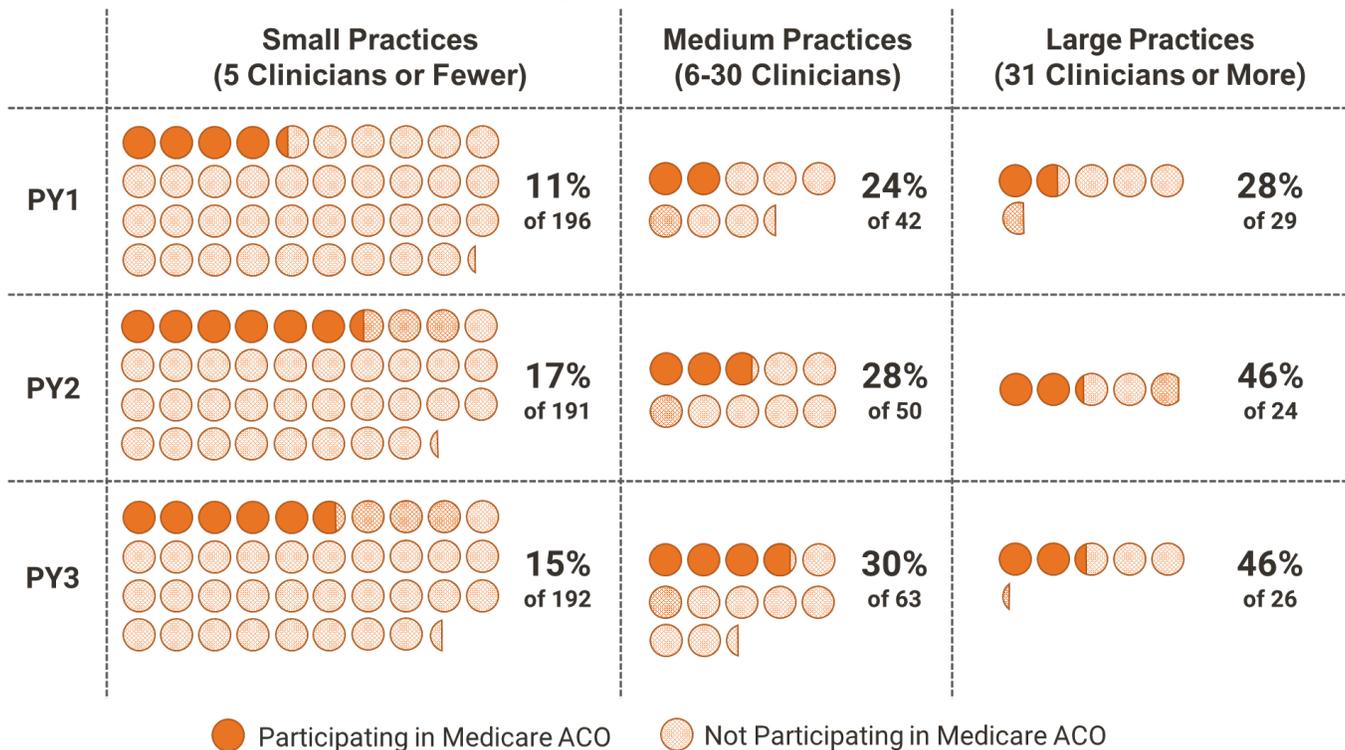
SOURCE: PY2020 Medicare Provider List (October 2020); Medicare claims and enrollment data.

NOTE: Each circle represents five practices. Eligible practices are Vermont practices that have at least one practitioner with an attribution-eligible specialty per the Model's attribution rules.

The majority of practices participating in the VTAPM previously participated in the Medicare SSP ACO (**Exhibit 2.3.6**).ˢ In 2013, Vermont providers organized and began participating in the Medicare SSP through two ACOs—OneCare and HealthFirst's ACO.ᵗ While HealthFirst ended participation in SSP after 2014, providers continued participation through 2017 with OneCare and Community Health Accountable Care (CHAC), an ACO formed in 2014 by many of the state's federally qualified health centers (FQHCs).

ˢ In PY3, approximately 95 percent of Vermont beneficiaries in the Model were attributed to a practice that had prior experience in the Medicare SSP. See the First Evaluation Report for additional background on Vermont's history of health reform.
ᵗ HealthFirst is the independent practice association, and its ACO was known as both the Vermont Collaborative Physicians (VCP; commercial SSP) and the Accountable Care Coalition of the Green Mountains (ACCGM; Medicare SSP).

Exhibit 2.3.6. Medicare SSP Experience among VTAPM Medicare ACO Practitioners, PY1–PY3

Percentage of VTAPM Practices with
Medicare SSP Experience, 2013-2017

Years of Medicare SSP Experience
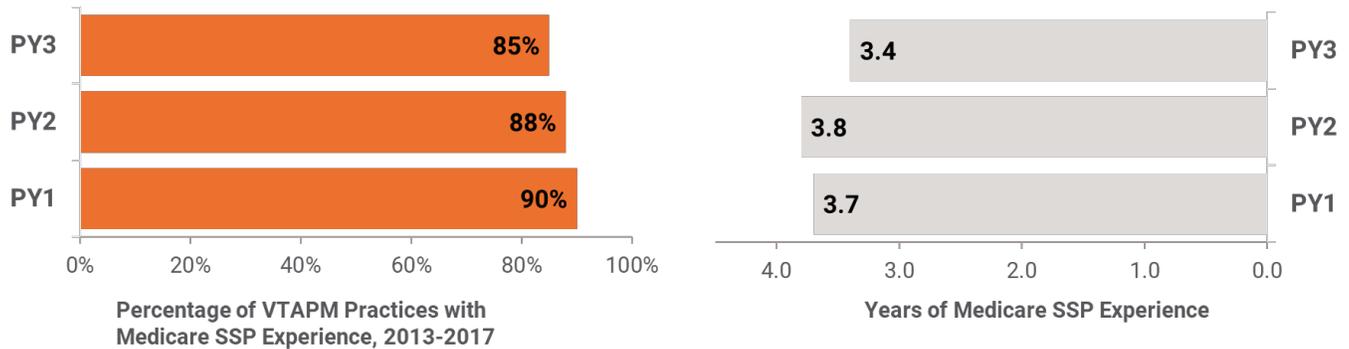
SOURCE: PY2020 Medicare Provider List (October 2020); Medicare SSP provider-level ACO files.

2.4 Eligible and Attributed Vermonters

Due to the nature of the all-payer framework, the Model's potential efficiencies of scale in delivery system and payment reform will be reached only when the Model is responsible for a large share of Vermonters across the state in the Medicare, Medicaid, and commercial ACO initiatives. **In PY3, the Model added approximately 67,000 Vermonters,**[36] driven by three key factors: the rollout of the Medicaid ACO initiative's expanded attribution method, increases in Vermonters from BCBSVT's self-insured and fully insured plans, and the newly participating MVP QHP (**Exhibit 2.4.1**).

Exhibit 2.4.1. Vermonters Attributed to the Model, PY1–PY3
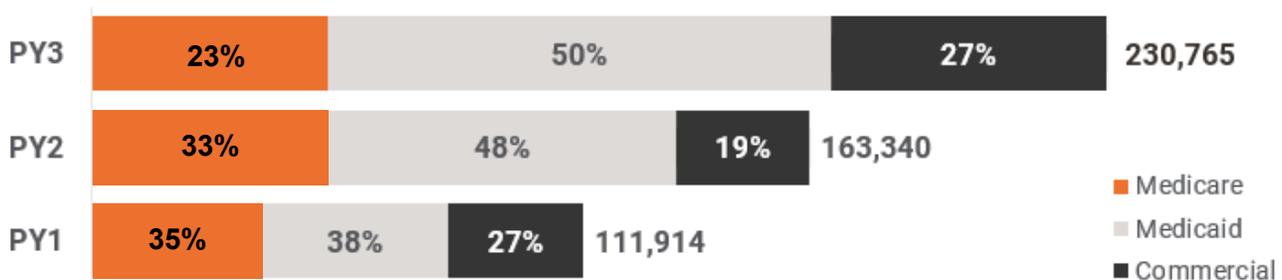
SOURCE: ACO Oversight FY2022 Budget and Certification; OneCare Vermont: Staff Analysis and Preliminary Recommendations (December 8, 2021). Percentages represent a payer's contribution to the total number of attributed Vermonters within each year.

Approximately 90 percent of Vermont's eligible Medicaid enrollees in PY3 were attributed to the Model, primarily due to adoption of an expanded attribution approach statewide.[21,22] In 2020, Medicaid implemented an expanded attribution approach across all participating HSAs, under which all Medicaid enrollees in participating HSAs are attributed to the Model regardless of historical primary care utilization, with the exception of enrollees who see PCPs that are not OneCare Vermont participants. This expanded attribution approach captures two new populations for the Model: new Medicaid enrollees (who have no historical usage in Medicaid claims), and Medicaid enrollees who did not use primary care services in the previous years. Expanding attribution to all eligible Medicaid

enrollees also mitigates the effect of enrollees churning in and out of the Model due to changes in Medicaid eligibility status and primary care service use during the year.[44] This change was the main driver in adding approximately 28,000 Medicaid enrollees in PY3 to the Model.[45,u] In addition to the Medicaid enrollees gained through the expanded attribution approach in PY3, approximately 7,000 more Medicaid enrollees were attributed to the Model because they received care from Model providers.

Vermonters attributed to commercial payers more than doubled in PY3, adding approximately 32,000 people through BCBSVT and MVP.[36] This increase was driven by changes in three separate commercial ACO initiatives. First, BCBSVT, under its self-insured employer plans, added approximately 16,000 commercial members to the Model. Previously, BCBSVT's participation with their self-insured plans was limited to the UVM Medical Center's plan[46]; however, their expansion in PY3 to multiple employers represents a meaningful increase into the commercial market for the Model. Second, BCBSVT also expanded its QHP's reach in the Model with one additional HSA (Newport) participating, adding approximately 7,000 attributed Vermonters. Lastly, MVP's QHP was a new participant in PY3, partnering with 13 HSAs and bringing approximately 9,000 Vermonters to the Model. MVP joined the Vermont market in 2016 and has been expanding across Vermont. As of PY3, BCBSVT and MVP continue to be the only two payers administering QHPs in Vermont.[47]

Eligible Medicare, Medicaid, and Commercial Vermonters

Determining the eligibility of Vermonters for the Medicare, Medicaid, and commercial ACO initiatives is a key component of attributing beneficiaries to the Model as well as tracking scale target progress. To better understand the eligible population, we compare the eligible Medicare, Medicaid, and commercial populations in PY1, the latest year for which we have reliable data for all three payers (**Exhibit 2.4.2**).

Vermonters who are eligible for the Model's Medicare and Medicaid ACO initiatives are predominantly White, reflecting Vermont's demographics overall. As expected, eligible Medicaid enrollees are the youngest of the three groups (average age 26 years) and eligible Medicare beneficiaries are the oldest (average age 72 years), with eligible commercial enrollees falling in between (average age 41 years). Eligible Medicare and commercial Vermonters predominately live in rural areas, while only two-fifths of eligible Medicaid enrollees do. The distinctiveness of these populations demographically and geographically indicates that the Model may need to employ different mechanisms to attribute Vermonters to the Medicare, Medicaid, and commercial ACO initiatives to achieve scale across the state in all three.

Exhibit 2.4.2. Vermonters Eligible for Medicare, Medicaid, and Commercial ACOs, PY1 (2018)

	Medicare	Medicaid	Commercial
Number of Vermonters	112,274	137,078	201,051
Mean Age (Standard Deviation)	71.6 (12.3)	26.0 (17.9)	41.3 (20.0)

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[u] This attribution approach was originally piloted in one HSA (St. Johnsbury) in 2019 as "geographic attribution."

	Medicare	Medicaid	Commercial
Male (%)	45.7	47.9	47.6
Rural (%)	76.3	40.3	67.6
Race/Ethnicity (%)			
White	98.4	79.5	N/A
Black	0.5	2.51	N/A
Hispanic	0.7	0.5	N/A
Asian	0.3	1.7	N/A
Other	0.1	0.4	N/A
Data Unavailable	0.0	15.4	N/A

SOURCE: NORC Analysis of Vermont Health Care Uniform Reporting and Evaluation System data (commercial), T-MSIS (Medicaid), and Medicare enrollment data.

NOTE: Due to data timing and availability constraints, PY1 is the most recent year for which data are available. Rurality is based on the Federal Office of Rural Health Policy definition. Race/ethnicity data are not usable in Vermont Health Care Uniform Reporting and Evaluation System for commercial beneficiaries. Numbers of eligible Vermonters are comparable to those reported in GMCB's PY1 Annual ACO Scale Targets and Alignment Report.[14]

Among eligible commercial enrollees in PY1, approximately 70 percent were covered by BCBSVT, with an additional 15 percent covered by MVP.[v] The remaining share of the commercial market is relatively fragmented; national plans Cigna (4 percent) and UnitedHealthcare (1 percent) play a minor role, and smaller local plans with few enrollees comprise the rest. Approximately 6 percent of eligible commercial enrollees in PY1 were covered under Medicare Advantage (MA) plans.

All-Payer and Medicare Scale Target Performance

As part of the original Model State Agreement, Vermont was responsible for meeting all-payer and Medicare-specific beneficiary scale targets for Model participation.[7] To meet the scale targets, a minimum percentage of the eligible Medicare, Medicaid, and commercial Vermonters must be attributed to the Model; scale targets increase in each subsequent PY as the Model was expected to expand its reach in Vermont each year.[41] As described in Section 2.3, Vermonters are attributed to the Model by receiving the plurality of their QEM services from a participant Model practitioner, or meeting the expanded attribution criteria for Medicaid ACO enrollment.[41] In PY3, the Medicare scale target was 79 percent, and the all-payer scale target was 58 percent; no payer-specific scale target goals were set for the Medicaid or commercial ACO initiatives.[w]

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[v] NORC analysis of Vermont Health Care Uniform Reporting and Evaluation System (VHCURES) data. VHCURES data indicate that approximately half of commercially insured enrollees are in self-insured plans and half are in fully insured plans; however, due to a 2014 court ruling, data submission is voluntary for Employee Retirement Income Security Act (ERISA) covered self-insured employers, leading to incomplete data for the self-insured commercial population. https://gmcboard.vermont.gov/sites/gmcb/files/documents/VHCURES%20Overview%20Jan2019%20FINAL.pdf
[w] Denominators for the scale target population can be found in **Appendix Exhibit E.6**.

In October 2021, CMS temporarily waived enforcement of scale targets, noting that ACO Scale Targets set forth in the Model State Agreement are unattainable for Vermont based on information not available when the Model State Agreement was drafted. This information included the significant increase in MA penetration, as well as the ACO attribution methodology, which excluded the many Vermont beneficiaries who were not attributed to the ACO due to primary care utilization outside the state.[x]

Despite gains in the number of lives attributed to the Medicaid and commercial ACO initiatives in PY3, similar to previous years, the Model did not meet the Medicare and all-payer scale targets (Exhibit 2.4.3).[y] The Model's inability to reach scale targets include a number of key Model and market factors, such as:

- **Inclusion of populations in the scale target denominators that are ineligible to be attributed to the Model**, including Vermonters who receive most of their care out of state. Reliance on a beneficiary's primary care service use in previous years (a "prospective" approach) to determine attribution to the Model in a given PY; this method of attribution does not account for potential shifts in care-seeking behavior among beneficiaries that can affect the Model's actual reach. For example, there inevitably are beneficiaries who were prospectively attributed to the Model based on prior care patterns who did not receive care from Model practitioners during a PY.

- **Meaningful increase in MA penetration in recent years**. In 2016 when the original scale targets were established, approximately 8 percent of Vermont's Medicare beneficiaries were enrolled in MA plans; by 2020, MA penetration was almost 16 percent.[36] While MA plans can participate in the Model, none currently do; however, MA beneficiaries are included in the all-payer scale target denominator.

- **Limited uptake of the Medicare ACO initiative among CAHs in more rural areas of the state** due to challenges with upfront funding and infrastructure, the potential for larger shared losses than in other ACO initiatives, and the uncertainty around the Model's financial requirements for hospital cost reporting. Additionally, one CAH, Springfield Hospital, dropped out of the Model for PY3 because it filed for bankruptcy; as a result, Medicare beneficiaries could no longer be attributed to practitioners in that HSA, further reducing the potential scale among Medicare beneficiaries.

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[x] For more information, see the October 12, 2021, letter from CMMI to the State of Vermont, available at VAPM_WoE_2021_signed_0.pdf (vermont.gov).

[y] After an official warning notice from CMS regarding non-compliance with the scale targets in Fall 2020 and discussions with stakeholders, CMS notified Vermont in October 2021 that they were temporarily waiving enforcement of the Medicare and all-payer scale targets through 2022, noting that they "now believe the ACO Scale Targets set forth in the State Agreement are unattainable for Vermont based on information not available when the State agreement was drafted," and citing the demonstrated savings for the Medicare program despite the Medicare scale target not being achieved.

Exhibit 2.4.3. VTAPM Scale Target Performance, PY1–PY3 (2018–2020)
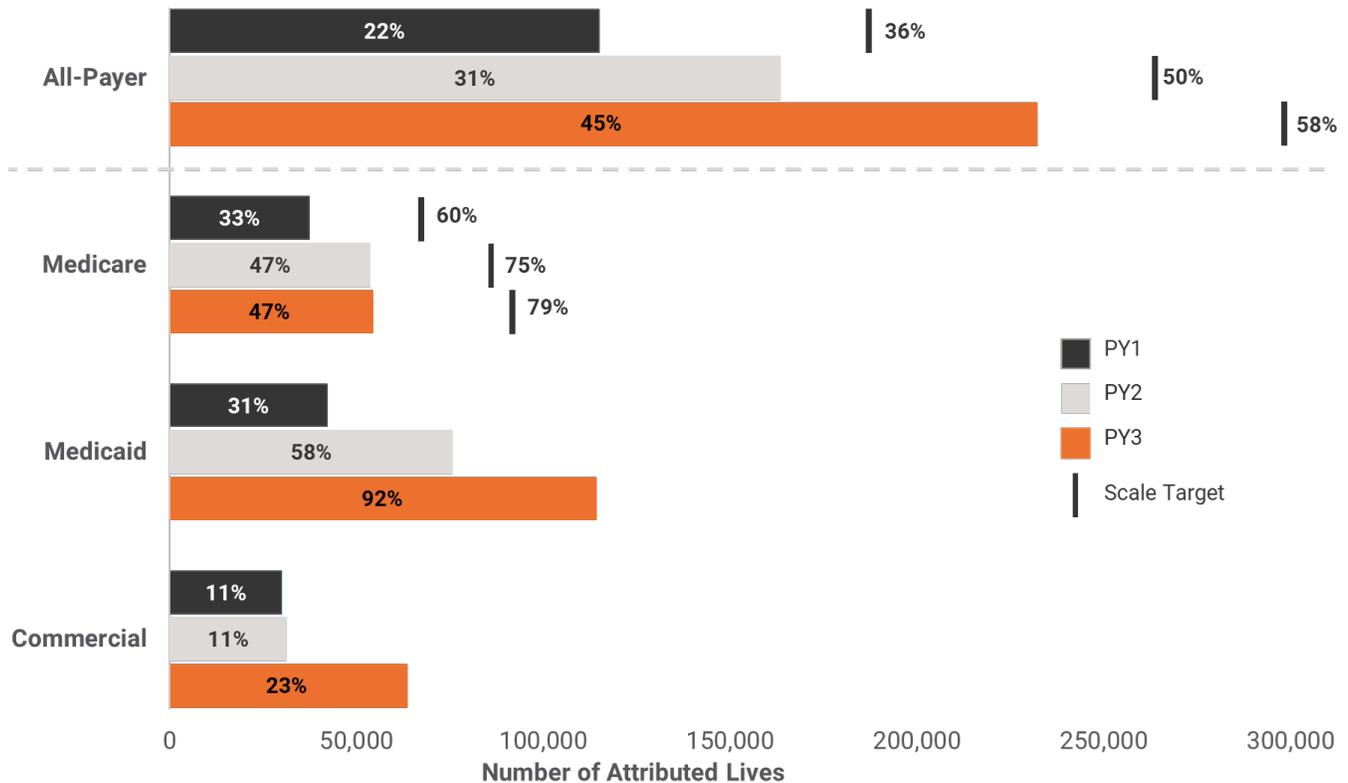
SOURCE: GMCB Vermont All-Payer ACO Model Annual ACO Scale Targets and Alignment PY1, PY2, and PY3 Reports.
NOTE: All-payer scale denominator includes all Vermont Medicare FFS and Medicaid enrollees; members of fully insured and self-insured commercial health plans; and members in MA plans. The Medicare scale denominator includes all Vermont Medicare FFS beneficiaries enrolled at the beginning of the PY. In October 2021, CMS temporarily waived enforcement of scale targets.

According to a GMCB analysis, calculating beneficiary scale based only on the attribution-eligible populations indicated improvements toward scale targets.[42,48,49] However, even when using the attribution-eligible population only, the Model still does not achieve the Medicare or all-payer scale targets.[22] Building on this work, we analyzed two alternative scenarios: the existing "prospective" and a "concurrent" attribution approach where the Medicare scale target denominator included only beneficiaries who received primary care services from a participating (i.e., attribution-eligible) practitioner during the PY (77 percent of all Vermont Medicare FFS beneficiaries). This approach effectively removes beneficiaries who receive no primary care services in Vermont (e.g., those whose PCPs are located in a border state like New York or Massachusetts) from the scale denominator in PY3, mitigating the effect of this functionally "non-eligible" population on the scale calculation.

Slightly over half (52 percent) of these beneficiaries were attributed to Model practitioners with the "prospective" approach; 57 percent were attributed to the Model with the "concurrent" approach (Exhibit 2.4.4). Similar to GMCB's findings, we observe an increase in scale, but one that does not achieve the Medicare scale target of 79 percent. Because the "concurrent" approach includes

beneficiaries receiving any services from a Model practitioner in the year, it may be a more accurate representation of scale within the PY among the eligible population.

Exhibit 2.4.4 Alternative Scenarios for Medicare Scale Target Performance, PY3 (2020)
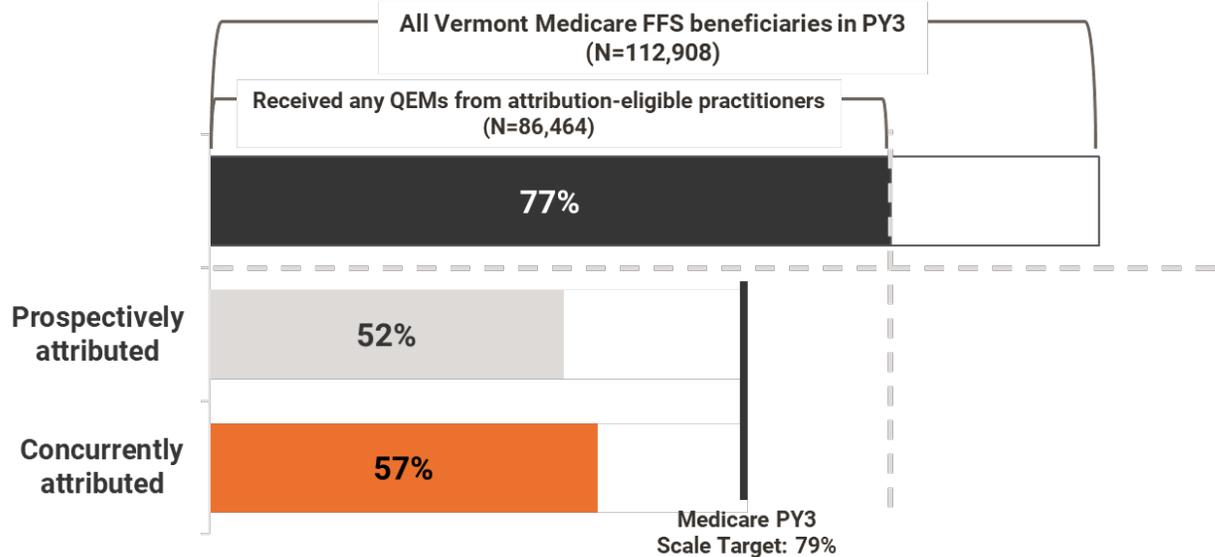
SOURCE: NORC analysis of Medicare claims data.

NOTE: § FFS Parts A and B coverage, no MA coverage during the year, and Medicare was not a secondary payer at any point during the year. Counts below the labels in the graphic represent the total eligible population for each category (denominator). This alternative approach to assessing Medicare scale target performance serves to inform NORC's evaluation and is not representative of the Model's scale target performance definition.

2.5 Successes and Opportunities for Increasing Model Participation

Through PY3 (2020), Vermont has successfully attracted payers, hospitals, and practitioners to participate in the Model, demonstrating the Model's widespread appeal to stakeholders. Despite this, opportunities for increasing Model participation exist. In November 2020, AHS (in consultation with GMCB staff members) released an Implementation Improvement Plan designed to chart a path forward for the Model regarding scale, financial performance, and quality and health outcomes.[48] In this plan, AHS identified six recommended actions related to scale targets and Model participation:

- revise scale targets to reflect populations that are eligible for the Model and aligned to realistic scale strategies
- reduce the risk corridor, especially for the Medicare ACO initiative, to mitigate the financial burden on hospitals
- request that CMS provide documentation of best practices in cost reporting for CAHs receiving prospective payments from Medicare

- work toward a path for the Medicare ACO initiative payment model to align with the Medicaid ACO initiative's FPPs
- increase stability in financial and attribution targets to mitigate potential adverse outcomes from uncertainty related to the COVID-19 PHE
- collaborate with federal agencies to prioritize value-based payment models for FQHC participation

Below, we describe additional themes related to Model participation among payers, hospitals, practices, and practitioners, and we describe potential opportunities for increasing engagement in future years.

Payers

Both of Vermont's public payers (Medicare and Medicaid) and its two largest commercial payers (BCBSVT and MVP) participated in the Model in PY3 (2020). The Medicaid and commercial ACO initiatives have been particularly successful in expanding reach across the state, due to Medicaid's expanded attribution methodology and the additional BCBSVT self-insured plans and MVP's QHP.

However, **the voluntary nature of commercial payer participation, including the state's limited regulatory ability to influence self-insured employer plans, is a challenge to increasing payer participation in the Model**. The BCBSVT and MVP plans represent two-thirds of the commercial market, with the remainder very fragmented among larger national payers (e.g., Cigna, UnitedHealthcare) and small local payers.[37] Conducting negotiations with every small payer is not a feasible goal due to the time and resources it takes to negotiate and implement an individual payer's ACO initiative. Large national carriers, including Cigna, UnitedHealthcare, and Aetna, have shown little interest in participating in the Model or engaging with state officials. One state-level leader interviewed suggested that national plans may be reluctant to join because of limited enrollment in the state.

Despite these challenges, the major opportunity to expand Model participation is among commercial payers. In PY3, discussions continued around the inclusion of two large, self-insured employer plans administered by BCBSVT—the State Employees' Health Care Plan, represented by the Vermont State Employees' Association, and the Vermont National Education Association (NEA) Plan, which is sponsored by the Vermont teachers' union. Both remained non-participants in PY3; however, the State Employees' Health Care Plan entered the Model for PY4, which is expected to add approximately 13,300 commercial beneficiaries to the Model.[50,51,52,53] Outreach to other nonparticipating self-insured employers and payers was planned for late 2021; however, as of OneCare's FY2022 budget submission, no additional payers planned to participate.[22,52]

The Vermont NEA plan, which has more than 13,000 members, has not joined the Model despite extensive engagement from AHS, OneCare, BCBSVT, and the Vermont Office of the Health Care Advocate.[50] The Vermont Education Health Initiative (VEHI) Board, which oversees the Vermont NEA health plan, opted not to participate in the Model in PY3, deciding instead to defer the decision until 2021 after "learning how OneCare performs in 2019, assessing developments in 2020, and acquiring a deeper understanding of the accountable care model."[54,55] The VEHI did not broach the possibility of

entry for PY4, and some members continue to advocate for a statewide single-payer health plan.Hospitals

In PY3, 14 of the 15 eligible hospitals participated in the Model, demonstrating appeal and reach across hospital types and geography. The one remaining nonparticipating hospital, Grace Cottage Hospital in the Townshend HSA, is a small independent CAH in southeastern Vermont. All 14 participating hospitals participated in the Medicaid ACO initiative, and 13 participated in a commercial ACO initiative, leaving more opportunity for hospital participation in the Medicare ACO initiative.

During the first years of the Model to encourage participation, **the UVM and Dartmouth-Hitchcock systems assumed a portion of financial risk for some smaller hospitals, which one leader at a small hospital attributed as the most influential factor in the hospital's decision to join the Model.**[56] In PY3 (2020), AHS took additional steps to retain participating hospitals and providers in the Model by providing Health Care Provider Stabilization Grant funds from the Coronavirus Relief Fund, contingent on the providers maintaining participation in value-based payment models in 2021.[57] The fund distributed $275 million in its first round of grants, and six hospitals participating in the Model were recipients.[z]

The most meaningful opportunity for the Model to expand hospital participation is in the Medicare ACO initiative; of the eight CAHs in Vermont, only two participate in the Medicare ACO initiative, both of which previously participated in the Medicare SSP and are affiliated with academic medical centers.[aa] However, **interviews with CAH leadership indicated that there are serious barriers for CAH participation in the Medicare ACO, including the significant upfront funding and infrastructure required to join the Model, the potential for larger shared losses than in the other ACO initiatives, and the uncertainty around how the Model's financial requirements align with Medicare cost reporting.** Specifically, CAH leadership reported a desire for more specific guidance regarding cost reporting by CAHs that are receiving Medicare prospective payments, adding that the lack of guidance was a barrier for nonparticipating CAHs to join the Model.[bb] GMCB has recognized this as a barrier to increasing participation in the Medicare ACO initiative and formally recommended in December 2020 that CMS provide this guidance.[58] CMS subsequently provided the requested guidance in late 2021.

Another key barrier for hospitals is greater financial risk when joining the Medicare ACO initiative relative to other payers. Hospitals and state leaders continued to cite the organizational financial reserves required to participate in the risk-based Medicare ACO initiative as a participation barrier,[14] with smaller hospitals, including CAHs, citing the required reserve funding and cost reporting infrastructure as particularly challenging. Interviewees noted that participating in commercial and

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[z] Any billing providers in operation before February 1, 2020, including self-employed providers, peer services providers, and hospitals, were eligible to apply. The funding stemmed from the Coronavirus Relief Fund and was administered in accordance with the federal Coronavirus Aid, Relief, and Economic Security (CARES) Act.
[aa] All seven hospitals participating in the Medicare ACO initiative in PY3 previously participated in the Medicare SSP. Of the eight hospitals not in the Medicare ACO in PY3, four participated in the Medicare SSP (Dartmouth-Hitchcock Medical Center, North Country Hospital, Rutland Regional Medical Center, and Copley Hospital), and four did not (Springfield Hospital, Northeast Regional Hospital, Gifford Medical Center, and Grace Cottage).
[bb] CMS subsequently provided this guidance to the State in late 2021.

Medicaid ACO initiatives was more realistic for hospitals because of less stringent requirements.[cc] In PY3, the Medicare ACO was contracted at a 5 percent risk corridor in a two-sided arrangement, with the hospital responsible for 100 percent of the risk (i.e., there was no guarantee that the hospital would not incur losses, and the hospital would be responsible for the entire loss amount, capped at 5 percent). On the other hand, the Medicaid ACO initiative was contracted with a smaller risk corridor (4 percent), which was found to be sufficient to encourage provider participation.

In response to the COVID-19 PHE,[59] **OneCare reduced the Medicare ACO risk corridor to 2 percent for PY4, prompting Rutland Regional Medical Center (RRMC),[60] a prospective payment system (PPS) hospital in the Rutland HSA participating in the Medicaid and commercial ACO initiatives in PY3, to join the Medicare ACO initiative for PY4.** While RRMC had considered joining the Medicare ACO in previous years due to improved relationships with local partners (FQHCs, independent primary care practitioners, etc.), the reduction in the risk corridor created a sense of urgency for the hospital and its partners to join. In addition to the reduced risk corridor, the ACO's founding members (UVM Health Network and Dartmouth-Hitchcock Health) assumed a portion of RRMC's downside risk to ease its transition into the Medicare ACO, as they had in prior years for Brattleboro Memorial Hospital, Copley Hospital, and Southwestern Vermont Medical Center.[61]

Practices and Practitioners

OneCare has created a network of Model practitioners across a wide range of provider types and specialties, aiming to provide a wide range of necessary primary and specialty care to Vermont beneficiaries. OneCare's network continued to expand in PY3, adding one new hospital (Copley Hospital) and 19 additional practices. Opportunities remain to expand the Model's practitioner network and further enact delivery system reform on a larger scale, particularly among non-primary care practitioners.

To achieve the full benefits of the Model, OneCare is working to narrow the information gap among practitioners who are existing participants. Additional collaboration and outreach are needed to educate existing practitioners about the Model and potential benefits, as approximately half of the practitioners in the Model who responded to NORC's clinician survey were unaware that they were in the Model. Payers echoed this finding in interviews, noting that they found it challenging to help their practitioners understand the Model's benefits. Better targeted and more coordinated outreach to practitioners at both the Model and practice level could increase Model awareness and engagement. To address this, OneCare's network development strategy for PY3 included working with employer groups to "increase knowledge and understanding of OneCare's value proposition."[59]

Survey findings indicate that almost half of the Model's clinicians reported that local hospital participation was a main reason why they are participating in the Model (Exhibit 2.5.1). This is

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[cc] As described further in Chapter 3, OneCare established agreements that include risk corridors, shared-savings/loss rates, and shared-savings/loss limits for each payer. Each participating hospital agrees to take on some portion of OneCare's risk for the TCOC of beneficiaries attributed to its HSA. The self-insured and commercial QHP programs have the smallest risk corridor, while the Medicare ACO has the highest.
https://gmcboard.vermont.gov/sites/gmcb/files/documents/REDACTED_MEMO_PY3%20Annual%20ACO%20Scale%20Targets%20and%20Alignment%20Report.pdf

consistent with qualitative findings that the Model is perceived as hospital-centric, and in many cases, the hospitals or affiliated health systems—not the individual clinicians—decide about participation. Because the locus of decision-making is generally not with frontline clinicians, they may be unaware of Model features designed to improve their day-to-day clinical practice. Only one-third of clinicians indicated that specific Model features (e.g., team-based care, behavioral health resources, availability of performance data) or staff resources to support care management were one of the reasons they joined. These findings indicate that there may be a disconnect between Model features—many of which were designed to benefit hospitals or health systems—and perceived clinician benefits of participating in the Model.

Exhibit 2.5.1. Clinician-Reported Reasons for Participating in the VTAPM
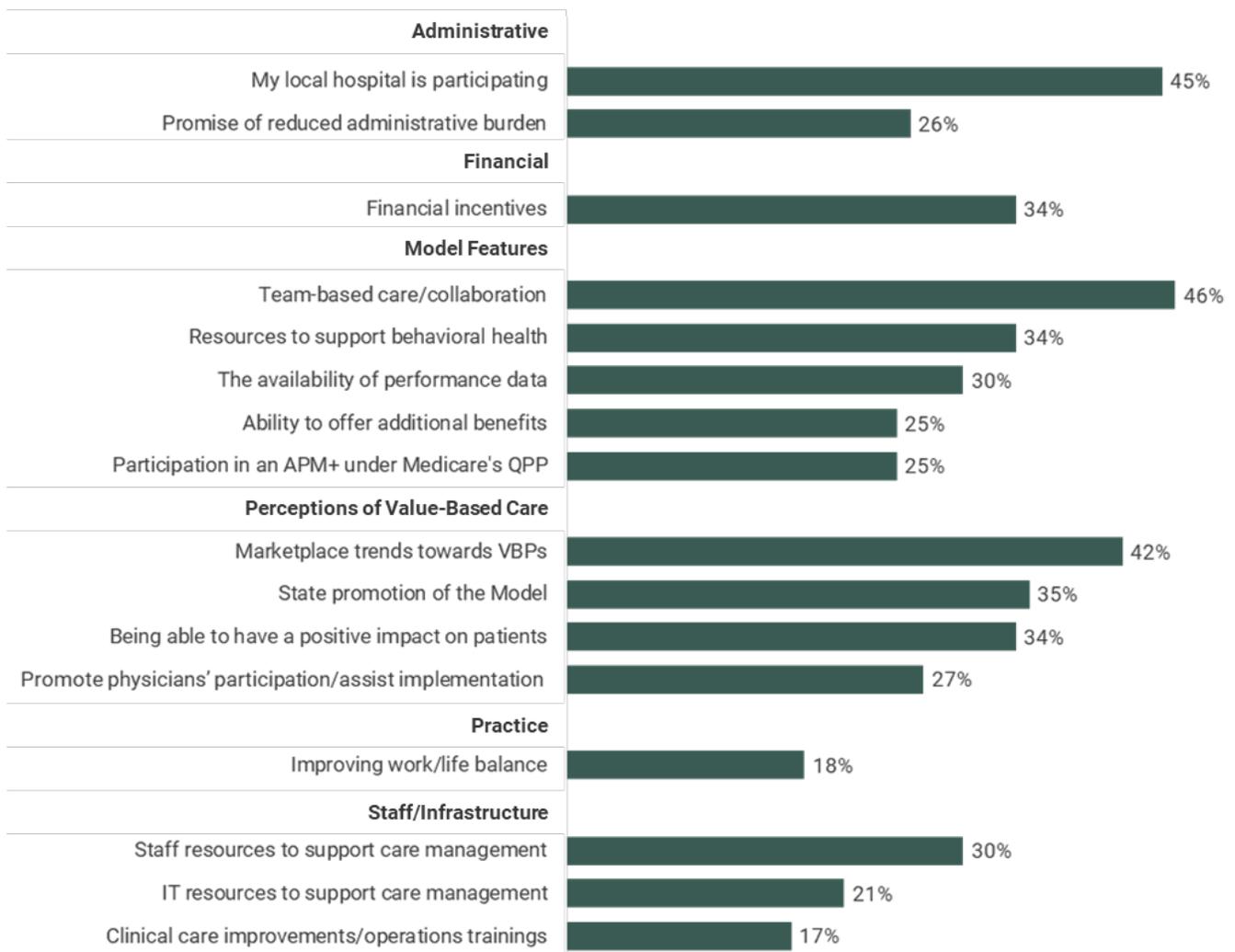
SOURCE: NORC analysis of 2021 VTAPM Clinician Survey.

NOTE: n, unweighted = 202, estimates were weighted to reflect eligible clinicians (including participants and non-participants) who practice in Vermont or provide care to Vermont residents. The percentages above are representative of those who answered the question and were 2020 participants in the VTAPM. Advanced Alternative Payment Models (APM+), Value-Based Payment (VBP), Quality Payment Program.

Nonparticipating clinicians indicated that financial, administrative, and contextual factors contributed to nonparticipation in the Model (Exhibit 2.5.2). Almost half of nonparticipating clinicians were concerned about administrative or reporting burden, additional work, financial risks or losses, and the involvement of large hospital systems. Nearly half of clinicians reported a lack of trust in the VTAPM or in OneCare as a reason for not participating. Clinicians noted in free text responses additional reasons for not participating in the Model, including that it "lacked transparency" or was "too bureaucratic," with one respondent stating, "bigger isn't better, [the ACO is] likely more complex, costly, and inflexible." In their efforts to expand the provider network in PY3, OneCare identified many of the same financial, regulatory, and operational challenges at all levels (e.g., lack of funds for reform efforts, need for additional education around cross-payer alignment of regulations and budgetary processes, and difficulty of operationalizing fixed payment models in existing budgets and initiatives).[59]

Exhibit 2.5.2. Clinician-Reported Reasons for Not Participating in the VTAPM
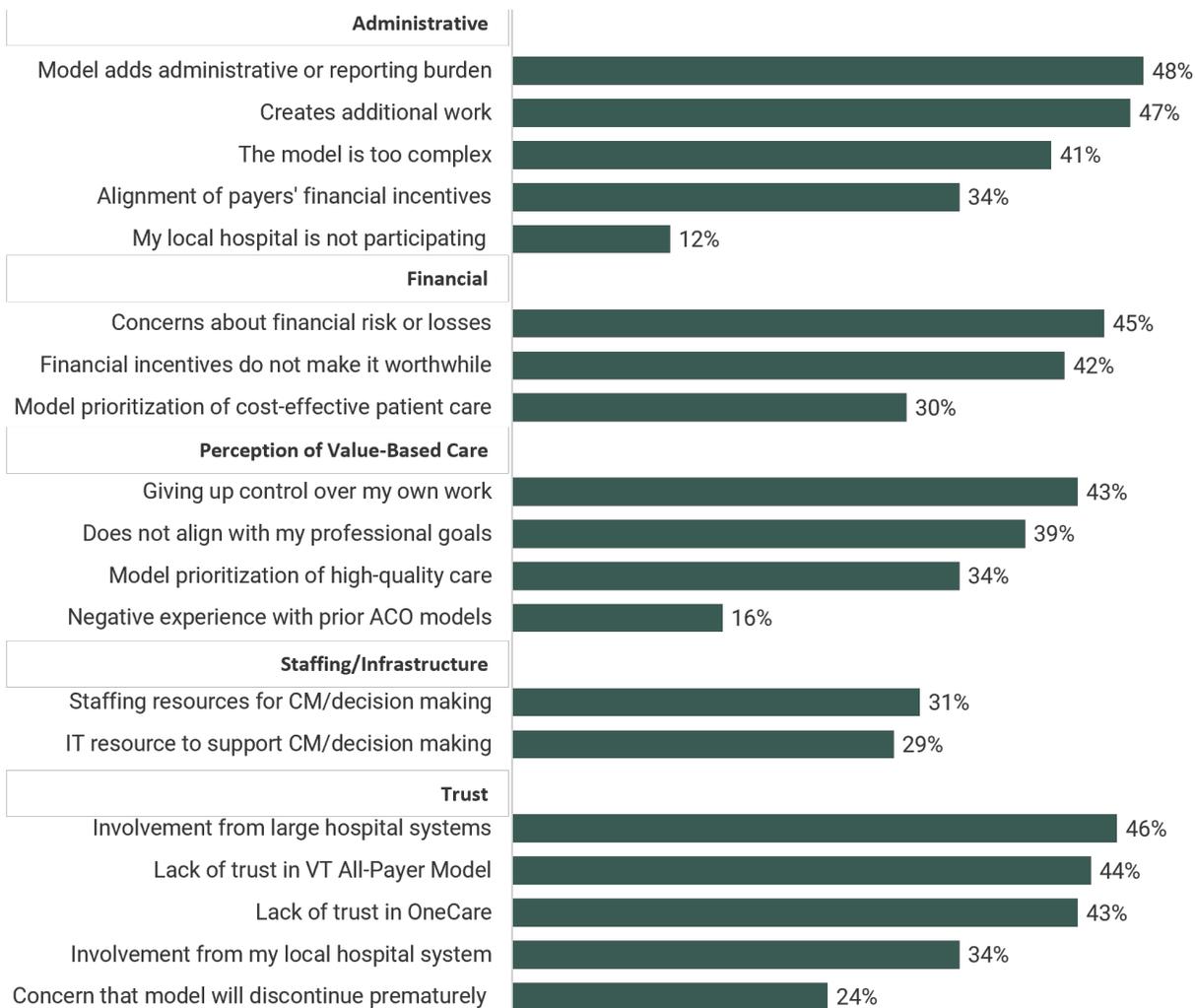
SOURCE: 2021, VTAPM Clinician Survey.

NOTE: n, unweighted = 89, estimates were weighted to reflect eligible clinicians (including participants and non-participants) who practice in Vermont or provide care to Vermont residents. The percentages above are representative of those who answered the question and were not 2020 participants in the VTAPM.

2.6 Conclusion and Next Steps

The greatest recruitment challenge the VTAPM has faced is in the Medicare ACO initiative, particularly among CAHs and small physician practices, due to the upfront resources needed to participate and the high financial risk relative to the commercial and Medicaid initiatives. The lower-than-expected uptake of the Medicare ACO initiative has impeded the state's progress toward Medicare and all-payer scale targets. Improving education regarding the intersection of the Model and CMS policy regarding CAHs may increase CAH participation in the Medicare ACO initiative; this may require collaboration among CMS, the state of Vermont, and OneCare. CMS could also consider AHS's recommendations for providing more flexibility in the risk corridor and aligning Medicare with the Medicaid payment mechanisms.

Chapter 3: Implementation Experience—2020 and Early 2021

Key Takeaways

State Oversight

- Responding to the COVID-19 PHE was the priority for state regulators, the ACO, hospitals, and community organizations during 2020 and into 2021. The care coordination infrastructure supported by the Model provided critical support to those most at risk from COVID-19 and helped communities respond to the COVID-19 PHE.
- With regulatory authority over hospitals, the ACO, and health insurers, and oversight over the VTAPM, the GMCB is in a unique position to help shape thinking across stakeholders.

Implementation of the Payment Model

- Hospital leaders expressed a desire to see Medicare payments align with Medicaid. Medicaid's predictable and reliable payments were particularly beneficial during COVID-19 PHE-related patient volume fluctuations. Medicare payments to hospitals remain primarily FFS. For CAHs, clear communication around cost reporting guidance has been an ongoing challenge.

Care Delivery Transformation

- In the first two years of the Model, hospitals began identifying first-order quality improvement opportunities—for example, preventable readmissions and emergency department (ED) visits—but these efforts slowed with the COVID-19 PHE. Workforce shortages also pose a challenge to expanding access to care, especially for behavioral health services.
- Hospitals need more timely data to understand impacts of investments; some need support to analyze and interpret data. Primary care practices also need more support for practice transformation; the VTAPM has no clear mechanism and (according to some) insufficient funding for practice support.
- The Model is beginning to break down provider siloes, but there are opportunities to improve engagement of non-hospital providers.
- Hospital leaders credited the VTAPM as a "catalyst" for increasing collaboration between hospitals and community organizations. These relationships enabled communities to quickly respond to COVID-19 PHE-related needs.

In this chapter, we present findings on the status of Model implementation in terms of state oversight, payment reforms, and care delivery system transformation, including implementation successes and challenges. Noteworthy context is the effect of the COVID-19 PHE and the cyberattack on the UVM Health Network on Model implementation, in general and on its participating organizations, which is discussed throughout this section. Sources for the analyses presented in this chapter include

stakeholder interviews conducted between April and November 2021, NORC's clinician survey findings, and a review of documents, including GMCB presentations, reports, white papers, and OneCare and hospital budget submissions and budget orders. While the findings of the claims-based analysis in this report are limited to Medicare beneficiaries, the discussion around implementation covers the Model as a whole, including implementation of the Medicaid and commercial ACO initiatives.

3.1 Model Oversight

While the GMCB has implemented mechanisms for controlling hospital spending through the hospital budget process, its levers are designed for a primarily FFS payment system. The Board has begun comparing hospital budgets to actual expenses and reducing a hospital's approved commercial rates if a hospital exceeds its budgets. For example, the GMCB now requires hospital budgets to include estimates of FFS payments and FPPs, which the GMCB can use in net patient revenue (NPR) decisions in the hospital budget review process.[dd] The GMCB also considers each hospital's risk and potential for gainsharing by ACO payer initiative, considering FFS spending both within and outside of the hospital's home HSA. Under a primarily FFS payment system, GMCB sees enforcement of the NPR growth rate (NPR cap) as its primary lever to control hospital spending.[ee] A GMCB member suggested that, compared to a global budget model like Maryland, the GMCB's approach is blunter and less nuanced.[ff] The GMCB has stated that its approach to hospital budget review will evolve to reflect the financial risk hospitals are assuming for patient care and "allow for financial metrics that translate to the All-Payer Model Total Cost of Care and increase the monitoring of quality of care and population health investments."

In response to the COVID-19 PHE, the State and OneCare sought to decrease burden on providers. GMCB relaxed the hospital budget process, and OneCare reduced hospital ACO dues and provided upfront funding to hospitals and practices (see Exhibit 3.1.1). Even before the COVID-19 PHE, hospital sustainability had been a growing concern in Vermont, with declining hospital operating

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[dd] Net patient revenue (NPR) is the actual amount the hospital received. Gross patient revenue is the total amount charged at the hospital's established rates, including FFS claims and services paid for under the fixed prospective payment arrangement. To calculate the NPR, hospitals subtract deductions, which include reductions to the hospital's established rates, reserves, and uncompensated care, from gross revenues. The GMCB regulates hospitals' NPR and fixed prospective payment annual growth, as well as NPR/fixed prospective payment by limiting changes in gross charges. GMCB set a 3.5% cap on the annual NPR growth rate. See
https://gmcboard.vermont.gov/sites/gmcb/files/Misc/HospitalBudgetReview_Guide_FINAL_20200804.pdf for additional information.

[ee] For the FY22 budget review process, the GMCB established a Net Patient Revenue/Fixed Prospective Payment growth guidance of up to 3.5% for FY22 (over each hospital's FY21 budget). See
https://gmcboard.vermont.gov/sites/gmcb/files/documents/FY22%20Hospital%20Budget%20Guidance-%20Final%203%2030%202021.pdf for additional information.

[ff] Under Maryland's all-payer hospital rate regulation system, the state Health Services Cost Review Commission requires that hospitals receive the same rates for specifics treatments across all payers—Medicare, Medicaid, commercial, and self-insured. "Meaningful Value-Based Payment Reform, Part 1: Maryland Leads the Way," Health Affairs Forefront, February 9, 2022. DOI: 10.1377/forefront.20220205.211264

margins and operating expenses outpacing operating revenues.[gg] The COVID-19 PHE heightened these concerns.[62] While COVID-19 PHE relief funds, including the Coronavirus Aid, Relief, and Economic Security (CARES) Act and Paycheck Protection Program loans, were instrumental in financially stabilizing hospitals during the COVID-19 PHE, some hospitals still reported thin margins.[1,63] Some state-level leaders and hospital leadership expressed concern about insufficient funding for care transformation, with hospitals taking on much of the cost and the risk. As part of the state's shift toward a value-based payment system, the GMCB increased its focus on planning for the long-term financial health of Vermont's health care system.

Exhibit 3.1.1. 2020 Implementation Changes to Reduce Burden During the COVID-19 PHE
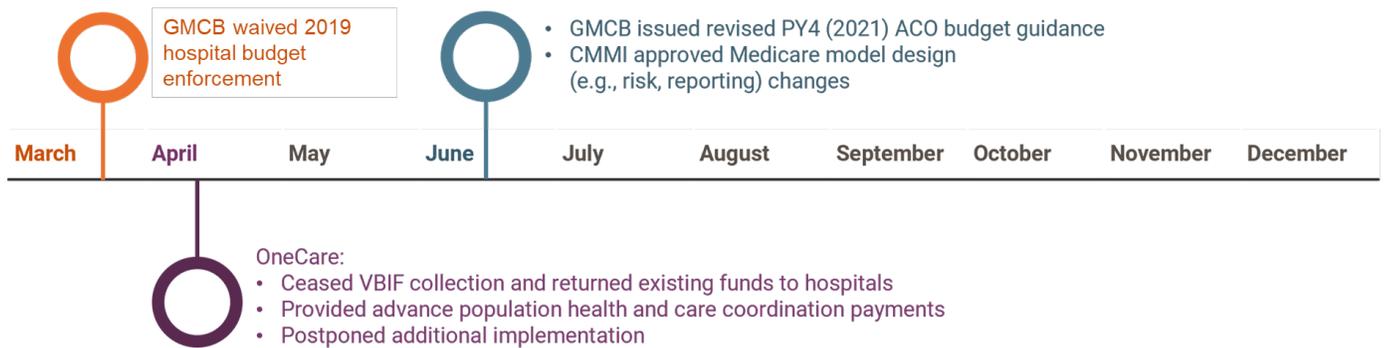
Perceptions of the GMCB's oversight of hospital budgets are mixed. Hospital and ACO leadership reported that hospitals and local communities perceive that hospital budgets are already heavily regulated and that asking hospitals to fund programs or program expansions may "stunt progress" and make it difficult for hospitals to have positive operating margins. While the GMCB cannot require hospitals' participation in any health care reform initiatives, hospital leaders and other community providers (e.g., FQHCs, home health) reported that "unspoken" pressure from the GMCB has been the impetus for participation.[64] However, several stakeholders suggested that, in general, the GMCB should further increase use of its authority to oversee hospital budgets and commercial rates.

The GMCB provides oversight to OneCare primarily through a budget review process.[hh] GMCB can require the ACO to submit data to evaluate its success; for example, the Board can ask for the

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[gg] Act 159 of 2020 requires the GMCB "to consider ways to increase the financial sustainability of Vermont hospitals in order to achieve population-based health improvements while maintaining community access to services." GMCB has defined this work as ensuring "that hospital revenues are sufficient to cover the costs of operating a system" and striking a balance "between efficiency and access." Sustainability planning has been part of the hospital budget review process beginning with the FY2020 budget submissions (submitted in mid-2019). The GMCB also has discussed with hospital leadership and other stakeholders how to organize the state's health system more efficiently and has facilitated conversations about how care should be delivered in the state and who should be doing what. For more information, see https://gmcboard.vermont.gov/sites/gmcb/files/documents/GMCB%20Act%20159%202020%2C%20Sec.%204%20Hospital%20Sustainabiliy%20Letter%20%26%20Report%20-%20Submitted%2002.01.2022.pdf.

[hh] GMCB has broad authority to approve or modify an ACO's proposed budget based on (1) any benchmarks established, (2) criteria in 18 VSA 9382, (3) 18 VSA 9551 (VTAPM requirements), and (4) any other issues at the discretion of the Board. Rule 5.5.04 allows the Board to take remedial action, including requiring a corrective action plan, for an ACO that is not complying with a budget order or certification requirement. The ACO oversight statute says the Board rules will include requirements for data submission needed to evaluate the ACO's success (18 VSA 9382(c)), which is included in Rule 5.401 and 5.403, and information about population health programs is part of the required submissions in 5.403(a)11, 17-20.

evidence behind a program or a description of the ACO's evaluation of the program (e.g., provider participation, meeting benchmarks, quality measures). In early 2020, the GMCB began pushing for additional insight into ACO population health investments; progress stalled with the onset of the COVID-19 PHE.

The timing of GMCB's hospital and ACO budget review processes continues to be a challenge to hospital planning around ACO participation. Hospitals currently submit budgets for approval in the summer (prior to the start of their fiscal year in September), while ACO budgets are not submitted and approved until late fall (before the ACO's fiscal year beginning in January). Because the ACO program and incentive details are not finalized until after the hospitals' budgets are approved, hospitals are unable to develop budgets that fully reflect their plans for ACO participation and ACO-associated costs, benefits, and risks. Recognizing the challenges brought on by siloed regulatory processes, in July and August 2020, the GMCB issued two white papers outlining the current state of regulatory processes and proposed changes to the regulatory timeline for various entities.[65] Yet, in the final white paper on options for regulatory timeline and logistics released in July 2021, the GMCB did not recommend any changes, 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 regulatory timeline changes.[66] GMCB is continuing to work toward identifying options for policy alignment.

3.2 Payment Model

The VTAPM aims to align payers through an ACO by offering risk-based payments tied to provider performance on quality and spending measures and encouraging providers to participate in an ACO and move from FFS to value-based payments.[67] As seen in **Exhibit 3.2.1**, 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 PY1-PY3). Hospitals pay dues (or ACO participation fees) to OneCare, which the ACO uses to support population health programs.[30,45]

Exhibit 3.2.1. VTAPM Funding Flows
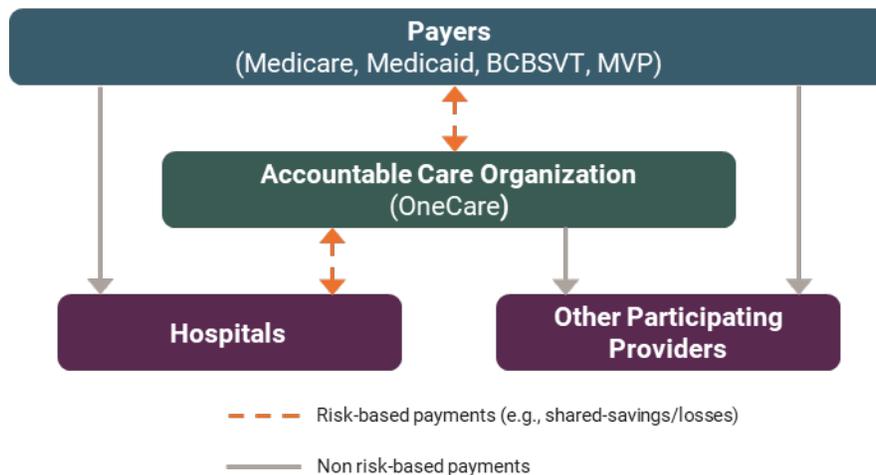
Payment Mechanisms

Interviews with hospital leaders and state government officials underscored the importance of aligning the Medicare AIPBP with the Medicaid FPP approach. Medicare and Medicaid provide fixed PBPM prospective payments through OneCare, which distributes the prospective payments to participating hospitals based on their attributed beneficiaries. For providers that accept Medicare's AIPBP, payments for each attributed beneficiary are

> *"At this point, between 30% and 35% of our gross charges are associated with attributed patients and we have reached a plateau over the last two years. A lack of further growth in attribution levels calls into question the ability for OneCare Vermont to achieve the fundamental alignment of financial incentives with the goals of reduced utilization of high-cost diagnostic and interventional services."[70]*
> – Hospital FY2021 budget submission

reconciled to FFS amounts at the end of the year.[11] If a provider reduces expenditures relative to the prospective payment, the provider will owe CMS the difference between the payment and the FFS equivalent of the actual services delivered.[48] Hospital leaders reported that the accounting required to track both FFS claims and the AIPBP creates an administrative burden. They also noted that the lack of predictable payment is a barrier to planning future investments and changing incentives.

In contrast to the Medicare AIPBP, Medicaid's FPP is not reconciled, and is therefore more predictable and reliable for providers.[68,69] Hospital leaders indicated that Medicaid's capitated payments were particularly beneficial in the context of the COVID-19 PHE volume fluctuations.[ii] The November 2020 Implementation Improvement Plan, written by AHS, highlighted the implementation challenges related to

> *"The fixed payments were a lifesaver for the hospitals who were in Medicaid fixed payments even though Medicaid doesn't pay as well as the other payers, the money was still coming in the door."*
> – GMCB Leader

the reconciled Medicare payments and recommended that GMCB and AHS work with CMS to establish a path for the Medicare payment model to mirror the Medicaid model.[jj] Some hospital leaders interviewed believed that true capitation across all payers would make the Model more appealing, particularly for small hospitals. However, there is also concern about how a true capitated payment would impact CAH's cost-based reimbursement.

OneCare's CPR program, which provides participating practices with a capitated payment in place of FFS payments for all attributed beneficiaries, has been well received. Independent practices are eligible to participate in OneCare's CPR program if they have at least 500 attributed beneficiaries and are in an HSA that is participating in all three ACO payer initiatives. OneCare first piloted the program in PY1 (2018) with 3 practices; the program increased to 8 practices in PY3 (2020) and 12 in PY4 (2021). Just as was the case with hospitals, capitated payments provided ongoing revenue flow during the height of the COVID-19 PHE.

[ii] Also see https://dvha.vermont.gov/sites/dvha/files/documents/Initiatives/VMNG%202020%20Results%20Report_FINAL_01-14-2022.pdf

[jj] In a December 17, 2021, letter to CMS requesting a 1-year extension of the All-Payer ACO Model Agreement, GMCB and AHS requested an amendment to the current agreement, including "a commitment to work together to design and offer an unreconciled fixed payment mechanism within the Vermont Medicare ACO Initiative for Performance Year 6." See https://gmcboard.vermont.gov/sites/gmcb/files/documents/VTAPMExtension_RequestLetter_20211217_SIGNED_0.pdf.

In the third year of the Model, hospital and physician revenue remained primarily FFS. Hospitals continued to function in an FFS environment and be driven by FFS incentives. While hospitals have implemented initiatives to reduce TCOC, as discussed in the next section (3.4), attribution levels have not increased to the point where continued efforts to decrease utilization are sustainable for some hospitals. According to the GMCB, Vermont hospitals expected a small amount (approximately 15 percent, on average) of NPRs to be FPPs.[71] Commercial payments remained FFS. While the share of Medicare revenue for both hospital-based and professional services paid through AIPBP increased between PY1 and PY3, it remained below 50 percent in PY3 **(Exhibits 3.2.2 and 3.2.3)**.[kk]

Exhibit 3.2.2. Medicare Revenue for Hospital-Based Services by Payment Type, PY1–PY3 (2018–2020)
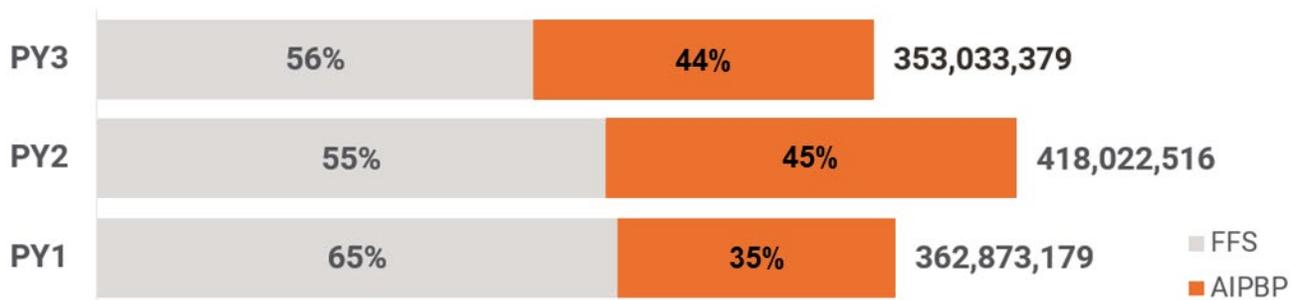
SOURCE: NORC analysis of Medicare claims data.

NOTE: This exhibit includes the total of all Medicare payments—FFS and AIPBP—to participating hospitals for FFS-covered services rendered to attributed and non-attributed Medicare beneficiaries during the PY (i.e., denominator).

Exhibit 3.2.3. Medicare Revenue for Professional Services by Payment Type, PY1–PY3 (2018–2020)
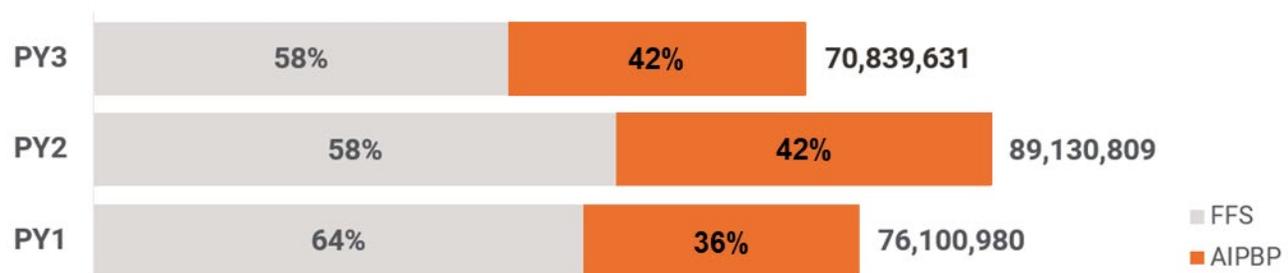
SOURCE: NORC analysis of Medicare claims data.

NOTE: This exhibit includes the sum total of all Medicare payments—FFS and AIPBP—to participating and preferred practitioners who opted for AIPBP for FFS-covered services rendered to attributed and non-attributed Medicare beneficiaries during the PY (i.e., denominator).

[kk] Total AIPBP payments decreased between PY2 and PY3, along with an overall decrease in hospital revenue, which may be due to both reduced use of hospital services during the COVID-19 PHE and/or a disruption in UVM billing due to a September 2020 cyberattack that disrupted care and billing.

Risk Sharing

In 2020, OneCare shifted its risk model from a regional system of "mini-ACOs," where each HSA had a spending target, to a statewide network model, where shared savings and losses are calculated at the ACO level and distributed proportionately across HSAs, with hospitals as the main bearers of risk.[60] The goal was to simplify and streamline the risk process, which was operationally challenging for both OneCare and hospitals.[71] For OneCare, the HSA-level approach was administratively taxing due to the level of nuance, such as QEM visit and community-specific details. The HSA-level approach also resulted in volatility for small hospitals, which may have owed OneCare money with even a few high-cost patients. Hospitals perceive the statewide approach as less volatile and more stable.

OneCare is exploring mechanisms to expand the accountability structure and increase risk across different types of providers. A OneCare leader suggested that, while the ACO needed to bring FQHCs and PCPs into the Model to expand it, they recognized that FQHCs and independent PCPs would not initially join the Model if they were required to share risk. In 2021, OneCare expanded the risk to primary care; PCPs contribute $1.50 PBPM throughout the course of the year. If PCPs owe losses, OneCare uses money from the pool, and the hospital covers the rest. A OneCare leader noted that some PCPs are receptive and ready to take on risk, while others are more reluctant and unready.

Changes to the Medicare and Medicaid risk corridors[II] **provided a sense of stability for hospital leaders during the uncertainty of the COVID-19 PHE.** While OneCare takes on both upside and downside risk (i.e., sharing in both potential savings and losses), each participating hospital agrees to take on some portion of OneCare's risk for the TCOC of beneficiaries attributed to its HSA. Per request by the state, CMS reduced the downside Medicare risk for 2020 by reducing shared losses during COVID-19 PHE months and removing some claims related to episodes of COVID-19 care; Medicaid reduced downside risk from 2 percent to 1 percent. Hospital leaders explained that the changes likely stopped some hospitals from leaving the Model, "tak[ing] the sting out a bit." However, OneCare leadership suggested that the resulting decreased opportunity for shared savings could reduce hospitals' ability to invest in population health interventions. Some hospitals lamented the decreased opportunity for shared savings, while other hospital leaders favored the increased stability. During the COVID-19 PHE, hospitals have been less willing to take on risk.

3.3 Delivery System Transformation

As discussed in our First Evaluation Report, population health initiatives under the Model build largely on the state's Blueprint for Health programs and infrastructure—including patient-centered medical

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[II] The Medicare model reduced 2020 downside risk by reducing shared losses by the proportion of months and removing Parts A and B FFS payment amounts for "an episode of care for treatment of COVID-19, triggered by an inpatient service." The Medicaid model changed the risk corridor for the traditional attribution cohort from 4% to 2% and the expanded attribution cohort from 2% upside with 1% downside to 1% upside and downside risk. OneCare maintained the narrower 2% risk corridors in its FY21 and FY22 Medicare and Medicaid contracts. See
https://gmcboard.vermont.gov/sites/gmcb/files/documents/FY22%20ACO%20Budget%20Order%20OneCare%20Vermont%20Docket%20No.%2021-001-A_FINAL_0.pdf.

homes (PCMHs), CHTs, and the Hub & Spoke system of opioid use disorder treatment—which has been in place for over a decade. Under its $45 million State Innovation Model (SIM), which CMS awarded in 2013, the state focused on building capacity to participate in alternative payment methodologies. The SIM provided significant ACO start-up funding to all three ACOs, developed Vermont's Medicaid and commercial SSP ACOs, and developed care coordination models and funding community collaboratives that sought to establish shared Blueprint/ACO governance in each HSA. With the introduction of the VTAPM, CMS and the state aimed to transform relationships "between and amongst care delivery and public health systems across Vermont."[5] Below, we discuss progress on implementation of ACO and hospital population health initiatives and collaboration at the community and state levels.

ACO Population Health Initiatives

Over the Model's first three PYs, OneCare invested in an array of population health initiatives at the state and local levels aimed at improving population health and quality of care and reducing TCOC. Programs included supports for care coordination, primary care, and pilot programs for innovations in care delivery and payment reform[72] (**Exhibit 3.3.1),** funded by the $9.5-million upfront CMS payment in PY0 (2017) to support population health investments and hospital participation dues.[73] OneCare's original FY2020 budget, approved in October 2019, included additional program expansions (e.g., a clinical pharmacy program to embed clinical pharmacists in primary care) and an increase in overall population health investments from approximately $33 million in 2019 to $43.1 million in 2020,[40,74] reflecting in part an increase in attributed beneficiaries.[72,74] However, in response to COVID-19, OneCare revised its FY2020 budget and decreased its planned population health investments to roughly $36 million.[61]

Exhibit 3.3.1. PY3 (2020) Population Health Initiatives

Investment Category	Program	Description
Care Coordination	• OneCare Complex Care Coordination Program	• Intended to provide proactive and preventive care to the top 16% of OneCare beneficiaries identified as high- and very high-risk.

Investment Category	Program	Description
	• Developmental Understanding and Legal Collaboration for Everyone Program • Support and Services at Home (SASH)†	• Pilot program operating in four pediatric primary care practices in collaboration with the Developmental Understanding and Legal Collaboration for Everyone Program and the Vermont Department of Health to support the health-related social needs of infants from birth to six months. • Connects local health and long-term care systems for Medicare beneficiaries to support aging at home through partnerships with housing organizations, home health agencies, Area Agencies on Aging, and designated mental health agencies. Funds both participating and nonparticipating communities.
Blueprint for Health	• Community Health Teams (CHTs)†	• Multidisciplinary care coordination teams employed to support PCMHs and manage patients' complex illnesses across providers.in all HSAs, independent of Model participation. CHT members may include registered nurse (RN) care/case coordinators/managers, social workers, dietitians, behavioral health providers, and community health workers/lay navigators.
	• Blueprint Patient-Centered Medical Homes (PCMHs)†	• Support PCMHs in all HSAs, independent of model participation.
Primary Care	• OneCare Basic PMPM Care Coordination Payments	• Intended to support engagement in quality measurement, quality improvement activities, and other activities related to population health.
	• Comprehensive Payment Reform (CPR) Program	• Blended capitation model for independent primary care practices with a minimum of 500 attributed beneficiaries. OneCare first piloted the program in PY1 (2018) with 3 practices and expanded to 8 practices by PY3 (2020) and 12 in PY4 (2021). The program is now available to all independent PCPs in HSAs participating in all three ACO payer initiatives.
	• Primary Care Engagement Investment	• An incentive of $100 per member per year (PMPY) payable to the primary care tax identification number (TIN) that engages Medicaid Expanded attribution patients in primary care.
Primary Prevention	• RiseVT	• Community-based primary prevention program emphasizing healthy lifestyles. First established in 2018, the program has spread to 20 communities throughout the state.

Investment Category	Program	Description
Innovation	• Innovation Fund	• Grant funds that support innovative evidence-based (or -informed) programs that align with OneCare's priorities and could be readily spread and sustained by the ACO and participating communities. Projects span various health topics, including mental health, vulnerable populations, technology in rural settings, and specific chronic conditions.
Specialty	• Specialist Payment Pilot	• Pilot programs to support coordinated efforts between primary and specialty care to address patients' needs. Programs include a care coordination system to manage advanced chronic kidney disease, a program to embed clinical pharmacists in primary care practices, and improvement of UVM Health Network's eConsult function.
Quality	• Value-Based Incentive Fund (VBIF)	• Participating providers earn funds when meeting set quality criteria. Seventy percent of funds are distributed to attributing PCPs based on attribution; 20 percent goes to the remainder of the network; and 10 percent goes to a quality improvement investment.

†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.

Table adapted from: OneCare FY 2020 Revised Budget–GMCB Staff Analysis. https://gmcboard.vermont.gov/sites/gmcb/files/Board-Meetings/FY%202020%20ACO%20Revised%20Budget%20Presentation%20-%2007292020%20FINAL.pdf.

Program descriptions cited using: GMCB Budget Order Condition 7d Final Description of OneCare's Population Health Initiatives. https://gmcboard.vermont.gov/sites/gmcb/files/documents/Condition%207d%20-%202021%20Final%20Description%20of%20Population%20Health%20Initiatives.pdf.

With budget cuts in response to the COVID-19 PHE, OneCare's 2020 population health investments focused primarily on care coordination. Blueprint initiatives that predated the Model remained fully funded, along with OneCare's complex care coordination program focused on high- and very high-risk beneficiaries.[mm,75] OneCare's amended 2020 budget reduced population health investments by roughly $7 million, including a roughly $2.7 million reduction to the VBIF and an almost $3 million decrease in community-specific project investments (i.e., innovation fund and specialty pilots) **(Exhibit 3.3.2)**.[75] Given the ongoing financial strain due to the COVID-19 PHE, OneCare's 2021 budget included a further reduction of approximately $5.5 million in population health investments from the previous year, with a continued focus on complex care coordination and Blueprint initiatives; the 2021 budget also included significant reductions to the VBIF, reducing investment by approximately $3.6 million compared to 2020.[71,61]

Exhibit 3.3.2. PY3 (2020) Population Health Investments, Original and Amended Budgets

Category	Original Budget	Revised Budget
Complex Care Coordination Program	$9,423,590	$9,672,306
Basic OCV Per Member Per Month	$8,569,920	$8,420,662
Value-Based Incentive Fund (VBIF)	$8,387,232	$5,640,553
Supports and Services at Home (SASH)	$3,968,246	$3,968,246
Community Health Teams (CHT) Block Payments	$2,379,711	$2,440,322
Patient Centered Medical Home (PCMH) Payments	$1,894,417	$1,993,092
Comprehensive Payment Reform Program	$1,606,613	$1,192,196
Specialist Program Pilots	$3,144,500	$754,800
Innovation Funds	$1,367,580	$725,521
Primary Care Engagement Investment	$375,000	$636,436
RiseVT	$1,031,752	$540,000
VBIF Quality Initiatives	$167,505	$33,000
DULCE	$800,000	

■ Original Budget: $43,116,066   ■ Revised Budget: $36,017,134

[mm] In 2020, OneCare expanded the Longitudinal Care Program, a program within its complex care coordination program that was previously piloted out of the University of Vermont Health Network Home Health & Hospice. This program supports in-home services for patients with chronic diseases, a recent hospitalization, and barriers to self-management (e.g., anxiety or depression) who do not otherwise qualify for home health services.

Model participants and state-level leaders agree that the ongoing, and in some cases increasing, financial and technical support for care coordination are among the biggest Model benefits to date.[76] While PCPs have had access to care coordinators and CHTs through The Blueprint,[nn] hospital leaders and clinicians credit the Model with providing continued and additional funding for care coordination. In addition to ongoing PCMH funding, the ACO developed contractual agreements with each HSA that set milestones for managing high-risk and very high-risk patients (e.g., development of a care plan, quarterly calls).[oo] Each agreement included an upfront payment for initiating care with very high-risk patients and a PBPM payment with milestones. The additional $15 PBPM payment provided a revenue stream for HSAs to support care coordination, including creating and sharing care plans, participating in care conferences, supporting transitions of care, and trainings. OneCare tied the payments to quality metrics and operational milestones, such as having a lead care coordinator[pp] and sharing care plans. In response to the COVID-19 PHE, OneCare provided prepayment of monthly payments to its physician practice network for May and June 2020 to provide cash flow to practices hard-hit by the COVID-19 PHE.

> *"I'm not sure patients realize how much has changed. Ten years ago, we really just did medicine, we didn't offer to find them rides and get them appointments. We didn't do that because we didn't have the staff. People have just accepted that as if that was always how it should have been working. I don't know what will happen when this ends if we lose our care coordinator. It's really going to be like a cold bucket of water, it's going to be hard to switch back."*
> – Primary care clinician

The care coordination infrastructure supported by the Model provided critical support to those most at risk from COVID-19 and helped communities respond to the COVID-19 PHE. In line with OneCare's emphasis on coordinating care for high- and very high-risk beneficiaries, care coordination efforts focused on support for those most vulnerable to COVID-19. OneCare created a COVID-19 Care Coordination Prioritization App, using criteria developed by the World Health Organization, the Centers for Disease Control and Prevention, and Johns Hopkins University, to identify patients with the greatest risks of COVID-19. Care coordinators supported primary care practices where a practice's nurses were redeployed to work in the hospital; CHT members were able to provide telehealth visits to community members.[2] The CHT infrastructure supported Vermont's COVID-19 response—for example, CHT staff members were redeployed to be hospital screeners and also organized and conducted testing in their communities.[2]

[nn] Vermont's Blueprint for Health, launched in 2003 as a governor's initiative and codified into Vermont statute in 2006, served as a precursor to the VTAPM. The focus of the Blueprint is on "integrating a system of health care for patients, improving the health of the overall population, and improving control over health-care costs by promoting health maintenance, prevention, and care coordination and management." See: https://blueprintforhealth.vermont.gov/ and https://blueprintforhealth.vermont.gov/sites/bfh/files/doc_library/Blueprint-for-Health101-March-2019.pdf.

[oo] OneCare uses the Johns Hopkins's ACG® system (See: https://www.hopkinsacg.org/) to identify beneficiaries in the top 16% as high- or very high-risk using medical and pharmacy claims and demographic information for risk stratification. High- and very high-risk beneficiaries are then flagged within Care Navigator, OneCare's care management software, to receive additional care coordination.

[pp] High- and very high-risk beneficiaries select the lead care coordinator, who may be from primary care practices, home health agencies, designated mental health agencies, or other community organizations.

Practices are still primarily providing the same care coordination services for all patients, regardless of payer or attribution to OneCare. The primary distinction is documentation in Care Navigator (OneCare's care management platform) and associated payments for beneficiaries that OneCare identifies as high- and very high-risk. Implementation of high-risk care coordination for ACO beneficiaries has been an ongoing challenge for providers, adding a layer of administrative burden for practices accustomed to payer-neutral care coordination through the Blueprint. Interviews with clinicians suggested that some patients identified by OneCare as high- or very high-risk already receive care coordination services; one clinician expressed his frustration that patients that often need care coordination are not attributed to OneCare, requiring them to work in multiple systems to coordinate care (i.e., the Blueprint's payer-neutral network and the OneCare model of tying care coordination payments to Care Navigator).

The use of Care Navigator, which is intended to support care coordination across HSAs and improve collaboration within HSAs, continues to be inconsistent due to software limitations. The OneCare leadership team envisioned that Care Navigator would house standardized care plans with goals of care; serve as a common platform for communication across care settings; provide alerts when patients were seen in the ED, admitted to the hospital, and discharged from the hospital; and serve as a patient portal to enable nonclinical providers to communicate with beneficiaries. One major limitation identified by providers is that Care Navigator lacks interoperability with any EHRs. As a result, care coordinators report that duplication of documentation is an ongoing frustration. Additionally, because Care Navigator includes only ACO-attributed beneficiaries, the ability to collaborate to improve care coordination is limited to only ACO-attributed beneficiaries. To improve Care Navigator uptake, in July 2020, OneCare shifted from capacity-building payments for all high- and very high-risk beneficiaries to payments tied to documentation of care coordination in Care Navigator.[77] However, uptake remains inconsistent, and as a result, the software's goal to facilitate communication across sectors statewide has yet to be achieved.[qq]

Hospital Investments in Population Health

Hospitals are directly investing in population health initiatives to manage TCOC and support the Model goals. While the state had planned to offer upfront funding to support investments in population health initiatives, stakeholders expressed frustration that the state did not contribute sufficient matching funds[rr] to draw on CMS's over $200 million in delivery system reform funds, available through the Global Commitment to Health 1115 waiver.[78] In addition to the ACO hospital participation fees, or dues that fund ACO population health initiatives, hospitals are making the upfront investments to support population health and, in some cases, applying for grant funding.

[qq] For FY22, OneCare did not require use of Care Navigator for care coordination payments.
[rr] State leaders noted that this new category of funds was available within a larger category of investments allowed by the Global Commitment to Health waiver. Total investments were subject to a cap, meaning that new investments would compete for funding with established investments. Ultimately, the availability of state matching dollars and the restrictions of the investment cap limited the startup funds to significantly less than $200 million.

Hospital initiatives in the first few years of the Model largely focused on expanding care coordination. As part of the GMCB hospital budget review process, hospitals submit planned population health investments to the GMCB. GMCB leadership noted that, because of the Model, hospitals have been increasing their commitments to CHTs and are starting with initiatives to reduce preventable hospital readmissions, which are seen as "low-hanging

> "We saw a lot of projects in the first few years, but the pandemic turned everything on its head. We lost 2020 and most, at this point, 2021. Hospitals are only now [mid-2021] starting to get back to something more normal, and they're all fried."
> – GMCB leader

fruit." Submitted 2020 hospital budgets showed continued investments in staffing to address avoidable ED utilization. For example, using funds from OneCare's complex care coordination program, some hospitals have hired care coordinators and social workers who, with CHTs or practice managers, review utilization and quality data from OneCare to identify individuals who are frequent ED users and target outreach to these individuals. Others have focused on discharge planning.

The COVID-19 PHE shifted the focus and momentum, increasing demands on hospital staff members and resources and limiting capacity to advance population health and care transformation goals. Several planned 2020 hospital investments were put on hold.[ss] For example, the UVM Medical Center planned to expand ED capacity to address acute mental health care needs and patients awaiting inpatient psychiatric placements. In addition, Central Vermont Medical Center, part of the UVM Health Network, had planned to expand the capacity and supports for patients needing inpatient psychiatric services.[79]

As hospitals begin to revisit investments, hospital leaders described lack of timely and useful data as a challenge to informed decision-making. Some hospitals are using OneCare's claims-based data to track key performance metrics (e.g., readmission rates) to inform targeted investments in

care management (e.g., increased focus on care management for chronic obstructive pulmonary disease patients in the outpatient setting). Several providers noted continued challenges with receiving timely attribution and population health data from OneCare. OneCare has attributed some of these delays to a lack of timely and accurate payer data.

> "OneCare is accelerating our change. It is getting our clinical team members on the same page…. We are giving [the hospital's medical group] updates now on OneCare and how we're doing. So, I think it's helping to change the mindsets of…how we are going to provide the type of care to be successful…so we're sharing some of the clinical quality indicators from the goals OneCare sent."
> – Hospital leader

OneCare support for hospitals is inconsistent, and CAHs may need additional technical assistance to use data, including OneCare data, as intended to support care delivery transformation. Small hospitals, particularly CAHs, are struggling to invest in long-term population health initiatives with delayed impacts, given small operating

margins and lack of internal resources to monitor progress. Because small hospitals lack the in-house resources for data analytics, several leaders described the data they receive from OneCare as

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[ss] These projects are scheduled to resume in 2022. See
https://gmcboard.vermont.gov/sites/gmcb/files/documents/UVMHN_FY2022_budget_narrative_7-13-21_final.pdf

unactionable. As one hospital leader noted: "*We want to do the right thing; we just don't know what the right thing is.*" To improve understanding of OneCare's clinical data, OneCare leadership recognized a responsibility to aggregate and share data with providers and were beginning to work with hospitals to generate focused and useful data. Some hospitals have standing meetings with OneCare to discuss how to use clinical data to inform practice transformation. However, GMCB and hospital leaders suggested that improving the usability of data is not enough to support care delivery transformation and that hospitals, particularly CAHs, also need technical assistance and resources, like what was provided under the SIM initiative,[tt] to support care delivery transformation and inform which interventions are improving population health. For example, one CAH leader described meetings with OneCare to discuss data as being in a "*foreign language*" and noted that OneCare focuses on different metrics than the hospital is used to and discusses these metrics using different terminology (e.g., per beneficiary) than the hospital uses. Within the Model, a clearly defined role for providing technical assistance was not attributed to a particular entity (e.g., OneCare or the GMCB). A GMCB leader suggested that OneCare may be reluctant now to assume the role because of earlier criticism that the ACO was too directive and in control.

> **Workforce Shortages**
>
> Workforce shortages also limited hospitals' ability to focus on clinical transformation. Hospital leaders noted that the COVID-19 PHE exacerbated existing workforce shortages among clinical, administrative, and ancillary staff members. High costs for traveling nurses added strain to hospitals budgets. Some larger hospitals chose not to lay off staff members, fearing a competitive hiring market and potential challenges to filling positions as operations returned more to normal. Smaller hospitals struggled to recruit after laying off staff members. However, some hospitals reported that the COVID-19 PHE sparked significant interest among clinicians in leaving metro areas and moving to Vermont. As a result, one hospital reported recruiting twice as many clinicians as in previous years.

Engaging Clinicians

Vermont has a long history of support for primary care. Vermont's Blueprint for Health, a precursor to the VTAPM that launched in 2003, supports primary care practices across the state in achieving and maintaining PCMH certification.[80] Among numerous community-led strategies to improve health and well-being, Blueprint supports the HSA-based multidisciplinary CHTs, which in turn support PCMHs in managing patients' complex illnesses. Beginning in 2011, Medicare joined Medicaid and commercial payers in supporting PCMH practices under the Multi-Payer Advanced Primary Care Practice demonstration with a PBPM payment. While the VTAPM, through OneCare, provides some additional

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[tt] Vermont's State Innovation Models (SIM) Testing Grant funding contributed to Blueprint programs, including the Integrated Communities Care Management (ICCM) Learning Collaborative, that furthered care coordination through a variety of learning sessions and reference materials. The SIM VHCIP also supported health information technology infrastructure development and care delivery transformation by encouraging health-care providers, social service providers, and community-based organizations to work together.
Sources: https://downloads.cms.gov/files/cmmi/sim-rd1-mt-fifthannrpt.pdf and https://downloads.cms.gov/files/cmmi/SIM-Round1-ModelTest-FirstAnnualRpt_5_6_15.pdf

support for care management, it has not resulted in a tangible difference in the clinicians' day-to-day practice, particularly those employed by hospitals.

Physicians have experienced minimal changes to compensation related to the Model. To date, most hospital-employed physicians have not been financially impacted by the Model. The portion of Medicare payments for professional services covered by AIPBP and Medicaid FPPs go through the hospital and do not generally result in changes to physician compensation. Some hospital leaders shared that they are just beginning to think about changing physician compensation (i.e., incentivizing quality over value). NORC's clinician survey found that compensation for 80 percent of the clinicians participating in the Model (across both employed and independent) is salary only; as of 2020, approximately 20 percent reported a compensation structure that included quality incentives (**Exhibit 3.3.3**).

Exhibit 3.3.3. Participating Practitioner, Compensation Structure
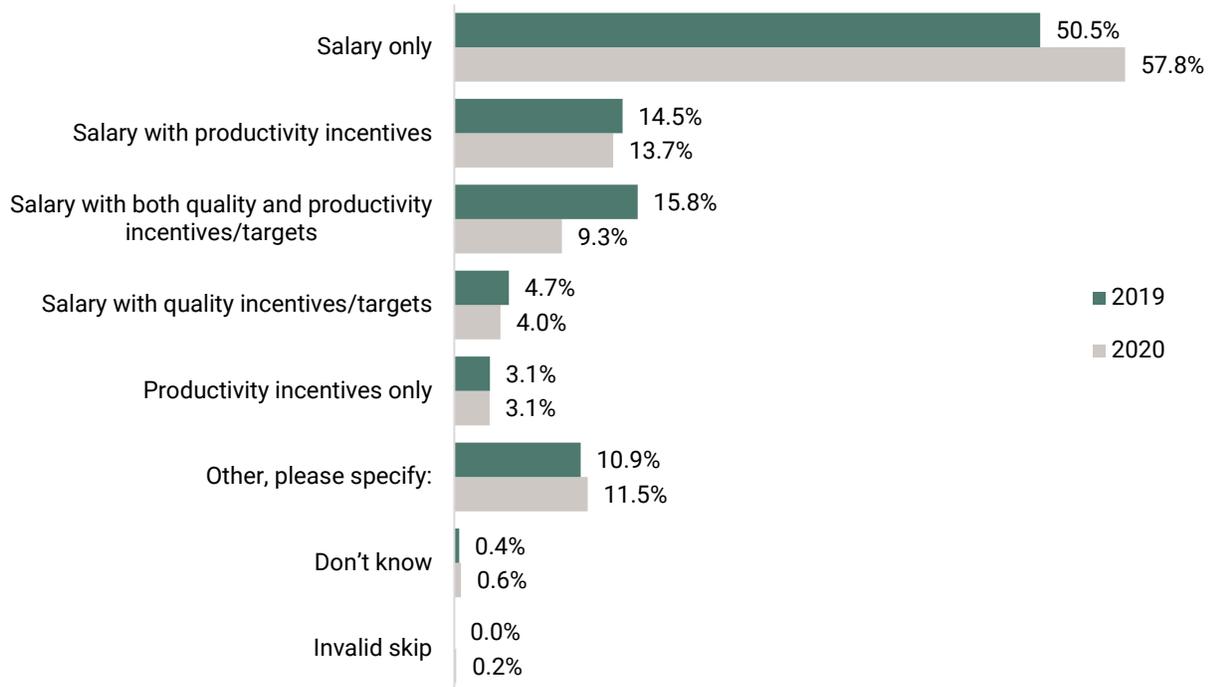
SOURCE: 2021, VTAPM Clinician Survey.

NOTE: N, unweighted = 386, estimates were weighted to reflect eligible clinicians (including participants and non-participants) who practice in Vermont or provide care to Vermont residents. The percentages above are representative of those who answered the question and were 2020 participants in the VTAPM.

Though OneCare created payments to engage clinicians and support care delivery transformation, these payments do not generally filter down to individual clinicians. To support engaging PCPs in quality measurement, participation in quality improvement activities, and other activities related to population health, OneCare provides monthly PBPM payments to PCPs. However,

these payments are made to the practice or TIN level;[uu] hospital (for hospital-owned practices) or practice leadership decides how to implement these payments.

Findings from both the clinician survey and interviews with providers suggest that the Model has not affected clinicians' day-to-day practice. Participating clinicians reported minimal changes on their practice, and most clinicians (participating and nonparticipating) observed minimal changes on care delivery more broadly. The clinician survey found that, among specific financial and administrative areas (e.g., overall reimbursement, financial rewards for high-value care, support to hire additional staff members, patient out-of-pocket costs), the majority of Model participants did not know whether the Model had an impact or indicated that these "stayed the same" (Exhibit 3.3.4). Approximately a quarter of participating clinicians indicated that the Model did not change care coordination, practice transformation, or care quality for their practice. Less than 8 percent of clinicians indicated that the Model improved any of these areas, and over half of participating clinicians "did not know" if the Model had changed their practice. Twenty-five percent also noted that the Model did not change their job satisfaction, and almost half "did not know." Only 17 percent of self-reported participating clinicians indicated that the Model made administrative burden "much" or "somewhat worse."

Exhibit 3.3.4. Perceived Impact of the Model on Clinical Practice, among Model Participants

Administrative/Financial

Category	Much/Somewhat better	Stayed the same	Much/Somewhat worse	Don't know	Invalid skip
Support to hire additional staff	5%	24%	9%	52%	10%
Patient out-of-pocket costs	4%	15%	4%	67%	10%
Overall reimbursement	4%	18%	9%	60%	10%
Financial rewards for high-quality care	4%	23%	8%	55%	10%
Administrative burden	2%	17%	21%	49%	10%

Care Coordination

Category	Much/Somewhat better	Stayed the same	Much/Somewhat worse	Don't know	Invalid skip
Coordination with social service organizations	6%	27%	3%	53%	11%
Coordination of behavioral health providers	8%	26%	4%	53%	10%
Community referrals	5%	29%	1%	55%	10%

Care Quality/Outcomes

Category	Much/Somewhat better	Stayed the same	Much/Somewhat worse	Don't know	Invalid skip
Quality of care	6%	31%	3%	50%	10%
Patient experience	4%	28%	4%	54%	10%
Overall patient care	5%	32%	3%	49%	11%
Availability of data for care management	9%	25%	3%	53%	10%

Practice Transformation

Category	Much/Somewhat better	Stayed the same	Much/Somewhat worse	Don't know	Invalid skip
Support for quality measurement	10%	24%	5%	53%	10%
Support for health IT	3%	28%	3%	57%	10%
Provision of team-based care	7%	27%	4%	52%	10%
Practice workflow	2%	31%	10%	47%	10%

Satisfaction

Category	Much/Somewhat better	Stayed the same	Much/Somewhat worse	Don't know	Invalid skip
Job satisfaction	3%	28%	15%	45%	10%

■ Much/Somewhat better ▨ Stayed the same ■ Much/Somewhat worse ■ Don't know □ Invalid skip

SOURCE: 2021, VTAPM Clinician Survey.

NOTE: N, unweighted = 346, estimates were weighted to reflect eligible clinicians (including participants and non-participants) who practice in Vermont or provide care to Vermont residents. Much/Somewhat better = Better; Much/Somewhat worse = Worse. The percentages above are representative of those who answered the question and were 2020 participants in the VTAPM.

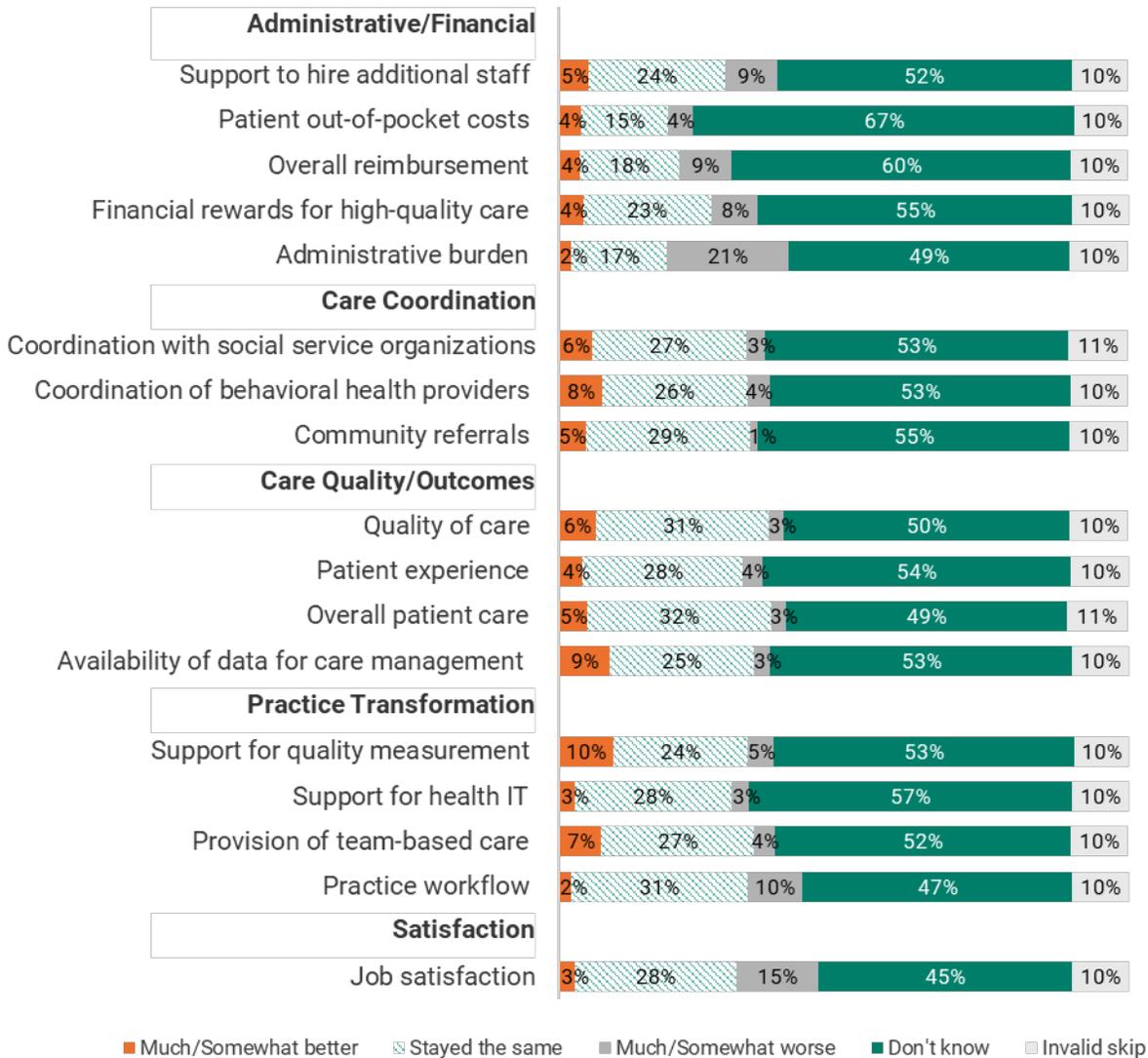We also asked a similar question about the Model impact on clinical practice to both Model participants and non-participants (**Exhibit 3.3.5**). Among Vermont clinicians, 14 to 18 percent indicated that the Model did not change care coordination, practice transformation, or care quality in Vermont; over half of all clinicians "did not know." Only 15 percent said their job satisfaction "stayed the same," and 14 percent indicated that job satisfaction was "much" or "somewhat worse." More than half of clinicians "did not know" if the Model had a positive or negative impact on clinical care, including quality of care and patient experience. Twenty-one percent of clinicians indicated that administrative burden was

"much" or "somewhat worse," which was slightly higher than Model participant perceptions of administrative burden for their own practice.

Exhibit 3.3.5. Perceived Impact of the Model in Vermont, among Vermont Clinicians

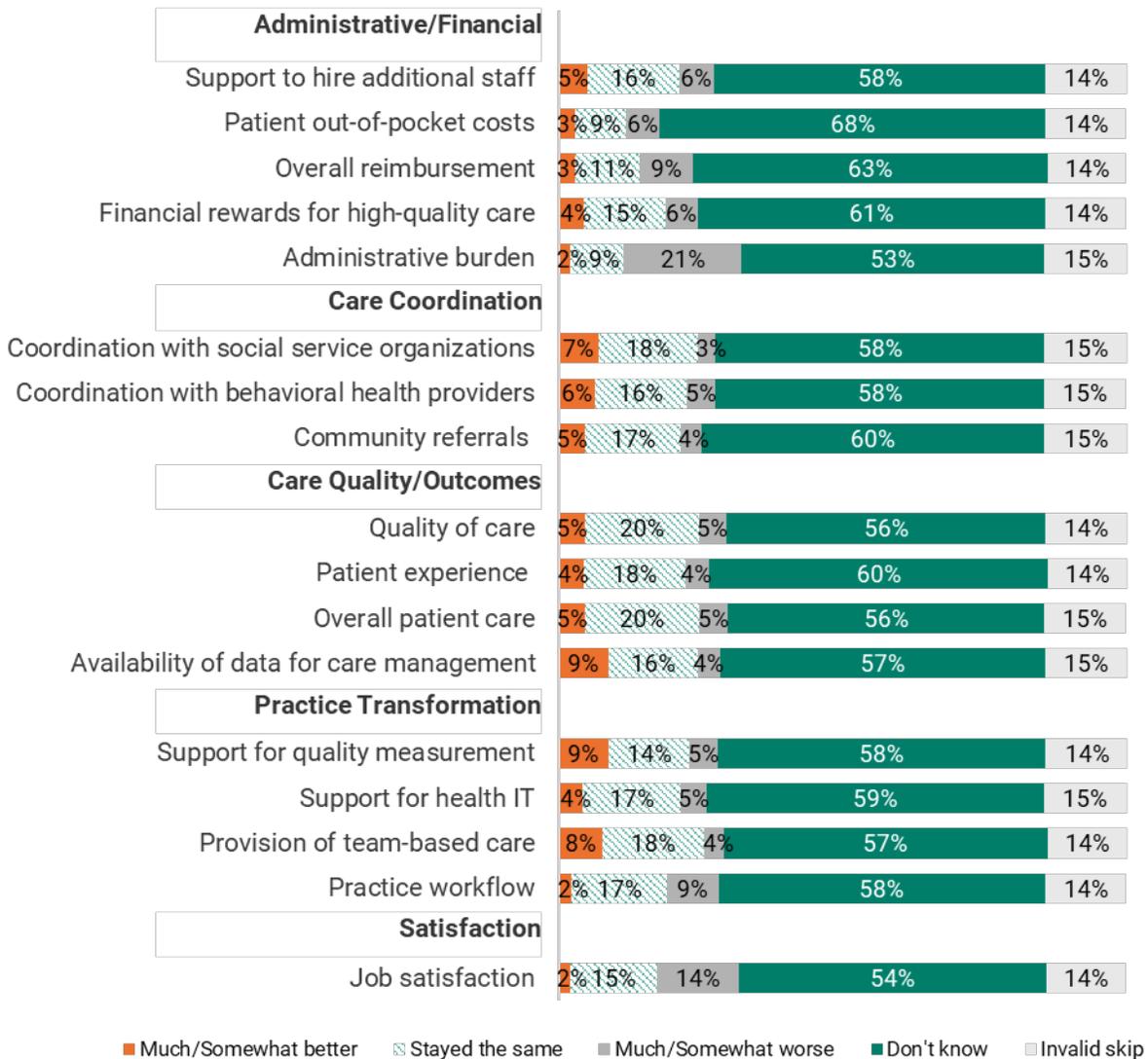|	Much/Somewhat better	Stayed the same	Much/Somewhat worse	Don't know	Invalid skip
Administrative/Financial					
Support to hire additional staff	5%	16%	6%	58%	14%
Patient out-of-pocket costs	3%	9%	6%	68%	14%
Overall reimbursement	3%	11%	9%	63%	14%
Financial rewards for high-quality care	4%	15%	6%	61%	14%
Administrative burden	2%	9%	21%	53%	15%
Care Coordination					
Coordination with social service organizations	7%	18%	3%	58%	15%
Coordination with behavioral health providers	6%	16%	5%	58%	15%
Community referrals	5%	17%	4%	60%	15%
Care Quality/Outcomes					
Quality of care	5%	20%	5%	56%	14%
Patient experience	4%	18%	4%	60%	14%
Overall patient care	5%	20%	5%	56%	15%
Availability of data for care management	9%	16%	4%	57%	15%
Practice Transformation					
Support for quality measurement	9%	14%	5%	58%	14%
Support for health IT	4%	17%	5%	59%	15%
Provision of team-based care	8%	18%	4%	57%	14%
Practice workflow	2%	17%	9%	58%	14%
Satisfaction					
Job satisfaction	2%	15%	14%	54%	14%

SOURCE: 2021, VTAPM Clinician Survey.

NOTE: N, unweighted = 481, estimates were weighted to reflect eligible clinicians (including participants and non-participants) who practice in Vermont or provide care to Vermont residents. Analyses were limited to respondents who completed the whole survey domain. Much/Somewhat better = Better; Much/Somewhat worse = Worse.

While OneCare makes data available to practices, most practices noted that the data needed additional manipulation to be actionable, were outdated, and only represented a portion of their patient population. Clinician survey findings show that, among Vermont clinicians who are aware of OneCare's data reports, only one-quarter used data reports focused on quality, and one-fifth used reports focused on cost/productivity (Exhibit 3.3.6). Clinicians interviewed described the data that

OneCare provides as unactionable or challenging to understand. While OneCare does share some financial data (e.g., costs of care) in Workbench One (OneCare's analytic application for participating providers, these data can be complex and time-consuming to understand. One provider noted that the lengthy report their practice received was "indecipherable and jargony." Instead, clinicians would prefer receiving clinical data, which one clinician described as currently "non-existent." Practices and FQHCs receive some technical support through The Blueprint and Bi-State Primary Care Association, an association that provides training and technical assistance to FQHCs in New Hampshire and Vermont. Bi-State also provides members with custom reports generated using its data warehouse. These reports are then discussed with each FQHC to improve data usefulness.

Exhibit 3.3.6. Clinicians' Awareness and Use of OneCare Reports

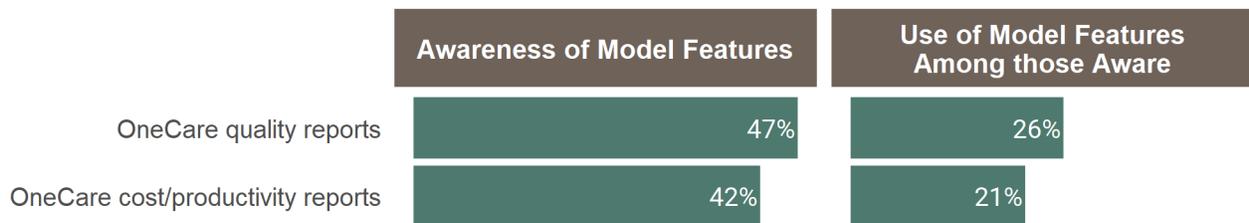|	Awareness of Model Features	Use of Model Features Among those Aware
OneCare quality reports	47%	26%
OneCare cost/productivity reports	42%	21%

SOURCE: NORC analysis of 2021 VTAPM Clinician Survey.

NOTE: n, unweighted = 509, estimates were weighted to reflect eligible clinicians (including participants and non-participants) who practice in Vermont or provide care to Vermont residents. "Use of Model Features" was limited to respondents who were aware of each feature.

Though clinicians have articulated support for value-based care, there is a lack of trust in OneCare and UVM, particularly among those in more rural areas of the state. Many providers expressed concerns about monopolistic behavior, skepticism over UVM's involvement as the founding and parent organization of OneCare and increased administrative burden. One clinician noted that the lack of specialty care options (i.e., non-UVM-affiliated practices) limits clinicians' abilities to change referral patterns to reduce costs, potentially undermining the Model's goal of lowering TCOC. In addition, there is a

> "When I think of the ACO as being owned by the University of Vermont, I have this visceral feeling, what do they know about what I do day-to-day? As I understand it to have the ACO model work, we need more PCPs and get care done in primary care and get them away from the tertiary care centers."
> – FQHC physician

perception that OneCare, with its academic medical center origins, does not understand the needs of independent primary care practitioners and the challenge of primary care. As one primary care practitioner noted: "[*I*] *do not feel like [the Model] is set up to maximize the potential of what we do in primary care. I do like the idea. I just am not sure we have it right enough here to make it work.*" Nonparticipating primary care clinicians, particularly those based in FQHCs, shared similar sentiments regarding the limited benefits of the Model for primary care physicians and that OneCare leadership did not understand the challenges of primary care.

Community Engagement

Hospital leaders credited the VTAPM as a "catalyst" for increasing collaboration between hospitals and community organizations. While some practitioners had pre-existing and positive relationships with hospitals in their communities, the Model has facilitated further collaboration, providing a structure and a set of common goals. One interviewee noted that the Model had brought the health center and hospital relationship "*to the next level*." Several hospitals created subcommittees and steering committees that bring together hospital and local organization leaders (e.g., mental health and long-term care agencies) to address specific population health targets. Some of these committees use OneCare's goals and performance data to develop strategic work plans and improve care management.

> *"But at the end of the day I think that's what's most rewarding; these agencies coming together just to provide better care interventions. If we do that right, it's a self-sustaining model."*
> – Hospital leader

These relationships enabled communities to quickly respond to COVID-19 PHE-related needs, including testing and vaccination. For example, as one HSA reported:

> *In the early stages of COVID-19 in Vermont, the ability to pull together the members of the Bennington Community Collaborative for emergency community meetings was both humbling and pivotal for our community. The established Bennington Community Collaborative allowed a seamless and efficient method for gathering key leaders across all sectors of the community. It created a space for communication, support, and guidance during a critical time.*[2]

While most projects planned for 2020 were put on hold, some communities were able to continue efforts to address population health beyond acute COVID-19 PHE-related needs. For example, Southwestern Vermont Medical Center, in collaboration with the local home care agency, mental health agency, and other OneCare-aligned organizations in the Bennington HSA, created a OneCare Vermont Partner Collaboration Workgroup. The Workgroup reviewed the goals and objectives of OneCare's complex care coordination program and developed a work plan to align organizations to meet these goals. This work plan has also been shared with OneCare and other HSAs.

Hospital and non-hospital providers suggested that the Model has increased involvement of different types of providers in care coordination. The structure of OneCare's complex care coordination program, which enables staff members at designated mental health agencies, home health agencies, and other provider organizations outside of primary care to serve as care coordinators, has facilitated new lines of communication.

> *"[Social service agencies] have learned more about each other's capacity and what we actually can do though where the real connection has come into play…and where we've tried to build more of a pathway has been from hospital to home, from PCP to home, from specialist to home."*
> – Home health agency leader

Some communities are developing workgroups to bring together all organizations in the community participating in OneCare. Before the Model, a leader from one home health agency noted feeling disconnected from the Blueprint and CHTs. Since Model implementation, in some communities, home health providers have started taking on a care coordinator role; one home health agency described

creating a complex care coordinator position analogous to similar positions in primary care offices. There is also improved understanding of the functions and roles that each organization has, easing coordination among organizations. However, some interviewees expressed concern that there continue to be some organizations (e.g., social service organizations that do not have access to Care Navigator) that are not routinely integrated into care coordination.

While the Model has improved collaboration among hospitals and other organizations in their HSAs, one home health agency shared that the Model's risk arrangement has led to some hierarchical challenges between participants at risk (i.e., hospitals) vs. participants not at risk (i.e., other types of providers). The home health agency leader expressed frustration over insufficient funding for Choices for Care, which provides long-term services and supports under Vermont's Global Commitment to Health 1115 Waiver. Another home health agency leader shared similar sentiments regarding lack of support, "*All health care reform is hospital and physician centric, even though all prevention has to happen outside the hospital, that's where all the money is being spent.*"

State-Level Collaboration

There continues to be a lack of clarity/consensus around OneCare's role. While some expect OneCare to be the "central coordinating body" in the VTAPM and provide additional guidance around care transformation and support for hospitals and providers, others perceived OneCare as "dictatorial" or too in "command and control." Meanwhile, some hospital leaders and providers would like OneCare to provide additional guidance to inform care improvement initiatives; for example, there remains an ongoing tension between centralization and local control, as well as a lack of trust in OneCare and the UVM Health Network among some practitioners and rural hospitals.

To help articulate and narrow focus for the remaining years of the Model, OneCare engaged Model participants and partners in a strategic planning process in 2021.[81] Several stakeholders expressed concern that, in the first two years of the Model, OneCare was investing in too many different types of initiatives and trying to "do everything for everyone to attract providers to the Model." Many also raised the concern that, with so many initiatives being implemented simultaneously through OneCare as well as through other funding streams, it is challenging to assess what works.

As OneCare leadership plans for future years, they shared that they are reassessing programming and intend to focus on efficiency and stability. Strategic planning, originally stalled due to the COVID-19 PHE, included a review of national data on ACO trends and best practices, interviews with Model participants (e.g., BCBSVT, provider members and associations, and state-level constituents), and a survey of OneCare staff members.

> "*We had gotten to the point where we had tested a lot of things and knew that it was time for us to start focusing our efforts and learning how to be most efficient and be sustainable for the long run.*"
> – OneCare leadership

OneCare and the Blueprint are continuing to refine their roles to reduce duplication and support care coordination. Early in implementation, OneCare tried to consolidate ongoing efforts, such as assuming responsibilities previously held by Blueprint. State leadership noted that this attempt may have damaged long-term collaboration efforts by confusing partners. OneCare is aware of this

challenge and noted that a priority in the strategic planning process was to articulate OneCare's responsibilities in relation to the Model and prioritize problems to solve. OneCare and AHS leaders also conducted listening sessions with Blueprint administrative entities in each HSA "to better understand where Blueprint and OneCare activities are complementary and where there are opportunities for improvement."[82] In addition, at least one respondent noted that the ongoing overlap and confusion has state leadership reconsidering the role definition between the two programs.

Effects of the COVID-19 PHE on Participating Practitioners

The COVID-19 PHE in PY3 impacted health care utilization for primary care services, which are part of the Model's attribution methodology. The impact on primary care utilization was due to a number of factors, including COVID-19 PHE-related changes in patients' care-seeking behavior, practitioners' practice patterns, and health care workforce and system capacity during initial and subsequent waves of COVID-19. Clinician survey findings indicate that practices with participating Model practitioners were more likely to suspend elective procedures than nonparticipating practices (59 percent participating versus 42 percent nonparticipating); they were also more likely to report reduced clinical staff hours (43 percent participating versus 33 percent nonparticipating) and staff member shortages due to the COVID-19 PHE (39 percent participating versus 28 percent nonparticipating) (**Exhibit 2.3.7**). These findings suggest that practitioners participating in the Model may have experienced more adverse impacts from the COVID-19 PHE than nonparticipating practitioners in 2020.

Exhibit 3.3.7. COVID-19 PHE Related Disruptions, among Model Participants and Non-Participants

Disruption	Participant	Non-participant
Shifted staff to remote work	67%	43%
Reduction in practice revenue	59%	50%
Suspended elective procedures	59%	42%
Staff assigned to new roles	54%	34%
Reduced clinical staff hours	43%	33%
Staff shortage due to COVID-19	39%	28%
Shortages of Personal Protective Equipment	36%	30%
Layoffs and/or furloughs of clinical staff	36%	21%
Layoffs and/or furloughs of administrative staff	34%	18%
Reduced administrative staff hours	31%	18%
Practicce closed temporarily	20%	24%
Other disruptions	4%	6%
No disruptions	2%	6%
Practice closed permanently	2%	3%

3.4 Conclusion and Next Steps

Despite having to shift focus to respond to the COVID-19 PHE in PY3, VTAPM participants at all levels suggested that there has been progress over the first three years of the Model. The VTAPM continues to face implementation challenges, including moving more participants beyond FFS payment arrangements, aligning population-based payment arrangements, and engaging CAHs and clinicians. Hospitals increased investments in population health and increased collaboration with community organizations, which helped them pivot to respond to the needs of Vermonters during the COVID-19 PHE. Future reports will explore the ongoing effects of the COVID-19 PHE and the cyberattack on implementation efforts and progress in engaging stakeholders.

Chapter 4: Model Performance on Spending, Utilization, and Quality Outcomes in the First Three Performance Years (2018–2020)

Key Takeaways

Impact on Cumulative Medicare Spending

- Over the first three PYs, the VTAPM Medicare ACO initiative achieved statistically significant reductions in cumulative gross spending, totaling $655 per beneficiary per year (PBPY), or 6 percent. After taking into account shared savings and incentive payments from Medicare, the VTAPM Medicare ACO saw a statistically insignificant spending reduction of $577.13 PBPY (5.3 percent).
- When including just the first three quarters of PY3 to mitigate the effect of the cyberattack on the UVM Health Network, we observed statistically insignificant reductions in gross cumulative spending ($470.53 PBPY; 4.7 percent) and net cumulative spending ($381.76 PBPY; 3.9 percent).
- Statewide, the VTAPM achieved statistically significant reductions in cumulative gross ($782.58 PBPY; 6.8 percent) and net ($748.74 PBPY; 6.5 percent) total Medicare Parts A and B spending. When including just the first three quarters of PY3 (2020), we observed significant reductions in gross spending ($921.34 PBPY; 8.7 percent) and net spending ($876.62; 8.2 percent).
- Observed reductions in Medicare spending—for both the Medicare ACO and statewide—reflect rising spending in the comparison groups and relatively flat spending in the VTAPM groups, beginning prior to the end of the baseline period and continuing through the first two PYs.

Impact on Medicare Utilization and Quality of Care

- Due to influences of the COVID-19 PHE, Medicare utilization saw a steep decline in both the VTAPM and comparison group in PY3.
- Despite shifts in utilization and care-seeking patterns in PY3, many of the trends observed in PY2 persisted in PY3, including decreases in acute care and specialist E&M visits. The decline in specialists E&M visits is likely driven by the ongoing specialist shortage in Vermont and long wait time for specialty care.
- While statewide findings are relatively consistent with previous years, there is more variation for the ACO-attributed beneficiaries, which may be due to the UVM Health Network cyberattack and the Model's more coordinated response to the COVID-19 PHE.

This chapter describes the methods used to estimate impacts, followed by findings on the VTAPM's impact on spending, utilization, and quality of care outcomes for Medicare beneficiaries attributed to the

Medicare ACO and statewide in PY3 (2020) and cumulatively through PY3 (2018–2020ᵛᵛ). This chapter also includes descriptive assessment findings of the VTAPM's performance on population-level health outcome and quality target measures. The Model is designed to reduce spending and utilization for ACO-attributed and statewide populations by shifting to value-based payments and aligning incentives and care processes across payers, with a goal of more efficient health-care delivery overall. The impact estimates presented are for Medicare beneficiaries only (approximately one-quarter of the Model's attributed population). We do not report VTAPM's impact for the Medicaid population due to data quality constraints and do not examine impact for the attributed commercial population within this evaluation's scope.

4.1 Impact Analysis Methods

The structure of our 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 reason, as we did in the First Evaluation Report, we estimate the Model's impact 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 use a DID design that compares the change in performance of the treatment and comparison groups from baseline to PYs. In the DID analysis, we compared the change in outcomes between the baseline (2014–2016) and PY3 for the VTAPM group to the change in outcomes between the baseline and performance period in a comparison group.

Constructing the Treatment and Comparison Groups

For each analysis, we selected a comparison beneficiary group from 26 states with a history of health reform efforts similar to Vermont. Because the VTAPM aims to improve outcomes statewide through an all-payer design, a within-state comparison group was not feasible.ʷʷ The comparison groups for the ACO- and state-level populations are described in **Exhibit 4.1.1.** While the Model identifies attributed beneficiaries prospectively (i.e., based on historical QEM utilization in the years leading up to a performance year), our evaluation takes a "concurrent" approach and identifies beneficiaries attributed to the Model based on QEM utilization in the performance year.

ᵛᵛ Impact estimates for Medicare beneficiaries in the first two performance years can be found in NORC's First Evaluation Report.
ʷʷ 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 Exhibit D.2** for more information on comparison state selection and the list of comparison states used to construct the comparison group.

Exhibit 4.1.1. 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[xx] during the baseline years and PY3.	A representative, weighted sample[yy] of Medicare FFS beneficiaries who resided in the 26 comparison states and received the plurality of their primary care services from (i.e., are concurrently attributed to) practitioners[zz] participating in Medicare SSP Track 1[aaa] ACOs during the baseline and PYs.
State	All eligible Vermont Medicare FFS beneficiaries who received the majority of their primary care services within the state during the baseline and PY3.	A representative, weighted sample of Medicare FFS beneficiaries who resided in the 26 comparison states and received the majority of their primary care services within the same comparison state during the baseline and PYs.

We used a four-stage approach to construct the treatment and comparison groups for the ACO- and state-level analyses, summarized below (**Exhibit 4.1.2**). For more details on our approach, including comparison group sampling, claims-based attribution methodology, and balancing methods, see **Appendix D.2**.

- **Stage 1.** We identified 26 comparison states with similar histories of health care reform as Vermont.

- **Stage 2.** Using stratified random sampling, we selected a representative sample of eligible Medicare FFS beneficiaries residing in the 26 comparison states to create a comparison group that was both representative and computationally manageable.

- **Stage 3.** We applied the definitions and eligibility criteria described above to identify the treatment and comparison group populations, respectively.

- **Stage 4.** We weighted comparison beneficiaries using entropy balancing (EB) methods to ensure that the comparison group beneficiaries, on average, resided in regions similar to Vermont and were similar to those Vermonters on observed characteristics. The EB approach balanced the means and distributions of observed characteristics across treatment and

[xx] The list of Model participants changes each performance year as practitioners enter or exit the Model. The VTAPM Medicare ACO participant list for each PY (2018, 2019, and 2020) is thus distinct. As a result, the sample of beneficiaries attributed to each PY's Model participants during each baseline year (2014-2016) and PY is different. Therefore, the study sample for the ACO-level treatment is different for each PY's impact analysis.

[yy] 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 instead of including all beneficiaries in those states. See **Appendix D.2** for additional information on the sampling strategy.

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

[aaa] 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 PY3 includes the upside-risk Medicare Shared Savings Program (MSSP) Track 1 participants and providers who opted to transition into the Pathways to Success Basic A, B, and C tracks in PY3. If OneCare had remained in SSP instead of entering the VTAPM, by PY3 OneCare would have been required to participate in Basic Track C; thus, Track C providers were also included in the comparison group.

comparison groups. Characteristics were balanced at the beneficiary level (sociodemographic and health) and at the area level (sociodemographic and health care market).

Exhibit 4.1.2. Treatment and Comparison Group Design
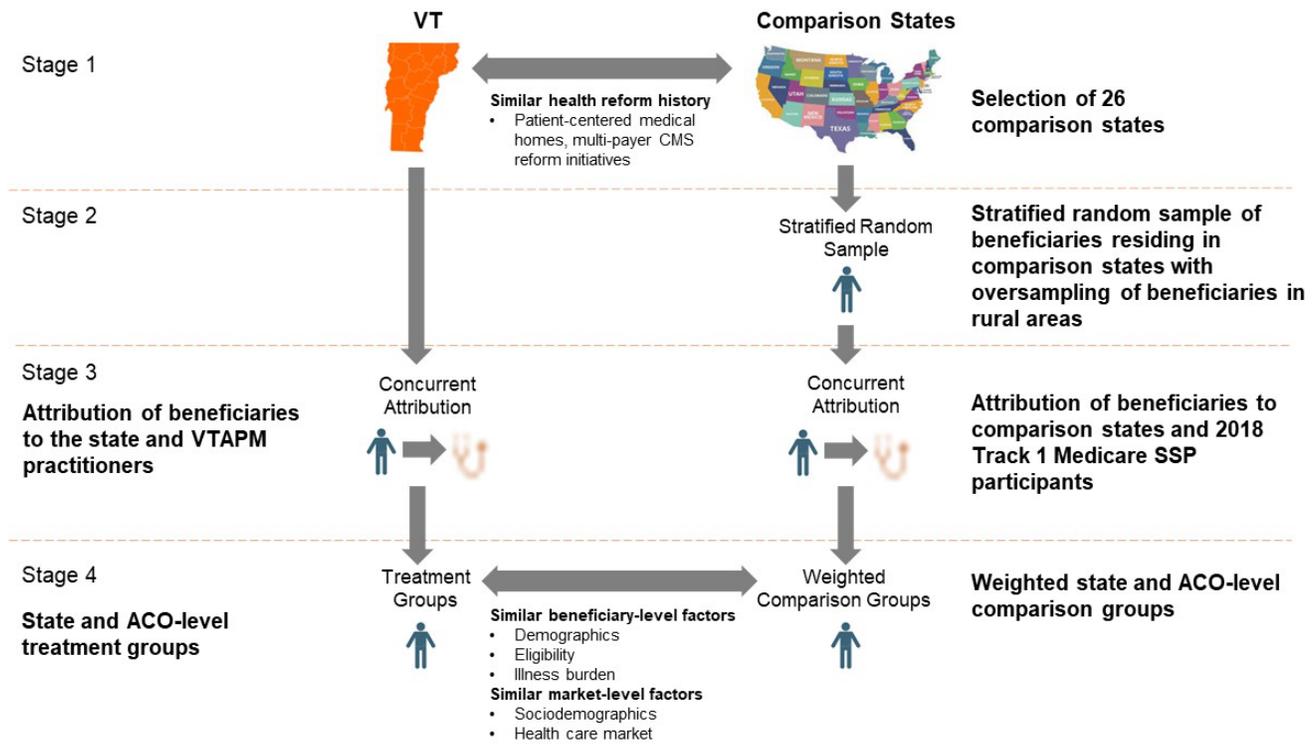
In both ACO-level and state-level analyses, descriptive characteristics of treatment group beneficiaries and weighted comparison group beneficiaries were largely similar across baseline years and PYs. See **Appendix D** for more detailed information about the beneficiary populations by year and group for the ACO- and state-level analyses in PY3.

Statistical Analysis and Inference

We used a DID design to evaluate the impact of the VTAPM on Medicare beneficiaries attributed to OneCare participating practitioners (ACO-level analysis) and on beneficiaries residing in Vermont and receiving a meaningful level of care within Vermont or from VTAPM-participating practitioners (state-level analysis). We estimated the impact of the VTAPM in a performance year 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.[bbb] For more information about the DID design and specification, see **Appendix D.5**.

In the following sections, we present the impact of the VTAPM in PY3 separately, as well as a cumulative estimate for total Medicare spending across the three performance years, relative to a three-year baseline period (2014–2016).[ccc] We do not present an impact for PY0, which is considered a ramp-up year for VTAPM implementation. We first present the PY3 ACO-level impacts (for OneCare), followed by state-level impact estimates:

- The ACO-level analysis includes a treatment group of 49,337 Medicare beneficiaries attributed to PY3 Model practitioners and a weighted comparison group of Medicare beneficiaries[ddd] attributed to practitioners participating in a Medicare SSP ACO in the selected comparison states.

- The state-level analysis includes a treatment group of 85,792 Medicare beneficiaries residing in Vermont and receiving the majority of their primary care services within the state in PY3 and a weighted comparison group of beneficiaries[eee] residing in the 26 comparison states.

Mitigating Methodological Challenges

As we described in the First Evaluation Report, Vermont has unique market characteristics and a state context that led to several methodological challenges in our evaluation. The addition of PY3 brought fresh challenges in terms of assessing the Model's impact on Medicare spending and utilization. These challenges included:

- **Differential effects of external shocks in 2020.** The COVID-19 PHE, along with the cyberattack that disrupted care at the UVM Medical Center in the fourth quarter of 2020, presented unique challenges to our PY3 analyses.

- **Vermont's unique context.** Few areas outside Vermont have similar sociodemographic and health insurance market characteristics and such an extensive health care reform history. 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 presented in this report, 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 to have been more

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[bbb] 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.

[ccc] Sensitivity analyses indicate that the inclusion of 2017 in the baseline period has a significant effect on the impact estimation because of a dramatic increase in spending in 2015. Refer to **Appendix D.8** for more details and for sensitivity analysis findings.

[ddd] The unweighted comparison group for the ACO-level analysis for each baseline year and performance year includes approximately 700,000 Medicare beneficiaries attributed to 2020 upside-risk SSP participants. See **Appendix D.2** for additional details.

[eee] The unweighted comparison group for the state-level analysis for each baseline year and performance year includes approximately 2.6 million Medicare beneficiaries. See **Appendix D.2** for additional details.

advanced than similar initiatives in the comparison states. This may have contributed to the differing trends in spending and utilization for the treatment 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 4.1.3**. For a more detailed account of the methodological challenges posed by Vermont's unique context and the strategies used to mitigate these challenges, see **Appendix D**.

Exhibit 4.1.3. Methodological Challenges and Mitigation Strategies

Challenge	Mitigation Strategy
Differential Effects of External Shocks in 2020	
Abrupt changes in utilization patterns due to the COVID-19 PHE	• Include cumulative COVID-19 deaths per 100,000 population as a county-level covariate in EB models • Descriptively assess beneficiary- and area-level COVID-19 characteristics • Conduct sensitivity checks with beneficiary- and area-level characteristics included as covariates in the impact models
Increased uptake of telehealth for E&M visits	• Descriptively assess use of telehealth services and telehealth E&M visits for treatment and comparison groups • Conduct sensitivity check exploring the impact of telehealth-specific QEM codes on beneficiary attribution
The cyberattack in late 2020 disrupted care across the UVM Health Network[fff]	• Conduct a sensitivity analysis for all outcomes that includes only the first three quarters of all baseline and PYs to evaluate the impact of the Model absent any cyberattack effects.
Vermont's Unique Context	
Inability to balance the treatment and comparison groups on MA penetration and upside-risk SSP penetration rates	• Limit the ACO-level comparison group to Medicare beneficiaries attributed to Track 1 or Basic A/B/C Medicare SSP ACO providers, who are likely to have similar experience in upside-risk contracts • Conduct sensitivity analyses with the inclusion of MA penetration and ACO upside-risk penetration as covariates
Influence of outlier weights	• Test multiple iterations of the EB 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	• Conduct a sensitivity analysis that includes the Model "ramp-up" period of PY0 as a baseline year
Potential of delayed impacts of other Vermont health reform efforts	• Select comparison states with similar histories of health reform (i.e., multi-payer reform initiatives and PCMH initiatives)

[fff] See Chapter 3 for a more detailed accounting of the cyberattack and its effects on the UVM Health Network.

Throughout this chapter, we highlight results from two sensitivity analyses alongside the main impact findings: the sensitivity analysis that includes PY0 as a baseline year (presented for total Medicare spending only) and the sensitivity analysis that excludes the last quarter of each baseline year and performance year to capture the impact of the Model absent any effects of the cyberattack on the UVM Health Network (presented for all outcomes). We present these findings alongside the main findings to convey and emphasize the uncertainty associated with the observed magnitude of the stated impacts.

4.2 Key Considerations for Interpreting 2020 (PY3) Findings

Due to the COVID-19 PHE and the effect of the UVM cyberattack, health care service utilization was different in PY3 than any other year in our analysis. Below, we highlight three important themes that have affected our estimation of impact and should be considered when interpreting the magnitude of impact estimates.

Steep Declines in Utilization in PY3

In PY3, health care utilization declined sharply as a result of the COVID-19 PHE, as individuals delayed or declined to seek care at all levels. Nearly all outcomes measured in this evaluation showed meaningful decreases in PY3 relative to the previous year for both the treatment and comparison groups (**Exhibit 4.2.1**). Specialist E&M visits, SNF stays, and SNF days decreased more than 20 percent over 2019 levels for both the Medicare ACO-attributed population and Vermont overall, as did ambulatory care sensitive (ACS) hospitalizations for the state. The comparison group saw similar declines in PY3, with the notable exception of statewide total Medicare spending, which only decreased by 0.2 percent relative to 2019.[ggg]

Exhibit 4.2.1. Decreased Health Care Utilization in Vermont ACO- and State-Level Analyses, PY3

	ACO-Level	State-Level
Decrease of ≥20%	• Specialist E&M visits • SNF days • SNF stays	• Specialist E&M visits • SNF days • SNF stays • ACS hospitalizations
Decrease of 10% to <20%	• Acute care stays • ED visits • Home health visits • Imaging, procedures, tests • ACS hospitalizations • 30-day readmissions	• Total Medicare spending • Acute care days • Acute care stays • ED visits • Home health visits • Imaging, procedures, tests • 30-day readmissions

[ggg] See **Appendix Exhibits F.1 and F.2** for more detailed information on declines in comparison group spending, utilization, and quality of care in PY3.

	ACO-Level	**State-Level**
Decrease of <10%	• Total Medicare spending • Acute care days • Primary E&M visits • Annual wellness visits	• Primary care E&M visits • Hospice days • Annual wellness visits

SOURCE: NORC analysis of Medicare claims data.

NOTE: Decreases represent the percentage decrease for weighted, adjusted outcomes in 2020 relative to 2019 for the Vermont ACO- and state-level analytic populations. Results represent both the treatment and comparison group.

Impact estimates for PY3 should be interpreted with caution. For outcomes that are relatively rare (e.g., post-acute care outcomes), the small sample size will increase uncertainty around the impact estimates. Due to the complexity of the factors impacting care utilization and care-seeking behavior in PY3 in Vermont and across the United States, we are generally unable to identify clear drivers of improvements or declines in performance.

## Trends in Telehealth for Vermont's Medicare Beneficiaries

At the onset of the COVID-19 PHE, health care providers across the United States quickly pivoted to providing care through telehealth instead of in-person visits for a wide range of services. To facilitate uptake of telehealth as a mechanism to combat the effects of COVID-19, CMS issued a set of blanket waivers in March 2020 that provided new flexibility for coverage of Medicare telehealth services.[83] Unsurprisingly, Vermont's Medicare beneficiaries showed a dramatic increase in telehealth uptake for E&M visits in 2020, with rates of telehealth use over 200 times higher than in any previous year (**Exhibit 4.2.2**). Additionally, one-fifth of QEM visits used to attribute Medicare beneficiaries to an ACO were delivered via telehealth in 2020, compared to 0.03 percent in 2019. This indicates a substantial shift in beneficiaries' care-seeking behavior, which may also have implications for our evaluation, as beneficiaries are attributed to the Model and the comparison group based on QEM visits.

In PY3, almost two-thirds of Medicare beneficiaries attributed to the Model and 60 percent of Vermont Medicare beneficiaries used a telehealth service, compared to less than 0.5 percent in any previous year.[hhh] Prior to 2020, telehealth usage among Medicare beneficiaries in Vermont was slowly increasing over time, likely in part due to two SIM-funded telehealth pilots in 2016–2017 and the Medicare telehealth waiver benefit enhancement that the Model offers.[84,85] However, these increases were negligible in comparison to the increase in telehealth services in 2020, suggesting that existing Model flexibilities prior to 2020 did not incentivize providers to offer widespread telehealth services. Our clinician survey findings indicate that only a third of participating practitioners were aware of the Model's

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[hhh] In PY3, the Model updated its attribution algorithm to include eight telehealth-specific procedure codes as QEMs for attribution to align with Medicare's updated guidance for telehealth billing released in March 2020. In our ACO-level analytic population, less than 8 percent of QEMs for ACO-attributed Medicare beneficiaries were billed using these eight telehealth-specific codes, and over 99 percent of the ACO-attributed population would have remained attributed to the Model if the telehealth-specific codes were not added. See **Appendix D.3** for additional information about the telehealth and Model attribution.

Medicare telehealth waiver benefit;[iii] among those who indicated that they were aware, 58 percent had used it in practice.

Exhibit 4.2.2. Telehealth Use among Vermont Medicare Beneficiaries, 2014–2020
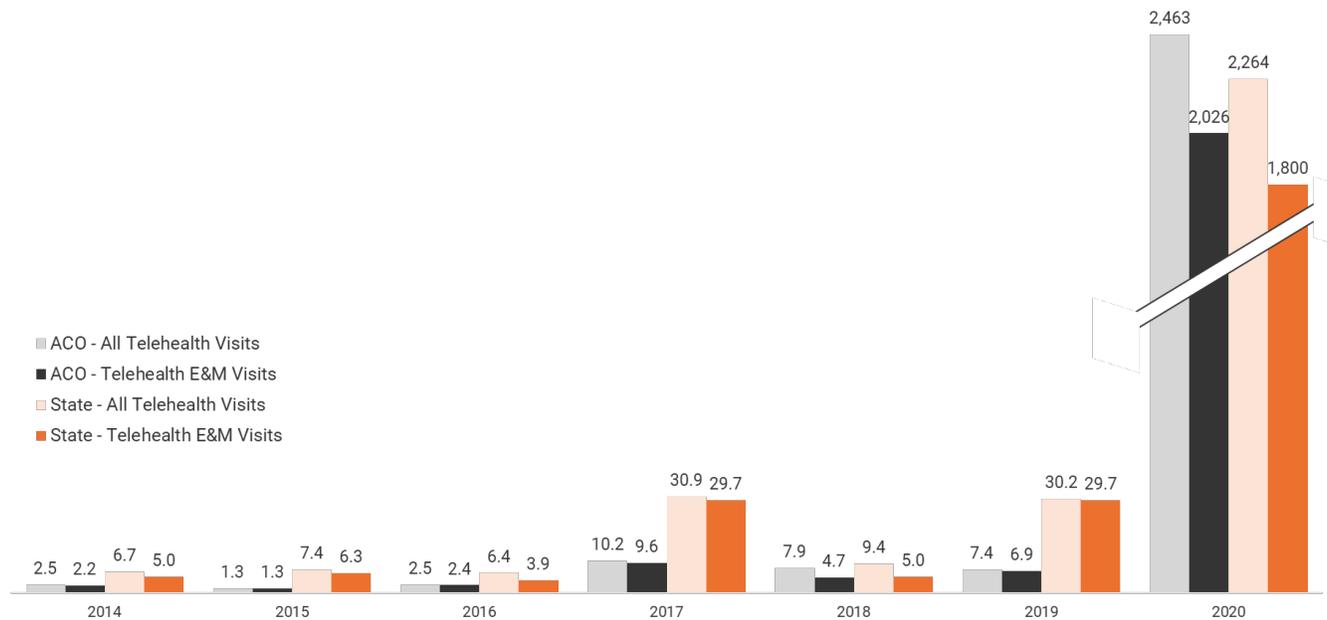
SOURCE: NORC analysis of Medicare claims data.

NOTE: Estimates are presented as visits per 1,000 beneficiaries per year.

When considering both telehealth and in-person services, E&M visits declined approximately 14 percent for ACO-attributed beneficiaries in PY3 compared to PY1 and PY2 (see **Appendix Exhibit F.1**). While telehealth likely replaced some of the lost volume of in-person visits, telehealth services did not fully restore the level of E&M services sought by beneficiaries in previous years. See Sections 4.4 and 4.6 for more details on rates of telehealth use for E&M visits in 2020.

Care Disruptions Due to the Cyberattack on the UVM Health Network

As described in Chapter 1, in late October 2020 the UVM Health Network was the victim of a ransomware cyberattack that caused severe disruptions in care, appointments, and billing at six UVM Health Network hospitals. In discussions with UVM Health Network leadership, they indicated that billing and payment processing, including for Medicare claims, was delayed for months, and that an unknown amount of care provided while operations were disrupted by the cyberattack would never be billed to payers. This raised additional challenges in estimating impact for PY3 as well as future performance periods, including:

[iii] The survey was designed before the CMS emergency declaration blanket waivers for health care providers allowing flexibility for telehealth services. The survey only asked about the Medicare telehealth waiver benefit related to the Model, but providers were likely receiving assistance from other COVID-19 PHE blanket waivers from CMS.

- Because of the increase in claims lag in 2020 relative to previous years, claims with a six-month runout period may be missing a significant number of claims for services provided in late 2020.[jjj]
- Although we know that the cyberattack likely exacerbated declines in observed utilization in the fourth quarter of 2020, the extent to which it represents a "real" decline (i.e., foregone or deferred care, increased barriers to accessing care during the cyberattack) or an artifact of delayed claims processing and unrecorded utilization due to the cyberattack is unknown.
- The cyberattack was not a common shock to both the VTAPM and comparison groups; it differentially impacted the VTAPM group, raising concerns about interpretation of decreases in spending and utilization in the DID framework.

To address these issues, we made the following modifications for the analyses in this report:

- Extended the claims runout period from six months to 10 months.
- Extended the claims processing cut-off date used in the attribution algorithm from March to June.
- Conducted a sensitivity analysis using only the first three quarters of each baseline and performance year to estimate the impact of PY3 before any cyberattack effects.

Exhibit 4.2.3 presents the adjusted gross Medicare spending (Parts A and B) estimates for the baseline years (2014–2016) and PY3 (2020), with findings presented for the full year as well as a sensitivity analysis through the third quarter of each year.

Exhibit 4.2.3. Trends in Medicare Spending from Baseline (2014–2016) and PY3 (2020)

	Baseline (2014–2016)		PY3 (2020)		Difference (PY3-Baseline)	
	VTAPM	Comparison	VTAPM	Comparison	VTAPM	Comparison
ACO						
Full Year	$10,455	$10,050	$9,057	$9,385	-$1,398***	-$665***
Through Quarter 3	$7,889	$7,300	$7,119	$6,697	-$770***	-$603***
State						
Full Year	$10,666	$11,173	$8,724	$10,879	-$1,943***	-$294
Through Quarter 3	$8,078	$8,291	$6,647	$8,024	-$1,432***	-$267

SOURCE: NORC analysis of Medicare claims data.

NOTE: Estimates are presented in 2020 USD ($) per beneficiary per year (PBPY). Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

For the ACO-level analysis, the decrease in total Medicare spending for beneficiaries attributed to the VTAPM was much larger in the entire year compared to the decrease in the first three quarters (a

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[jjj] According to data provided by the Model's implementation and monitoring contractor, up to 10 percent of claims for services provided in the last two months of PY3 across the UVM Health Network may have been missed when using a 6-month runout.

decrease of $1,398 compared to $770), and the decline in the comparison group remained relatively consistent between these same time periods. This indicates that there was an anomalous event (i.e., the cyberattack on the UVM Health Network) in the fourth quarter of PY3 for VTAPM beneficiaries that is driving this difference compared to the rest of the year. Because beneficiaries attributed to the Medicare ACO receive a disproportionate share of services from the UVM Health Network, the ACO-attributed population was likely to have been disproportionately affected by the cyberattack relative to the overall Vermont Medicare population. For the state-level analysis, which includes both ACO and non-ACO Medicare beneficiaries in Vermont, we observed a similar pattern, although the spending differences are closer in magnitude than those for the ACO-attributed population.

Due to the cyberattack on the UVM Health Network in late 2020, findings for the full year PY3 (2020) analyses may overstate the magnitude of impact estimates; thus, we urge caution when interpreting these results. Throughout this chapter, results from the sensitivity analysis that excludes the final quarter of each baseline year and PY3 are presented alongside the impacts estimated for the entire year to provide additional context on estimated Model impact excluding cyberattack effects.

4.3 ACO-Level Impact on Gross and Net Medicare Spending

Gross impact. In each of the first three PYs, the VTAPM Medicare ACO initiative was associated with a statistically significant reduction in gross Medicare Parts A and B spending. Cumulatively over the three years, we observed a reduction in total Medicare spending of $655.89 (6.0 percent), or $93.8 million overall, before considering CMS's shared savings and other pass-through payouts (see **Exhibit 4.3.1**). In PY3, we observed a statistically insignificant reduction of $732.92 (7.2 percent), or $36.2 million overall.

When considering the Model's cumulative impact when excluding the last quarter of PY3 (2020), we observed savings in the same direction, but the magnitude of the estimated impact was lower (4.7 percent) and does not reach statistical significance ($460.53 PBPY; $65.8 million overall). The difference between the full-year estimates and the estimates derived from the first three quarters of PY3 is likely driven by foregone or unreported care received due to the cyberattack in the fourth quarter of PY3.

**Exhibit 4.3.1.** ACO-Level Impact on Gross Medicare Spending in PY1-PY3 (2018–2020)
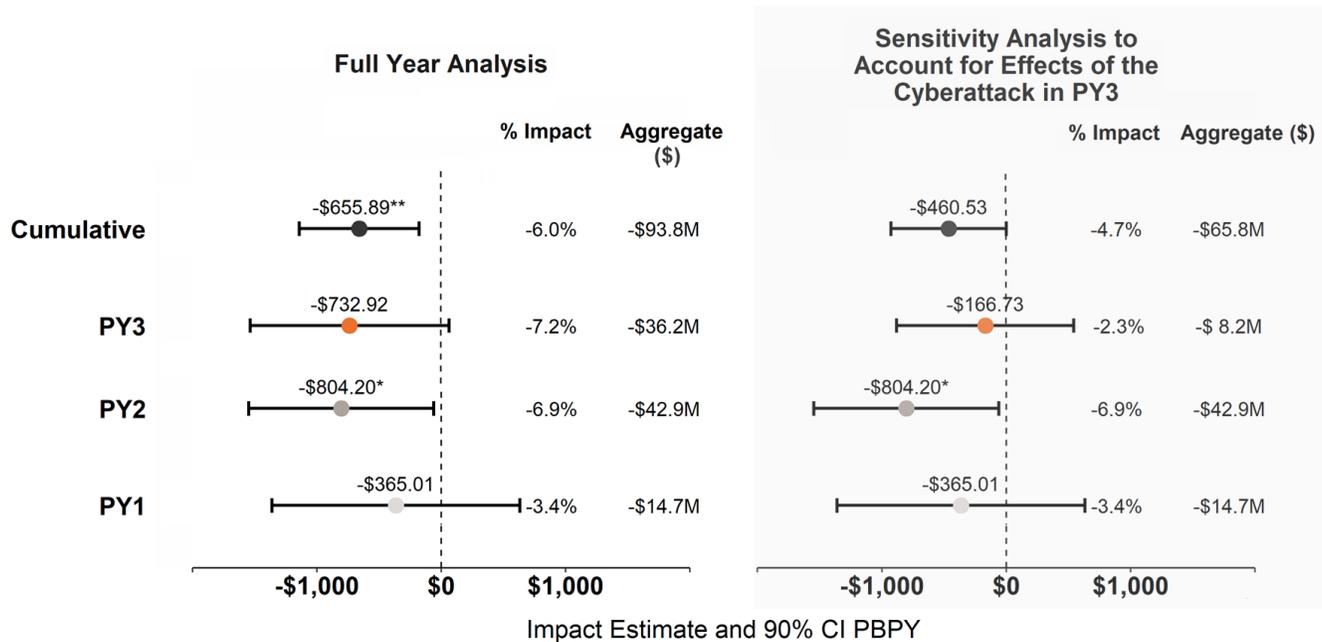
SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Impact in 2020 USD ($) per beneficiary per year (PBPY) or in aggregate for all beneficiaries in the performance year(s). Estimated aggregate gross impact is the DID estimate multiplied by the number of attributed beneficiaries in performance year(s). Full-year analysis includes calendar year 2020; sensitivity analysis includes the first three calendar quarters (January-September) of 2020. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Trends in gross Medicare spending. Exhibit 4.3.2 presents the trends in gross Medicare spending associated with the PY3 VTAPM Medicare ACO participants (treatment group) and the comparison group of upside-risk Medicare SSP participants for each performance year. Because our DID design takes into account comparison group trends, the spending reduction presented above for PY3 (see **Exhibit 4.3.1**) in large part reflects increased spending in the comparison groups and relatively flat spending in the VTAPM groups before the decline in PY3.[kkk]

[kkk] To assess the sensitivity of our findings to the selection of baseline years, we conducted a sensitivity check using a model that included PY0 as a baseline year. When PY0 was included as a baseline year, the Model was associated with a significant decrease of $1,199 PBPY (11.3 percent). However, when considering only the first three quarters of PY3, we observe a significant decrease of $514.26 PBPY (1.4 percent), indicating that much of the decrease is driven by steeper declines in spending in the fourth quarter of PY3. For more information on this sensitivity assessment, see **Appendix D.8**.

Exhibit 4.3.2. ACO-Level Trends in Gross Adjusted Medicare Spending, 2014–2020
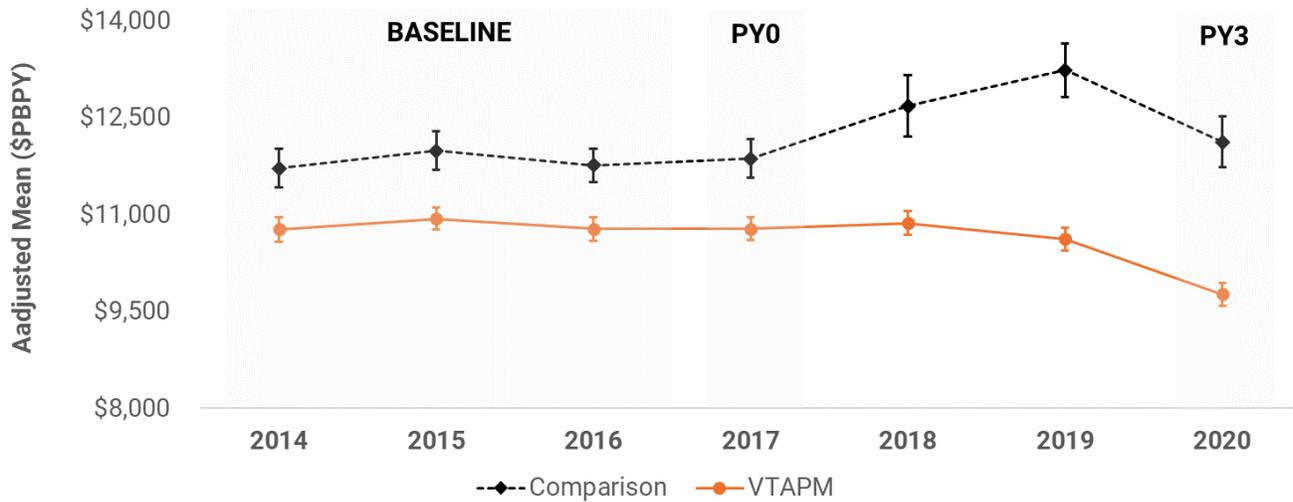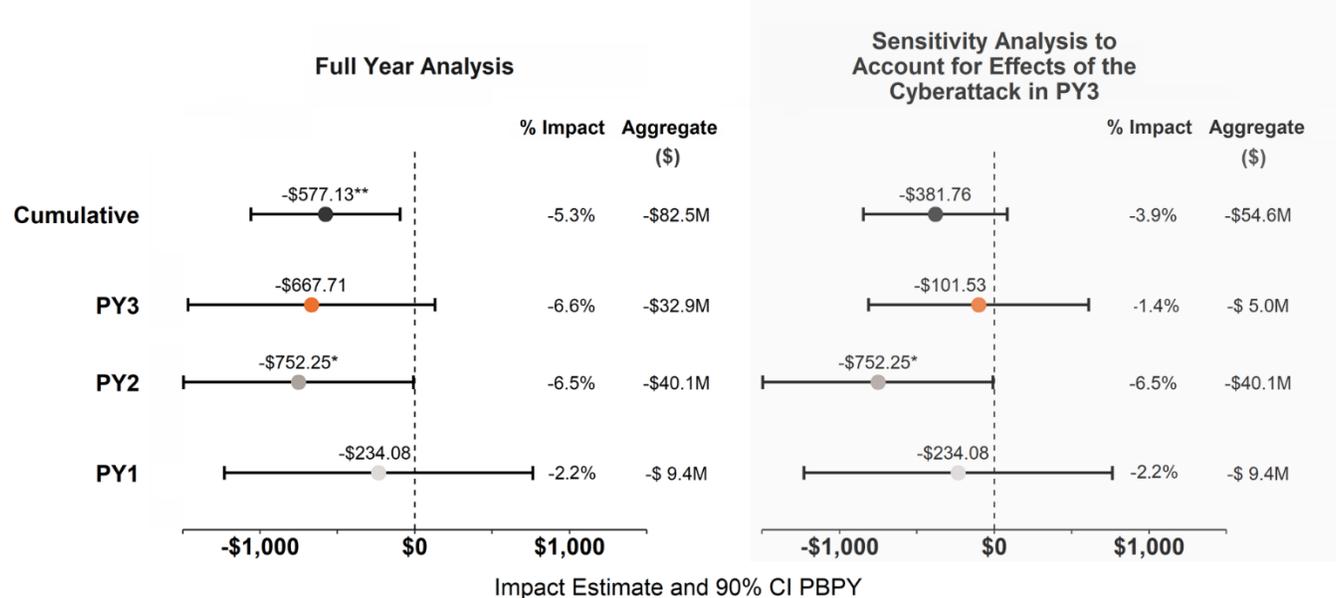

SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Estimates represent regression-adjusted baseline trends for full-year PY3 gross Medicare spending, which reflects Medicare beneficiaries attributed to the PY3 Model and comparison group practitioners.

Net impact. Net shared savings payments to the VTAPM Medicare ACO initiative over the three PYs totaled approximately $11.3 million, taking into account shared savings payments and incentive payments to VTAPM providers in the baseline and comparison providers in the baseline and performance periods.[lll] After accounting for these payments, the cumulative net impact of the VTAPM across the three full PYs was a statistically significant reduction in Medicare spending of $577.13 PBPY (5.3 percent), or $82.5 million overall (see **Exhibit 4.3.3**). When excluding the final quarter of PY3 to mitigate any cyberattack effect, we observed statistically insignificant savings of $381.76 PBPY (3.9 percent), or $54.6 million overall.[mmm]

[lll] The net impact assessment includes the MAPCP start-up adjustment (the pass-through payments to the ACO that may have benefited both attributed and non-attributed Medicare beneficiaries) in the baseline and performance years, the VTAPM shared savings payments in the performance period, and shared savings incentives to comparison group providers from Pioneer, Medicare SSP, and Next Generation ACO models in the baseline and performance periods. Note that the previous year's shared-savings payment is considered accounted for in the ACO's benchmark as a health care expenditure. 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.7**.
[mmm] The net impact estimate for the sensitivity analysis excluding the fourth quarter of PY3 incorporates the shared savings amount for the entire PY3 ($3.2 million). When using 75 percent of the PY3 shared savings amount to reflect three quarters of the year included in the sensitivity analysis, no meaningful differences were observed; the cumulative net impact was -a decrease of $387.38 PBPY (3.9 percent) and was similarly nonsignificant, and the PY3 net impact was a decrease of $117.83 (1.7 percent).

Exhibit 4.3.3. ACO-Level Impact on Net Medicare Spending in PY1-PY3 (2018–2020)

SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Impact in 2020 USD ($) per beneficiary per year (PBPY) or in aggregate for all beneficiaries in the performance year(s). Estimated aggregate gross impact is the DID estimate multiplied by the number of attributed beneficiaries in performance year(s). Full-year analysis includes calendar year 2020; sensitivity analysis includes the first three calendar quarters (January-September) of 2020. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

4.4 ACO-Level Impact on Medicare Utilization and Quality of Care

In PY3, we observed utilization patterns that may indicate potential barriers to accessing care in the ambulatory setting for Medicare ACO beneficiaries: a decrease in specialist E&M visits along with increases in ED visits and ACS hospitalizations. We also observed sharp declines in post-acute care utilization during 2020, which reflect national trends in post-acute care after the onset of the COVID-19 PHE.[86]

Impacts on Medicare utilization in PY3 should be interpreted in the context of steep declines in health care utilization in all settings due to the COVID-19 PHE. 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.5** through **F.18**.

Hospital-based utilization. In both the full year and first three quarters of PY3, the Medicare ACO saw a significant increase in ED visits and observation stays (11.3 percent and 15.0 percent, respectively). As mentioned previously, hospital-based utilization declined in PY3 due to the COVID-19 PHE in both the Medicare ACO and comparison groups. Thus, the observed increase in ED visits for the Model reflects a smaller decline in ED visits for the ACO-attributed Medicare beneficiaries, relative to the comparison group. The decrease in acute care stays and increase in acute care days may reflect

COVID-19 triaging and resource constraints, with patients who might have been admitted to the hospital seen in less acute settings, and patients who were hospitalized experiencing more serious conditions and more likely to have a longer hospital stay. A similar pattern exists across hospital-based utilization outcomes over the first three quarters of PY3 when excluding potential cyberattack effects.

Our PY3 findings of decreases in acute care stays and increases in ED visits and observation stays are consistent with what we observed in PY1 and PY2. However, in previous performance years, the VTAPM's ACO-attributed beneficiaries showed decreases in acute care days (significant in PY2 only), diverging from the PY3 results presented here. We hypothesize that this may be due to the triaging and resource constraints present in 2020 due to the COVID-19 PHE, which were not implemented in previous PYs of the Model.

Exhibit 4.4.1. Medicare ACO-Level Impact on Hospital-Based Utilization in PY3
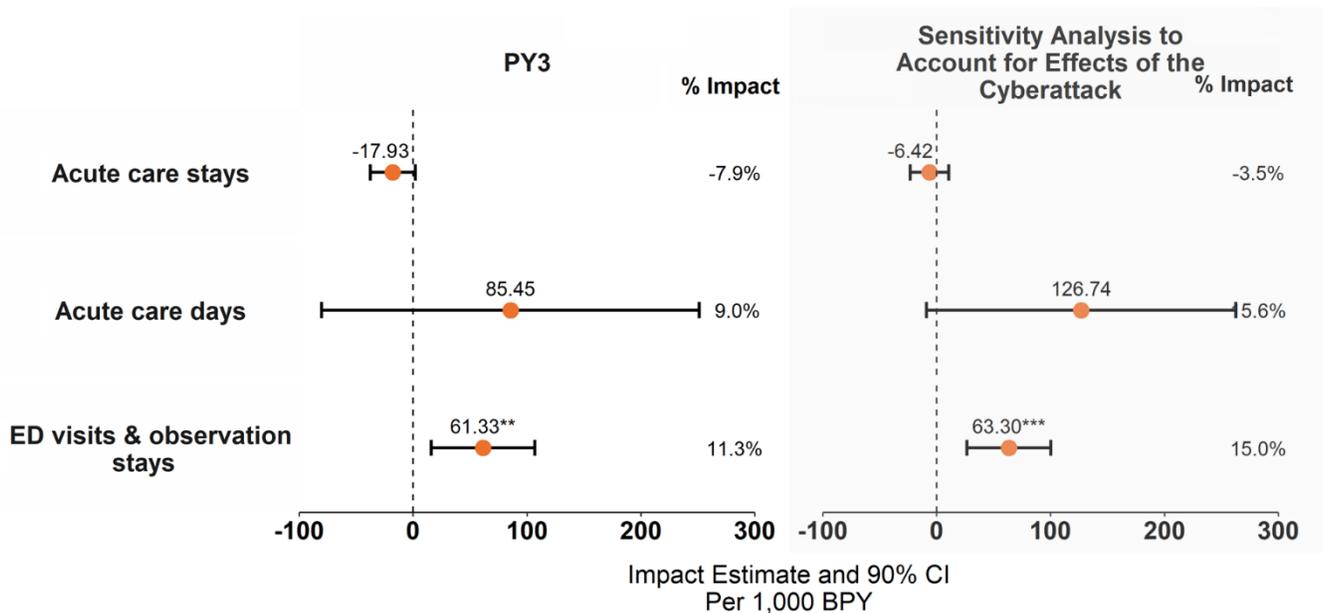
SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Impacts are per 1,000 beneficiaries per year (BPY). PY3 analysis includes calendar year 2020; sensitivity analysis includes the first three calendar quarters (January-September) of 2020. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Post-acute utilization. As mentioned in Section 4.2, post-acute care (PAC) utilization declined steeply in PY3, with decreases of more than 20 percent in SNF stays and days compared to 2019 levels for ACO-attributed Medicare beneficiaries. **Exhibit 4.4.2** shows the adjusted means for PAC utilization in PY3 relative to the baseline period for SNF stays, SNF days, and home health visits.[nnn] While beneficiaries attributed to the Model had larger declines in PAC in PY3 than the comparison group, the sample size was too small to produce a reliable estimate of impact. More detailed findings for PAC utilization for ACO-attributed Medicare beneficiaries are in **Appendix F**.

Exhibit 4.4.2. Medicare ACO-Level PAC Utilization in Baseline and PY3 (2020)

	VTAPM			Comparison		
	Baseline	**PY3**	**% Change**	**Baseline**	**PY3**	**% Change**
PY3						
SNF Stays	722	121	-83.2%	1,895	1,228	-35.2%
SNF Days	32	9	-71.9%	75	50	-33.3%
Home Health Visits	4,533	3,629	-19.9%	3,340	2,826	-15.4%
Sensitivity Analysis to Account for the Impact of the Cyberattack						
SNF Stays	665	246	-63.0%	1,369	867	-36.7%
SNF Days	30	15	-50.0%	56	37	-33.9%
Home Health Visits	3,697	3,032	-18.0%	2,478	1,987	-19.8%

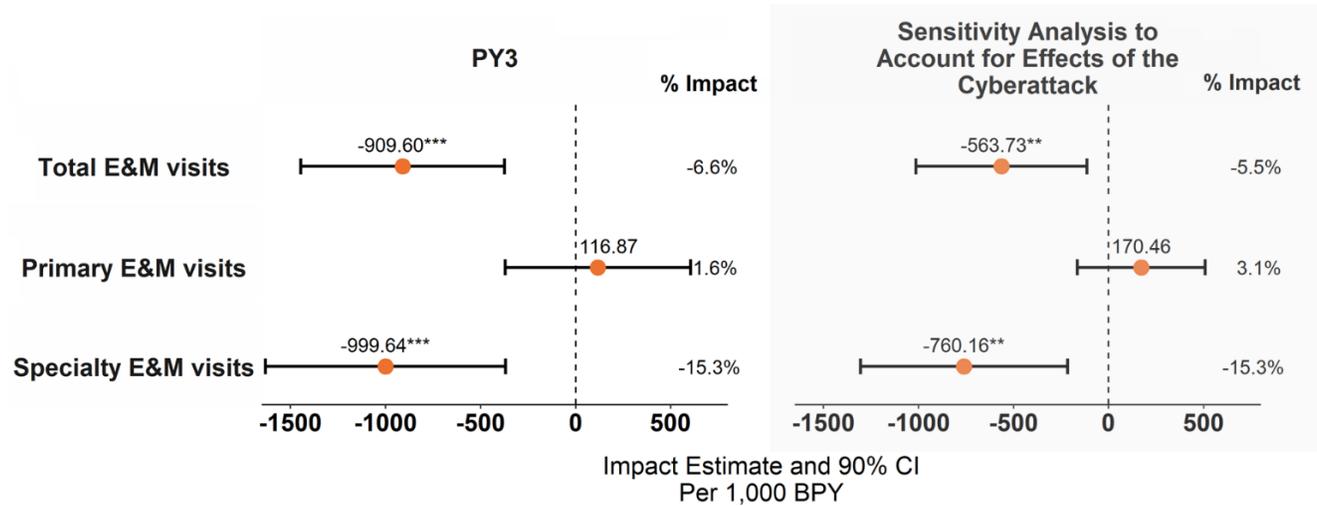SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Estimates are rates per 1,000 beneficiaries per year (BPY), not counts of events.

Ambulatory care utilization. In both the full year and first three quarters of PY3, we observed a statistically significant decrease in total E&M visits (6.6 and 5.5 percent, respectively), driven by a large decrease in specialty E&M visits (15.3 percent for both analyses), for the VTAPM's Medicare ACO population (**Exhibit 4.4.3**). While both the VTAPM and comparison group showed declines in specialist E&M visits in PY3, the decrease was much greater among ACO-attributed Medicare beneficiaries (see **Appendix Exhibits F.15 through F.18** for more details). The decrease in specialty E&M visits may reflect an ongoing shortage of specialists in Vermont,[87] as well as shifts in visit availability and Vermonters' willingness to visit providers during the COVID-19 PHE. These findings reflect previous PYs in which VTAPM-attributed beneficiaries had significantly fewer specialty E&M visits than the comparison group; however, observed decreases were larger in magnitude for PY3 due to the sharp decline in specialty E&M visits from 2019 to 2020 (**Appendix Exhibit F.1**).

The E&M visits displayed in **Exhibit 4.4.3** 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 PY3, and telehealth was more common for primary care E&M visits than for specialty care E&M visits (**Appendix Exhibit F.7**).

[nnn] Adjusted means for home health episodes can be found in **Appendix Exhibits F.15** and **F.16.** 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 PY3 are likely not comparable to those in previous years, even when standardizing to 60-day episodes for consistency, and thus are not presented here.

Exhibit 4.4.3. Medicare ACO-Level Impact on Ambulatory Care Utilization in PY3

SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Impacts are per 1,000 beneficiaries per year (BPY). PY3 analysis includes calendar year 2020; sensitivity analysis includes the first three calendar quarters (January-September) of 2020. 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 either the full year or the first three quarters of PY3 (see **Exhibit 4.4.4**), which is consistent with what we observed in previous performance years. Because only approximately 2.5 percent of Medicare beneficiaries in the treatment and comparison groups received hospice care in PY3, 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.

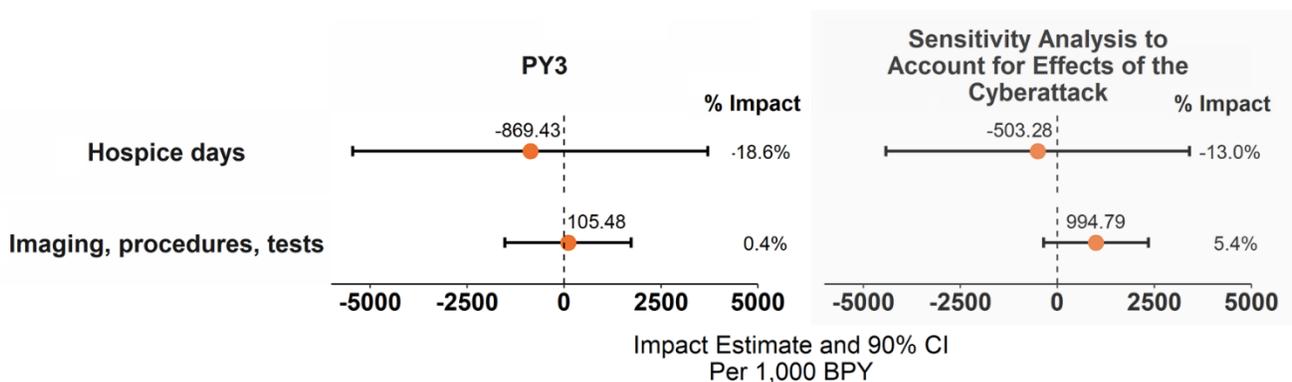**Exhibit 4.4.4.** Medicare ACO-Level Impact on Hospice Days and Imaging/Procedures/Tests in PY3

SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Impacts are per 1,000 beneficiaries per year (BPY). PY3 analysis includes calendar year 2020; sensitivity analysis includes the first three calendar quarters (January-September) of 2020. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Access to and quality of care. In both the full year and first three quarters of PY3, the Model was associated with a significant decline in beneficiaries receiving annual wellness visits (34.1 percent and 26.9 percent, respectively; **Exhibit 4.4.5**), which is consistent with previous PYs. The comparison group is composed of beneficiaries attributed to 2020 Medicare SSP ACO practitioners; Medicare SSP incentives are designed to increase the use of annual wellness visits, similar to the VTAPM. Relative to the baseline period, annual wellness visits among comparison beneficiaries increased meaningfully, while wellness visits among VTAPM-attributed beneficiaries decreased, leading to the significant decrease seen in PY3. Annual wellness visits were already at a high rate in Vermont before the VTAPM, and therefore the Model had less room for improvement on this measure, in contrast to the comparison group that started at a lower level and increased uptake throughout the Model's implementation period (see **Appendix Exhibit F.8** for more details). As in previous PYs, no significant impact was seen for beneficiaries with potentially avoidable ACS hospitalizations or those with unplanned readmissions.

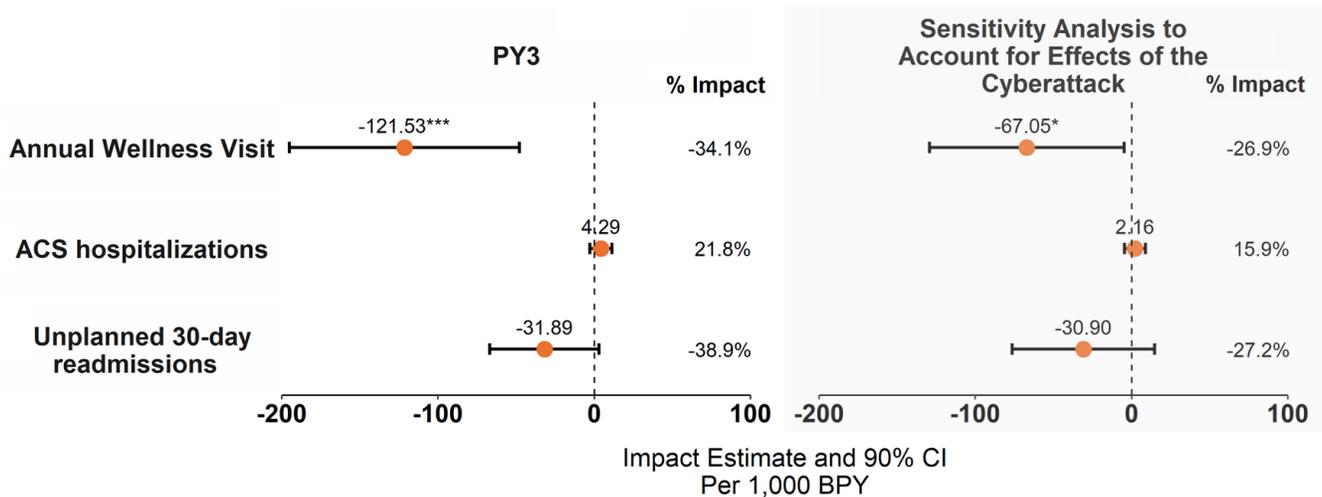**Exhibit 4.4.5.** Medicare ACO-Level Impact on Access to and Quality of Care in PY3

SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Impacts are per 1,000 beneficiaries per year (BPY). PY3 analysis includes calendar year 2020; sensitivity analysis includes the first three calendar quarters (January-September) of 2020. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

4.5 State-Level Impact on Gross and Net Medicare Spending

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 also estimate impact on spending, utilization, and quality of care for Vermont's Medicare beneficiaries statewide.

Gross impact. Across the first three full PYs, the VTAPM was associated with a statistically significant cumulative reduction in gross Medicare Parts A and B spending of $1,088.30 PBPY (9.3 percent), or $270.7 million overall, before considering CMS payouts (see **Exhibit 4.5.1**). The gross impact through the third quarter of PY3 was largely similar in magnitude.

In PY3, the Model was associated with a statistically significant reduction in gross Medicare spending of $1,648.72 PBPY (14.0 percent), or a $141.4 million reduction overall across the full year, which was higher than previous years. In the sensitivity analysis excluding the fourth quarter of PY3, the impact estimates were lower but closer in magnitude to the main analysis than those for the ACO-attributed population (**Exhibit 4.3.1**). The effects of the cyberattack on the UVM Health Network were more concentrated in the ACO-attributed population than the statewide Medicare population, which includes beneficiaries in areas of the state where Medicare ACO was not operating. Additionally, three of the seven hospitals participating in the Medicare ACO initiative are UVM Health Network hospitals (UVM, Central Vermont, and Porter medical centers); thus, ACO-attributed beneficiaries are concentrated geographically and were disproportionately affected by the cyberattack.ᵒᵒᵒ

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 3, implementation of the Model allowed for Blueprint PCMH and SASH funding to continue, which provided care coordination and management for beneficiaries across the state, not only for beneficiaries attributed to VTAPM. Numerous initiatives implemented across the state—by the state, hospitals, and other community providers and organizations—provided benefits to the population as a whole.

Exhibit 4.5.1. State-Level Impact on Gross Medicare Spending in PY1-PY3
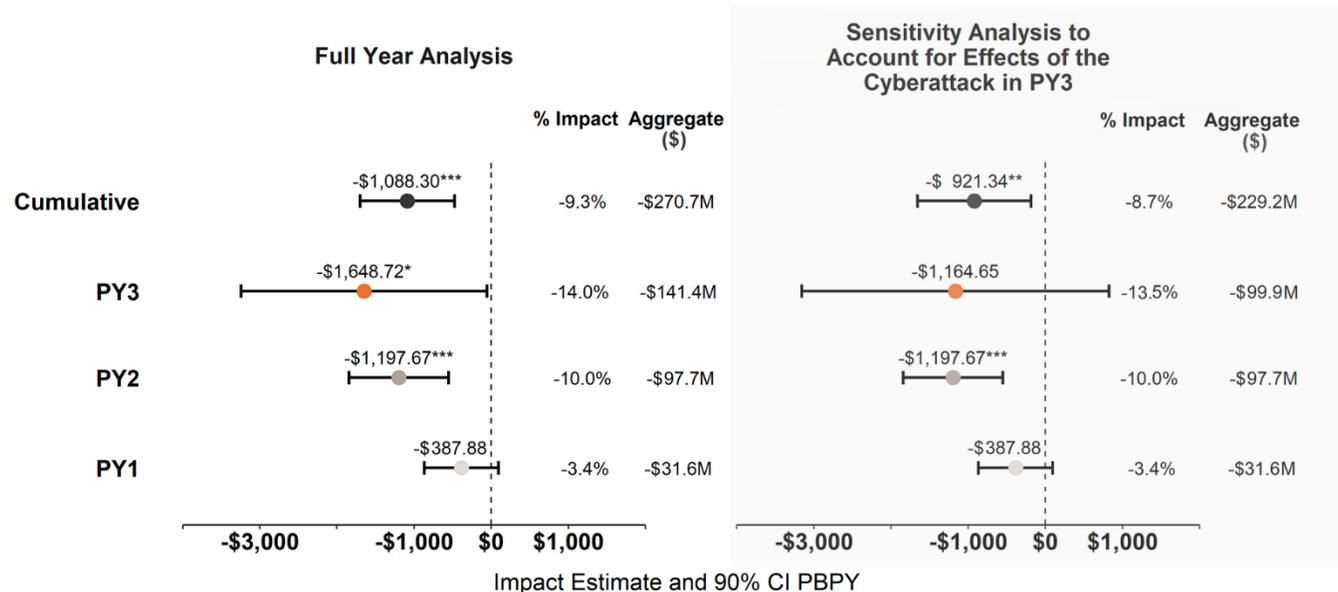
SOURCE: Analysis of Medicare claims data by NORC.
NOTE: Impact in 2020 USD ($) per beneficiary per year (PBPY) or in aggregate for all beneficiaries in the performance year(s). Estimated aggregate gross impact is the DID estimate multiplied by the number of attributed beneficiaries in performance year(s). Full-year analysis includes calendar year 2020; sensitivity analysis includes the first three calendar quarters (January-September) of 2020. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

ᵒᵒᵒ According to FY2020 budget documents submitted by OneCare to GMCB, the three HSAs for UVM Health Network hospitals comprise over two-thirds of the total population attributed to the Medicare ACO initiative.

Trends in gross Medicare spending. Exhibit 4.5.2 presents the trends in statewide gross Medicare spending associated with the VTAPM and the comparison group in the baseline years (2014–2016) and PYs (2018–2020).[ppp] Because our DID design takes into account comparison group trends, the spending reduction presented above (see **Exhibit 4.5.1**) in large part reflects rising spending in the comparison group and relatively flat spending in the VTAPM—until PY3 when the VTAPM had a large decline in large part due to the COVID-19 PHE and the cyberattack on the UVM Health Network—and the subsequent changes in utilization patterns. As described in Section 4.2, the state-level comparison group showed a slight increase in Medicare spending relative to 2019; these diverging trends drove the large reduction in impact on gross Medicare spending in PY3.[qqq]

Exhibit 4.5.2. State-Level Trends in Gross Medicare Spending, 2014–2020
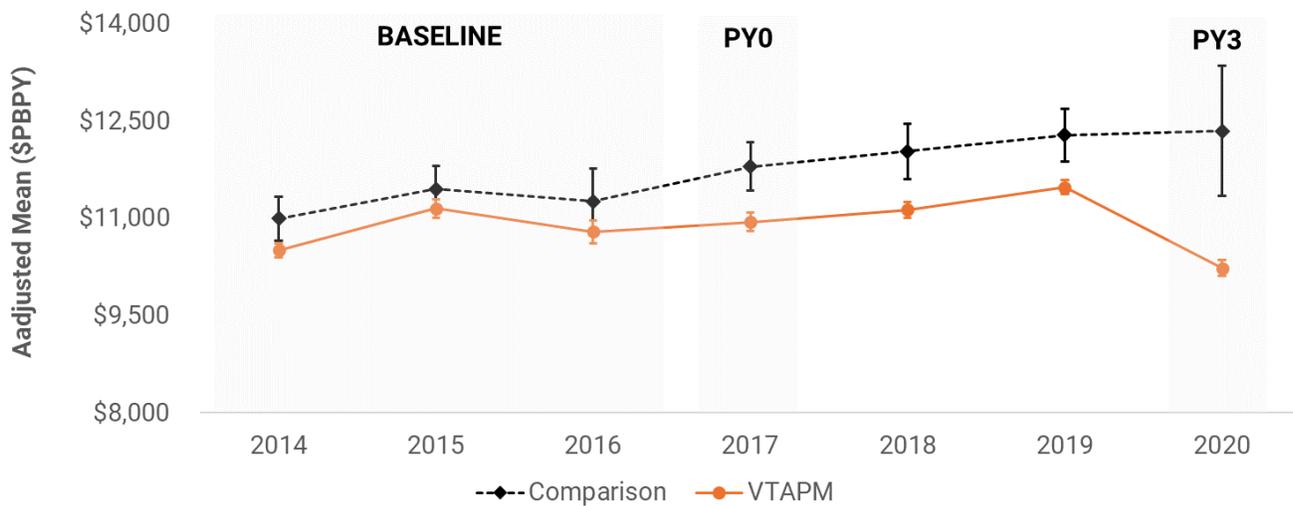
SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Estimates represent regression-adjusted baseline trends for full-year PY3 gross Medicare spending, which reflects eligible Medicare beneficiaries in Vermont and comparison states.

[ppp] The comparison group for the state-level population (eligible Medicare beneficiaries sampled from comparison states) is distinct from the comparison group for the ACO-level population (beneficiaries attributed to Medicare SSP Track 1 and Basic A/B/C providers). Estimates should not be directly compared between the two analyses.
[qqq] To assess the sensitivity of our findings to the selection of baseline years, we conducted a sensitivity check using a model that included PY0 as a baseline year. When PY0 was included as a baseline year, the Model was associated with a significant decrease of $901.37 PBPY (8.2 percent). However, when considering only the first three quarters of PY3, we observe an insignificant decrease of $759.60 PBPY (13.4 percent), indicating that much of the decrease is driven by steeper declines in spending in the fourth quarter of PY3. For more information on this sensitivity assessment, see **Appendix D.10**.

Net impact. After accounting for the Medicare shared savings and other pass-through payments,[rrr] the cumulative net impact of the Model on statewide gross spending across the three full PYs was a significant reduction in Medicare spending of $1,043.58 PBPY (8.9 percent), or $259.6 million overall (see **Exhibit 4.5.3**). Net shared savings payments to the VTAPM initiative over the first three PYs, taking into account incentive payments to VTAPM providers in the baseline and comparison providers in the baseline and performance periods, totaled approximately $11.1 million. Gross spending decreased during that period by $270.7 million, resulting in a net decrease in Medicare spending of $259.6 million. The net impact through the third quarter of PY3 was largely similar in magnitude.[sss]

Exhibit 4.5.3. State-Level Impact on Net Medicare Spending in PY1-PY3 (2018–2020)
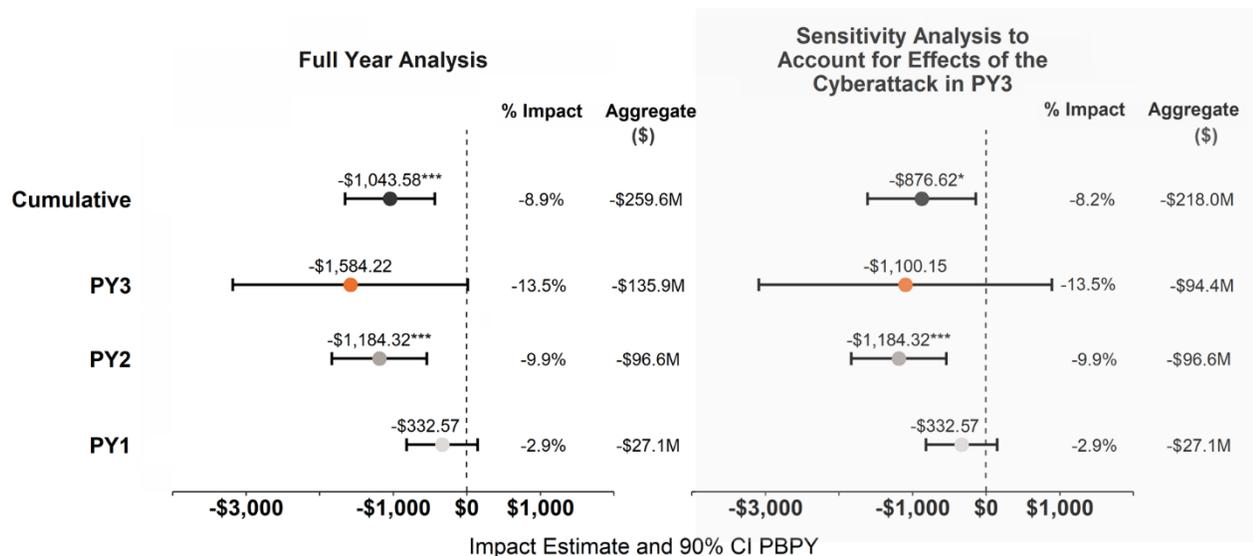
SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Impact in 2020 USD ($) per beneficiary per year (PBPY) or in aggregate for all beneficiaries in the performance year(s). Estimated aggregate gross impact is the DID estimate multiplied by the number of attributed beneficiaries in performance year(s). Full-year analysis includes calendar year 2020; sensitivity analysis includes the first three calendar quarters (January–September) of 2020. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

[rrr] 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 includes the MAPCP start-up adjustment (the pass-through payments to the ACO that may have benefited both attributed and non-attributed Medicare beneficiaries) in the baseline and performance periods, the VTAPM shared-savings payments in the performance period, and shared-savings incentives to comparison group providers from Pioneer, Medicare SSP, and Next Generation ACO models in the baseline and performance periods. Note that the previous year's shared-savings payment is considered accounted for in the ACO's benchmark as a health care expenditure. 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.7**.

[sss] The net impact estimate for the sensitivity analysis excluding the fourth quarter of PY3 incorporates the shared savings amount for the entire PY3 ($5.5 million). When using 75 percent of the PY3 shared savings amount to reflect three-quarters of shared savings for the sensitivity analysis, no meaningful differences were observed; the cumulative net impact was a decrease of $882.19 PBPY (8.3 percent) and was similarly nonsignificant, and the PY3 net impact was a decrease of $1,116.28 (13.0 percent).
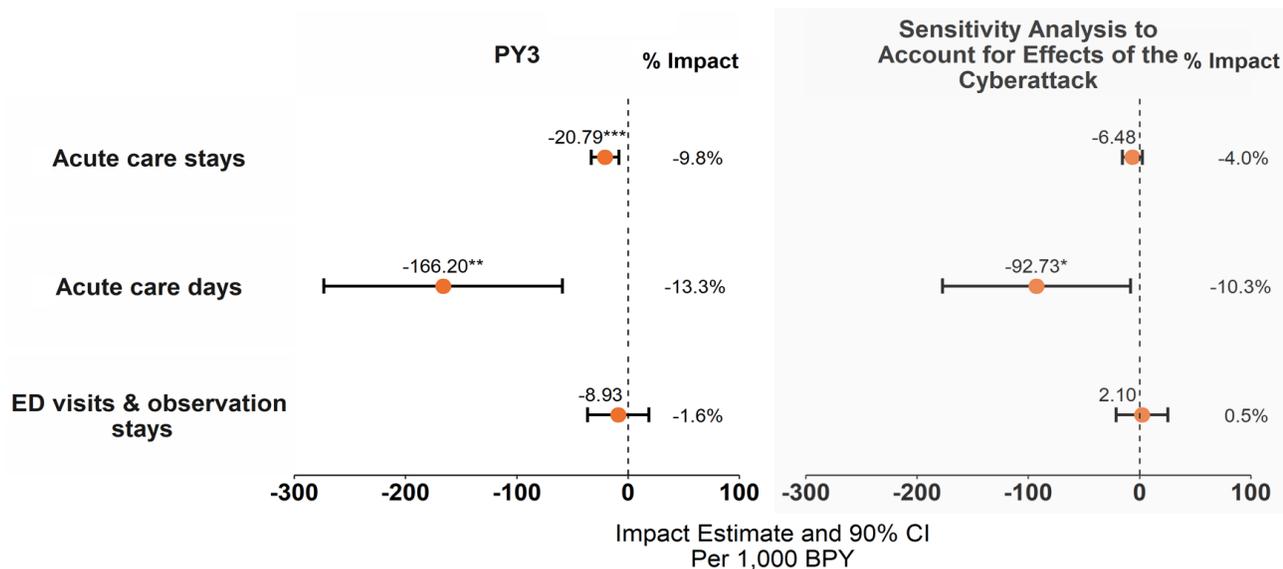
4.6 State-Level Impact on Medicare Utilization and Quality of Care

In PY3, we observed significant decreases in acute care utilization (acute care stays, acute care days, and unplanned 30-day readmissions) that drove large reductions in gross Medicare spending. Similar to the ACO-level findings, we also observed steep decreases at the state level in PY3 for both specialist E&M visits and PAC utilization.

Impacts on Medicare utilization in PY3 should be interpreted with consideration of the fact that health care utilization declined steeply in all settings due to the COVID-19 PHE (see Section 4.2 for more details) and in some settings due to the cyberattack on the UVM Health Network. 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.5** through **F.18**.

Hospital-based utilization. In both the full year and first three quarters of PY3, the VTAPM was associated with significant decreases in acute care days (13.3 percent and 10.3 percent, respectively; **Exhibit 4.6.1**). A decrease in acute care stays was observed in both the full year and first three quarters of PY3 (9.8 percent and 4.0 percent, respectively), but only the former reached statistical significance. The large overall contribution of acute care to Medicare spending means that the significant decreases in hospital-based utilization are a main contributor to spending reductions at the state level. Additionally, we observed no statistically significant reductions in ED visits and observation stays in either timeframe. 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 what we observed in the first two PYs.

Exhibit 4.6.1. State-Level Impact on Hospital-Based Utilization in PY3

PY3

% Impact

Sensitivity Analysis to Account for Effects of the Cyberattack

% Impact

Acute care stays: -20.79*** → -9.8% | -6.48 → -4.0%

Acute care days: -166.20** → -13.3% | -92.73* → -10.3%

ED visits & observation stays: -8.93 → -1.6% | 2.10 → 0.5%

Impact Estimate and 90% CI
Per 1,000 BPY

NOTE: Impacts are per 1,000 beneficiaries per year (BPY). PY3 analysis includes calendar year 2020; sensitivity analysis includes the first three calendar quarters (January–September) of 2020. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Post-acute utilization. As mentioned in Section 4.2, PAC utilization declined steeply in PY3, with decreases of more than 20 percent in SNF stays and days compared to 2019 levels for Vermont Medicare beneficiaries. **Exhibit 4.6.2** shows the adjusted means for PAC utilization in PY3 relative to the baseline period for SNF stays, SNF days, and home health visits.[ttt] While Vermont Medicare beneficiaries had slightly larger declines in PAC in PY3 than the comparison group, the sample size was too small to produce a reliable estimate of impact. More detailed findings for PAC utilization for Vermont Medicare beneficiaries are found in **Appendix F**.

Exhibit 4.6.2. State-Level PAC Utilization in Baseline (2014–2016) and PY3 (2020)

|	VTAPM			Comparison		
	Baseline	**PY3**	**% Change**	**Baseline**	**PY3**	**% Change**
PY3						
SNF Stays	1,989	1,303	-34.5%	2,071	1,445	-30.2%
SNF Days	69	43	-37.7%	78	57	-26.9%
Home Health Visits	4,150	3,826	-7.8%	3,212	2,461	-23.4%
Sensitivity Analysis to Account for the Impact of the Cyberattack						
SNF Stays	1,525	1,064	-30.2%	1,552	1,069	-31.1%
SNF Days	53	37	-30.2%	59	42	-28.8%
Home Health Visits	3,068	2,786	-9.2%	2,381	1,803	-24.3%

NOTE: Estimates are rates per 1,000 beneficiaries per year, not counts of events.

Ambulatory care utilization. In both the full year and first three quarters of PY3, we observed a statistically significant decrease in total E&M visits (9.3 and 9.4 percent, respectively), driven by a large decrease in specialty E&M visits (19.7 percent and 20.6 percent), for Vermont Medicare beneficiaries (see **Exhibit 4.6.3**). Similar to the ACO-level analysis, this decrease reflects a steeper decline in specialist E&M visits among Vermont beneficiaries relative to comparison beneficiaries (see **Appendix Exhibits F.17 and F.18**) and may be driven by the ongoing shortage of specialists in Vermont as well as shifts in visit availability or patient care-seeking behavior during the COVID-19 PHE. Specialist E&M visits showed both an overall decreasing trend over time as well as a sharp reduction in PY3, with a nearly 30 percent decrease in visits relative to 2019. These findings are very similar to what we observed in previous PYs, with Vermont beneficiaries having significantly fewer specialty E&M visits and non-significant increases in primary E&M visits relative to the comparison group.

[ttt] 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 PY3 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 reflecting utilization of home health episodes can be found in **Appendix Exhibits F.17 and F.18**.

The E&M visits displayed in **Exhibit 4.6.3** include both in-person and telehealth visits. Vermont Medicare beneficiaries have higher rates of telehealth use for E&M visits than the comparison group in PY3, and telehealth was more common for primary care E&M visits than for specialty care E&M visits (**Appendix Exhibit F.11**).

Exhibit 4.6.3. State-Level Impact on Ambulatory Care Utilization in PY3
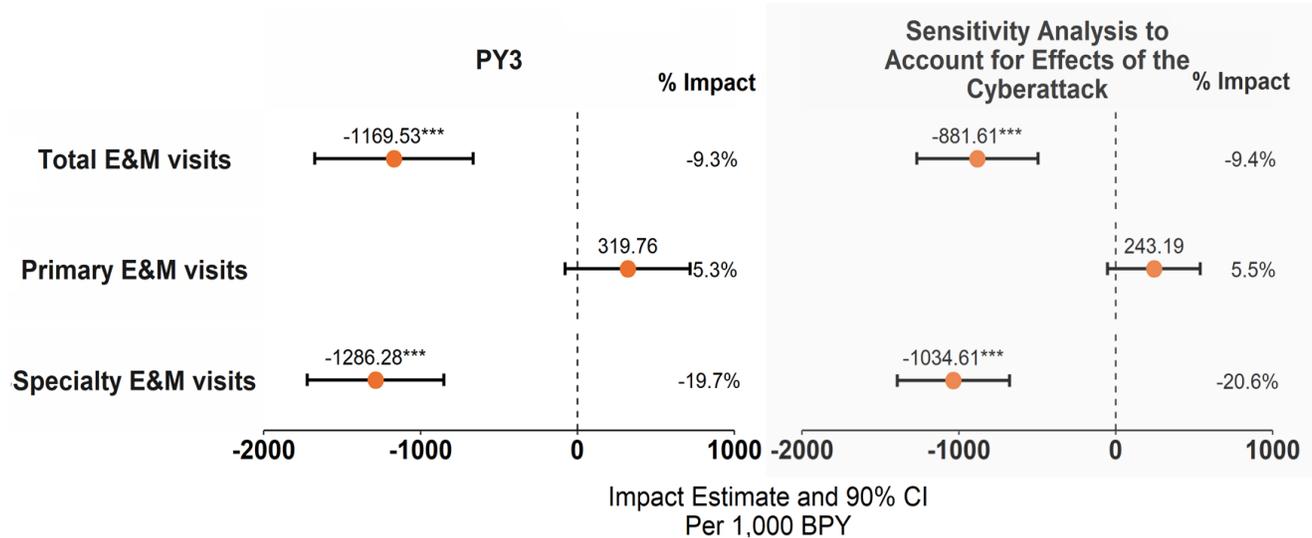
SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Impacts are per 1,000 beneficiaries per year (BPY). PY3 analysis includes calendar year 2020; sensitivity analysis includes the first three calendar quarters (January–September) of 2020. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Other utilization. In both the full year and first three quarters of PY3 (2020), we observed a statistically significant decrease in Vermont Medicare beneficiaries' number of hospice days (37.2 percent and 24.8 percent, respectively; see **Exhibit 4.6.4**), which is consistent with the decrease in hospice utilization we observed in PY2. The decline was driven mainly by an increase in hospice utilization in the comparison group in PY3, while utilization remained relatively steady for Vermont Medicare beneficiaries relative to the baseline. However, because only a small fraction of the Medicare beneficiaries in the treatment and comparison groups received hospice care in PY3 (approximately 2.5 percent), 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.

There were no statistically significant reductions or increases in the number of imaging, procedures, and tests performed in PY3 in full-year estimates or through the third quarter of PY3. In both previous years, we observed significant increases in the number of imaging, procedures, and tests for Vermont beneficiaries. However, we hypothesize that the non-significant findings we observed in PY3 are due to the COVID-19 PHE and the UVM Health Network cyberattack causing delays and deferrals of non-urgent care, including for many voluntary and/or preventive tests and procedures.

Exhibit 4.6.4. State-Level Impact on Hospice Days and Imaging/Procedures/Tests in PY3
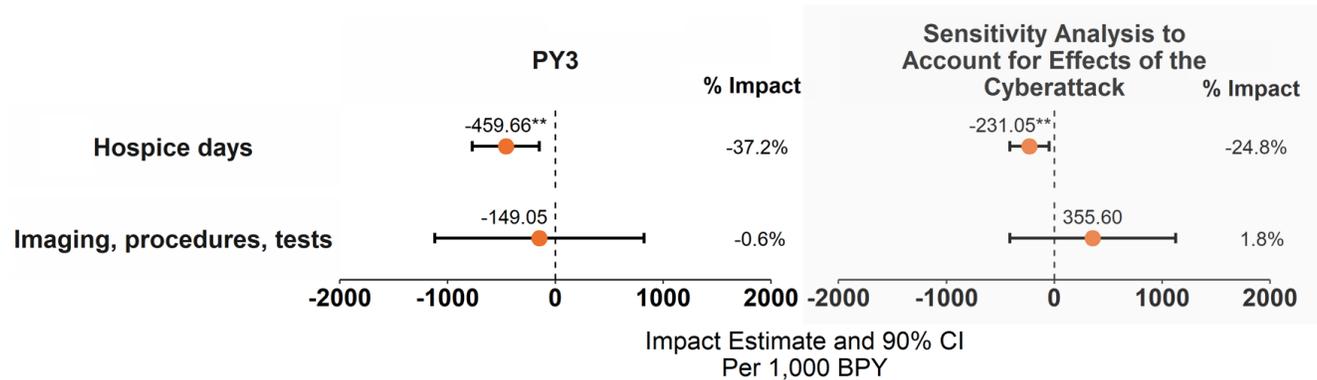

SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Impacts are per 1,000 beneficiaries per year (BPY). PY3 analysis includes calendar year 2020; sensitivity analysis includes the first three calendar quarters (January–September) of 2020. Asterisks denote significance at *p<0.10, **p<0.05, ***p<0.01.

Access to and quality of care. The VTAPM was associated with a significant reduction in beneficiaries with unplanned readmissions statewide in PY3 (2020) (17.7 percent in the full year and 14.4 percent through Q3; see **Exhibit 4.6.5**), consistent with the decreases we observed in the first two performance years. No significant changes were seen for annual wellness visits among Vermont Medicare beneficiaries. For Vermont Medicare beneficiaries, significant increases were seen for ACS hospitalizations in both the full year and the first three quarters of PY3 (20.2 percent and 23.3 percent, respectively). In previous performance years, we observed a small non-significant increase in ACS hospitalizations, but in PY3 the observed significant increase was driven by steeper declines for comparison beneficiaries and relatively smaller declines for Vermont Medicare beneficiaries with ACS hospitalizations.

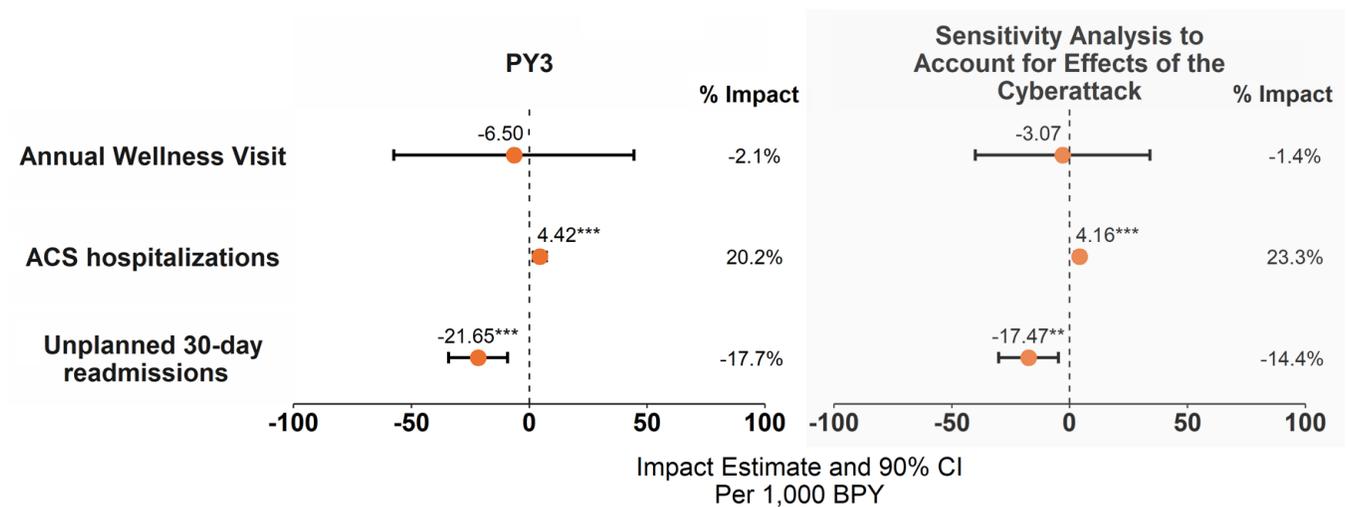**Exhibit 4.6.5.** State-Level Impact on Access to and Quality of Care in PY3

SOURCE: Analysis of Medicare claims data by NORC.

NOTE: Impacts are per 1,000 beneficiaries per year (BPY). PY3 analysis includes calendar year 2020; sensitivity analysis includes the first three calendar quarters (January–September) of 2020. Asterisks denote significance at $*p<0.10$, $**p<0.05$, $***p<0.01$.

4.7 VTAPM Quality Performance Outcomes

As part of the Model State Agreement with CMS, the GMCB develops an Annual Health Outcomes and Quality of Care Report, which monitors progress on 22 population-level health outcome and quality target measures. These 22 outcomes fall into three domains: population-level health outcomes (six outcomes), health care delivery system quality (nine outcomes), and process milestones (seven outcomes). In each domain, measures aim to address three stated goals: reducing deaths related to suicide and drug overdose, reducing chronic disease, and increasing access to primary care. The 17 outcomes reportable in PY3, along with performance goals and current status reported in the Annual Health Outcomes and Quality of Care Report, are shown in **Exhibit 4.7.1**.[uuu]

Overall, in PY3 (2020), we observed continued progress toward 2022 performance targets for the majority of the Model's population health outcomes and quality of care measures. The Model maintained statewide chronic disease prevalence (chronic obstructive pulmonary disease, diabetes, hypertension); increased the Model's population's initiation and engagement for treatment for alcohol and other drug dependence and timely follow-up after ED discharge; and almost halved the percentage of Medicare beneficiaries with diabetes experiencing poor HbA1c control.

The state and ACO made these gains despite the disruptions in care and quality initiatives caused by the COVID-19 PHE. However, we noted a decline in performance rates for some measures, particularly those related to ambulatory care (e.g., blood pressure control, screening for depression and follow-up planning), which may be due in part to the COVID-19 PHE's impact on non-emergent care delivery. Additionally, the decline in adults receiving medication-assisted treatment for substance use disorders (SUDs) may be driven by increased difficulties in accessing needed services and shortages of SUD treatment providers.

Exhibit 4.7.1. Progress on Population Health and Quality Performance Measures, PY3

	Reporting Level[§]	Baseline	PY3	Performance Target (2022)	Status
Population Health Outcome Targets					
Deaths Related to Suicide (per 100,000 population)[§§]	State	17.2	18.1	16.0 or 20th highest rate in U.S.	◌
Chronic Obstructive Pulmonary Disease Prevalence	State	6%	6%	Increase <=1%	●

[uuu] Five measures are not reportable due to proposed measure definition changes (deaths related to drug overdose, percentage of Vermont providers checking Prescription Drug Monitoring Program before prescribing opioids); the retiring of two HEDIS measures previously in use (percentage of Vermont resident receiving appropriate asthma medication management; percentage of Medicaid adolescents with well-care visits); and lack of ACO CAHPS data, which were not collected in PY3 (getting timely care, appointments, and information). For the full set of quality performance outcomes, including for PY1 and PY2, see **Appendix Exhibit F.19**.

	Reporting Level§	Baseline	PY3	Performance Target (2022)	Status
Diabetes Prevalence	State	8%	8%	Increase <=1%	●
Hypertension Prevalence	State	26%	25%	Increase <=1%	●
Percentage of Adults with Personal Doctor or Care Provider	State	87%	85%	89%	○
Health Care Delivery System Targets					
Initiation of Alcohol and Other Drug Dependence Treatment	ACO	38.9%	39.40%	40.8%	◐
Engagement of Alcohol and Other Drug Dependence Treatment	ACO	13.30%	18.60%	14.6%	●
30-Day Follow-Up after Discharge from ED for Mental Health	ACO	84.40%	78.10%	60.0%	◐
30-Day Follow-Up after Discharge for Alcohol or Other Drug Dependence	ACO	28.20%	31.60%	40.0%	◐
Growth in Mental Health and Substance Abuse-Related ED Visits	ACO	5.30%	-16.0%	5.0%	●
Diabetes HbA1c Poor Control	Medicare ACO	58.02%	30.65%	70-80th Medicare percentile	●
Controlling High Blood Pressure	Medicare ACO	68.12%	65.32%	70-80th Medicare percentile	○
All-Cause Unplanned Admissions for Patients with Multiple Chronic Conditions	Medicare ACO	63.84%	30.11%	70-80th Medicare percentile	●
Process Milestones					
Adults Receiving Medication Assisted Treatment (per 10,000 population)	State	257	235	150 (or up to rate of demand)	◐
Screening and Follow-Up for Clinical Depression and Follow-Up Plan	State§§§	50.23%	48.62%	70-80th Medicare percentile	●
Tobacco Use Assessment and Cessation Intervention	ACO	70.56%	78.95%	70-80th Medicare percentile	●
Percentage of Medicaid Enrollees Aligned to Model	Medicaid ACO	31.0%	92%	<15% below Medicare alignment rate	●

SOURCE: Vermont All-Payer ACO Model Annual Health Outcomes and Quality of Care Report, Performance Year 3 (2020).
NOTES: ○ trending opposite from outcome target; ◐ measure is improving toward the target; ● measure has achieved the stated target. § Level denotes the population for which the measure is assessed per the Model State Agreement and is distinct from the Medicare populations used for analyses earlier in this chapter. Measures estimated at the "state" level include all Vermonters, "ACO" includes all individuals attributed to OneCare (all payers), and "Medicare/Medicaid ACO" includes all individuals attributed to the ACO through that payer. §§ Rate is volatile due to small sample size; interpret with caution. §§§ This measure is based on ACO payer contracts.

Exhibit 4.7.2 shows performance by payer (Medicare, Medicaid, BCBSVT, and MVP) on three quality measures in the health care delivery system targets domain focused on reducing deaths related to suicide and drug overdose. **Appendix Exhibits F.21 through F.24** show the performance rate for each population health measure as reported by the five payers participating in OneCare: Medicare, Medicaid, BCBSVT (Primary Population), BCBSVT QHP, and MVP. Data reflect PY3 and include PY1 and PY2 historical data, where available.

Exhibit 4.7.2. Quality Measure Performance: Reducing Deaths Related to Suicide and Drug Overdose by Payer, PY1-PY3
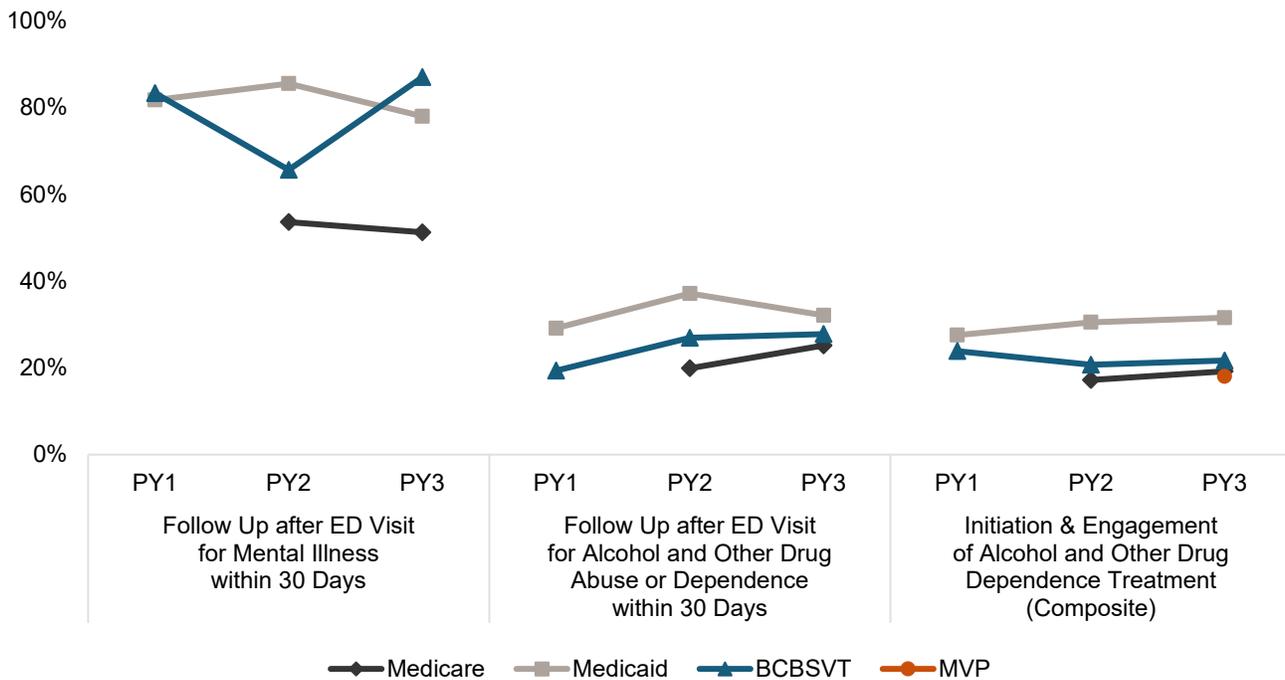
SOURCE: Payer-specific quality scorecards released by OneCare.

NOTES: BCBSVT includes members in both self-insured and QHPs. MVP joined the Model in PY3, so no data are reported for PY1-PY2. Beginning in PY3, the Medicaid population included the population added to the Model by the expanded attribution methodology, as well as Medicaid beneficiaries attributed to the Model through care from Model practitioners. These three quality measures were not reported by the Medicare ACO in PY1.

Exhibit 4.7.3 shows performance by payer (Medicare, Medicaid, BCBSVT, and MVP) on three quality measures in the health care delivery system targets domain focused on reducing chronic disease. For all three outcomes, we observe a decline in performance in PY3, likely due to the disruptions in ambulatory care during the COVID-19 PHE. However, the Medicare ACO still made progress toward the goal for two measures (poor hemoglobin control, screening for clinical depression), despite setbacks in PY3.

Exhibit 4.7.3. Quality Measure Performance: Reducing Chronic Disease by Payer, PY1-PY3
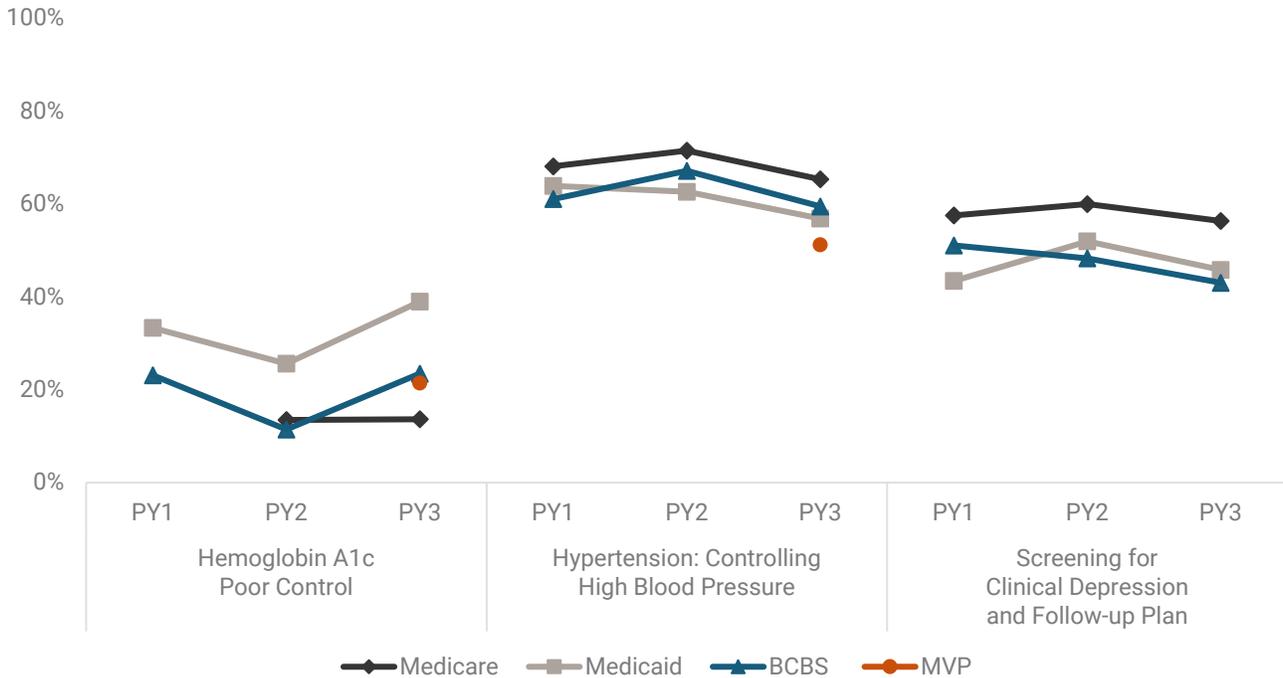
SOURCE: Payer-specific quality scorecards released by OneCare.

NOTES: Model targets for these measures are based on Medicare percentiles in 2022; thus, we are not able to identify specific target percentages at this time. BCBSVT includes members in both self-insured plans and QHPs. MVP joined the Model in PY3, so no data are reported for PY1-PY2. Beginning in PY3, the Medicaid population included the population added to the Model by the expanded attribution methodology, as well as Medicaid beneficiaries attributed to the Model through care from Model practitioners. Medicare started reporting HbA1c poor control as a distinct measure in PY2; no data for this measure are available for PY1.

4.8 Summary and Next Steps

Over the first three years of the Model, we observed significant reductions in gross Medicare spending in both ACO- and state-level analyses. However, a meaningful amount of that spending reduction comes from the final quarter of PY3, when the UVM Health Network had critical disruptions to a cyberattack. If the first three quarters of PY3 are considered to be more reflective of the impacts attributable to the VTAPM, the ACO-level impacts were more modest relative to impacts at the state-level. For both populations, spending reductions reflect a trend of rising Medicare spending among comparison beneficiaries and relatively flat Medicare spending for VTAPM beneficiaries. When taking into account Medicare shared savings and other pass-through payments, we observed a statistically significant net reduction in spending at the state level but not the ACO level. In PY3, health care utilization for both Vermont and the comparison groups declined sharply across all settings and levels of acuity, which was reflected in the outcome measures presented in this chapter.

However, despite these differences in PY3, many of our findings were consistent with what we observed in previous performance years. Similar to PY1 and PY2, state-level reductions in spending

were driven by reductions in acute care (stays, days, and unplanned 30-day readmissions), and we continued to see large decreases in specialist E&M visits and annual wellness visits, as observed in the First Evaluation Report. Significant decreases in annual wellness visits have also been observed in all three PYs, driven by increases in the comparison group and maintenance of a high level of annual wellness visits in Vermont before the Model's implementation period. In the cases where PY3 findings diverge from previous performance years (e.g., the increase in acute care days in PY3 for ACO-attributed beneficiaries), we hypothesize that the changing care patterns due to the COVID-19 PHE drove those changes.

It is important to note that, although we took measures to minimize potential biases (e.g., drawing the comparison group from multiple states, using the flexible DID), as described earlier, unobserved differences between the treatment and comparison group, as well as time-varying effects that coincide with the Model's implementation, could also be contributing to the estimated impacts. Vermont's history of health and delivery system reform is unlike any other state. It is plausible that the impacts noted in this report, particularly at the state level, may be due to delayed effects of Vermont's reform efforts in the baseline period, as evidenced by the attenuated findings in the sensitivity analysis that included PY0 (2017) as a baseline year.

Additionally, attribution methods used to construct the treatment and comparison groups may exclude subpopulations that the Model could impact. Beneficiaries are attributed to the Model based on whether they receive a plurality of their primary care services from participating practitioners. However, other key Model providers, such as the participating hospitals, may impact the outcomes of non-attributed beneficiaries seeking acute care services at their facilities. This limitation is more likely to influence the ACO-level results than state-level results.

In future reports, we plan to present impacts for the Medicaid population attributed to the Model, to explore population health and quality of care outcomes in more detail, and to conduct subgroup analysis for key practice, practitioner, and beneficiary level characteristics to test specific hypotheses of interest.

Chapter 5: Discussion

In the third PY of the VTAPM, the COVID-19 PHE presented health systems and providers across the state of Vermont with unprecedented challenges. Although COVID-19 case rates in Vermont were lower than in much of the country, health care providers encountered many COVID-19 PHE-related demands that stretched resources and disrupted normal operations. OneCare and participating providers were forced to pivot from care delivery and population health initiatives to respond to the COVID-19 PHE. Nonetheless, **Vermont's established primary care and care management infrastructure, which was developed under the Blueprint and the SIM award, and bolstered through the VTAPM, helped providers address residents' changing needs during the COVID-19 PHE**. Hospitals and practices leveraged resources such as CHTs to provide ongoing outreach to those at high risk for COVID-19, including targeted testing and vaccinations. In addition, relationships among community providers grew stronger over the course of the Model, which also facilitated community-level responses to the COVID-19 PHE.

Along with the COVID-19 PHE, the UVM Health Network faced a ransomware cyberattack in October 2020 that further disrupted health care delivery through much of 2021. The cyberattack led to delayed and forgone care, delayed claims processing, and providers forgoing submitting claims altogether. As demonstrated in the sensitivity analyses in Chapter 4, the exclusion of claims during the period of 2020 following the attack (Q4) changed the magnitude of the impact estimates substantially for the Medicare ACO, even if the direction of the impact remained the same. Thus, it is important to interpret all spending and utilization findings in this report not only in the context of the COVID-19 PHE but also considering this external shock that uniquely affected Vermont.

While the COVID-19 PHE and cyberattack posed unique challenges in 2020, the Medicare ACO initiative continued to reduce spending and utilization in PY3 relative to the comparison group, though impacts were modest after accounting for the potential effects of the cyberattack on the outcomes. Consistent with findings observed in PY1 and PY2, gross spending in PY3 decreased among attributed Medicare beneficiaries relative to the comparison group, driven by decreases in acute care and PAC spending and utilization. Medicare Parts A and B gross and net spending decreased cumulatively over the course of the Model, which was similarly related to declines in acute care and PAC spending and utilization and sensitive to the exclusion of Q4. It is important to note that Medicare beneficiaries in the ACO accounted for approximately one-quarter of Vermonters aligned to VTAPM participants; thus, these findings may not be representative of the total potential Model impacts.

Statewide, the VTAPM was associated with statistically significant declines in both gross and net Medicare spending relative to the comparison group, which were robust to the exclusion of Q4. Like ACO-level findings, statewide spending reductions were driven by decreases in acute care hospital and PAC utilization. Unplanned hospitalizations also declined at the state level, and Vermont continued to make progress toward population-level health outcomes and quality target measures. The effects of the cyberattack were not as pronounced at the state level because the percentage of Medicare beneficiaries receiving care through UVM Health Network was lower compared to the percentage of Medicare beneficiaries aligned with UVM in the ACO.

Because of Vermont's unique context and reform history, the impacts may only be partially attributed to the VTAPM. The spending and utilization reductions the VTAPM achieved were above and beyond the general trend of lower health care utilization and spending in the comparison group and nationwide during the COVID-19 PHE. While this may in part be related to the increasing investments in population health initiatives through the Model, it may also be a byproduct of previous investments in primary care and population health transformation in Vermont and historic support of health care reform in the state. The Model has allowed the state to continue initiatives and investments that predated the Model. The trajectory of improved outcomes in Vermont may have continued regardless of the Model, as suggested by the trend in lower cost relative to the comparison group in the baseline period. The unique context in Vermont—including The Blueprint's support for PCMHs, CHTs, and SASH—should be taken into consideration when generalizing findings from this Model to other states.

Additionally, Medicare beneficiaries in Vermont saw sharp decreases in specialty care utilization in 2020 at both the ACO and state levels, which were likely related to a larger trend of lower specialty care utilization in Vermont. The AHS recently released a report detailing longer wait times for specialists in Vermont versus peer states and declining utilization of specialty care between 2016 and 2020, irrespective of the Model.[87] Utilization and cost outcomes may therefore be related to other factors affecting Vermont providers and patients that set them apart from the comparison group but are not necessarily related to the Model.

There are several challenges inherent in the Model's design and implementation that limit participation and impact. First, the Medicare ACO initiative presents too much risk for CAHs. Without moving to asymmetrical risk, the other six CAHs may never participate in the Medicare ACO. Second, Medicaid fixed payments provide more predictability compared to the AIPBP. Reconciliation of the Medicare AIPBP to FFS has been burdensome for providers and limited providers' ability and willingness to invest in care delivery transformation. Third, attracting self-insured employers and national commercial payers to the Model has been a challenge. For national commercial payers with a small number of enrollees in the state, participation in the Model may not be worth the administrative burden. Fourth, the hospital-centric structure of the Model makes it difficult to engage non-hospital providers. It also means that individual practitioners are protected from risk and may not feel the incentives that the Model intends to provide. Finally, the fact that only one ACO is participating in the Model is an obstacle to providers that want a choice in ACOs, particular with the distrust some providers have of OneCare.

While the VTAPM is not yet implemented as intended, there are still promising results that may increase over time. Despite the limited scale, the Model is achieving gross spending reductions, meaning that some aspects of the Model or contextual factors are still favorable to success. While some state and hospital leaders considered the initial years of the VTAPM to be a period of transition, getting providers on board with the idea of fixed payments and assuming risk, there is still a consensus across interviewees that there has been progress, even while confronting the COVID-19 PHE. Hospital and community providers credited the VTAPM as a "catalyst" for increasing collaboration between hospitals and community organizations and suggested that the Model has increased involvement of different types of providers in care coordination. OneCare is trying to find the right balance between centralization/standardization and allowing for the local control and innovation that have been a

hallmark of Vermont's history of health care reform. As hospitals and providers gain more experience and continue to address the challenges they have faced, the VTAPM may have a stronger impact on spending, utilization, and quality of care. The evaluation will continue to explore these and factors affecting outcomes.

Future Evaluation Considerations

Looking ahead to the evaluation of PY4, the lingering effects of the COVID-19 PHE and the cyberattack will continue to factor into implementation and utilization patterns. While some hospitals had resumed normal operations and patient throughput by mid-2021, others were seeing patient volume below pre COVID-19 PHE levels, particularly with respect to inpatient and ED utilization. In 2021, in the wake of the 2020 cyberattack, UVM Medical Center experienced higher-than-usual patient volume, possibly attributable to delayed or deferred care. The AHS has taken the lead in negotiations with CMS around any future iteration of the Model. Given COVID-19 PHE-related disruptions to implementation, the state requested a year-long extension to the Model State Agreement, originally scheduled to end in 2022, to provide additional time to develop future Model iterations. As of the writing of this report, CMS is actively working to respond to this request.[88]

Future reports will expand beyond the limited focus on Medicare beneficiaries thus far in the evaluation. We plan to assess the Medicaid ACO initiative's reach and impacts, which will cover a larger percentage of attributed beneficiaries than explored in the Medicare analyses. We will also study ongoing changes in the attributed population's characteristics and utilization patterns. Additionally, we will quantitatively assess trends in access to specialty and behavioral health services in the ambulatory setting, taking into account stakeholders' perceptions of these trends. All future analysis will continue to consider the lingering effects of the COVID-19 PHE.

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