



The Pennsylvania Rural Health Model (PARHM)

Fourth Annual Evaluation Report

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Table of Contents

Executive Summary..... IX

Experiences with the Global Budget and Reconciliation XI

Behavioral Health Transformation..... XIII

Interactions/Alignment between the PARHM and Other Value-based Care Programs.....XIV

DiscussionXVI

Chapter 1: Introduction to the PARHM and Evaluation 1

1.1 Overview of the Pennsylvania Rural Health Model 1

 Model Design and Components 1

1.2 Model Participants and Partners..... 3

 Center for Medicare and Medicaid Innovation (Innovation Center) 4

 Pennsylvania Department of Health (DOH)..... 4

 Rural Health Redesign Center 4

 Participating Hospitals 5

 Participating Payers..... 6

1.3 Additional Model Considerations..... 8

 COVID-19 Exogenous Factor Request..... 8

 Waiver Requests 8

 Payer Participation 9

1.4 Evaluation Overview 9

 Research Questions..... 10

 Innovation Center’s Strategy Refresh..... 13

 Evaluation Methods 13

 Overview of This Report..... 15

Chapter 2: Experiences with the Global Budget and Reconciliation 17

2.1 Global Budget Methodology 18

2.2 Scope of Case Study 22

2.3 Findings 23

 Adjustments to Baseline Medicare FFS Global Budget (Participating PPS Hospitals) 24

Comparison of Global Budget and Medicare FFS Revenues 27

Drivers of Global Budget Adjustments and Reconciliation: Clinician Turnover 30

Drivers of Global Budget Adjustments and Reconciliation: Market Concentration/Competition 33

Descriptive Assessment of Hospital Financial Performance 35

Hospital and Payer Perceptions of the Global Budget and Reconciliation 38

2.4 Discussion 40

Chapter 3: Behavioral Health Transformation 44

3.1 Scope of Case Study 47

3.2 Findings 48

 The Model’s Role in Driving Behavioral Health Transformation 48

 Implementation of Behavioral Health Transformation Activities 51

3.3 Discussion 60

Chapter 4: Interactions/Alignment between the PARHM and Other Value-based Care Programs 62

4.1 Scope of Case Study 66

4.2 Findings 68

 Overlap between PARHM and SSP 69

 Perspectives on Concurrent Participation in VBC Programs 71

 Perspectives for Future VBC Programs 74

4.3 Discussion 75

Chapter 5: Discussion 77

References 80

List of Exhibits

Exhibit ES.1. Three case studies explore a specific set of objectives.XI

Exhibit ES.2. Concurrent participation in both PARHM and an SSP ACO can capitalize on synergies across transformation activities, but hospitals face a financial disincentive and an added administrative burden. XV

Exhibit 1.1. PARHM employs a multi-layered accountability structure.4

Exhibit 1.2. The market areas for participating hospitals are located in Western, Northern, and Northeastern Pennsylvania and also include ZIP codes in New York and New Jersey.....6

Exhibit 1.3. Market areas served by participating hospitals have seen a growing share of Medicare patients enrolled in Medicare Advantage plans. 7

Exhibit 1.4. The case studies presented in this report focus on eight evaluation research questions (RQs)..... 11

Exhibit 1.5. Each case study explores a specific set of objectives.16

Exhibit 2.1. Inpatient and outpatient hospital services are included in the global budget, while professional and clinic services are excluded.18

Exhibit 2.2. Prospective adjustments are applied to the baseline global budget to compute the prospective global budget, which is subsequently reconciled using reconciliation adjustments to determine the final global budget at the end of the year.20

Exhibit 2.3. The reconciliation process resulted in an upwards adjustment of the Medicare FFS global budget for seven PPS hospitals and a downwards adjustment for the other six PPS for PY3 (2021)..... 24

Exhibit 2.4. In 2021, UVS was a substantial driver of Medicare FFS reconciliation adjustments for most PPS hospitals, while non-hospital shifts, low-volume, and PAU adjustments were largely minimal across the 13 PPS hospitals.26

Exhibit 2.5. Medicare FFS global budget payments to PPS hospitals were consistently higher than payments they would have received under traditional FFS over the model period. Global budget payments to CAHs declined steadily over time, such that they were, on average, lower than FFS equivalents by 2022..... 29

Exhibit 2.6. On average, CAHs and PPS hospitals gained a similar proportion of new clinicians each year, but CAHs lost a greater proportion of clinicians each year compared to PPS hospitals. Thus, while the total number of unique clinicians remained stable in PPS hospitals over time, it declined substantially in CAHs. 31

Exhibit 2.7. Over the model period, the loss of APPs was a primary driver of clinician decline in CAHs. At PPS hospitals over the same time period, there was a decline in the total number of MD/DOs billing for services provided to Medicare FFS patients; however, these clinicians were largely replaced by an increase in the number of APPs. 32

Exhibit 2.8. All PARHM hospitals were in highly concentrated market areas for global budget covered services provided to Medicare FFS patients, but most PARHM hospitals held less than 50 percent of the market share. Market competition increased for most participating hospitals between 2019 (arrow origin) and 2022 (arrow point). 34

Exhibit 2.9. PPS hospitals generally had better financial performance than CAHs during baseline years (2013–2016). However, CAHs experienced a notable improvement in financial performance at the time of model onset. 35

Exhibit 2.10. Real total operating costs have risen slightly in PPS hospitals and have remained largely unchanged in CAHs during the model period. 36

Exhibit 2.11. Inpatient facility occupancy rates have fallen steadily since 2014 in both PPS hospitals and CAHs, with recovery beginning in 2020 in PPS hospitals and in 2021 in CAHs. 38

Exhibit 3.1. Geographic mental health care HPSAs overlap with the market areas served by many participating hospitals. 46

Exhibit 3.2. The prevalence of behavioral and mental health conditions has been increasing among Medicare FFS and Medicaid (FFS and managed care) patients residing in market areas served by PARHM participating hospitals over the model’s performance period. 49

Exhibit 3.3. Hospitals sought to improve behavioral health through program implementation, service development and expansion, and training/education. 50

Exhibit 3.4. Market areas for the six hospitals focused on improving care pathways for individuals with mental health diagnoses had higher follow-up rates for Medicaid patients following related ED visits compared to benchmarks. Follow-up rates after inpatient stays for mental health improved annually among Medicaid patients in market areas for these hospitals. 53

Exhibit 3.5. Participating hospitals saw elevated rates of follow-up care for Medicaid patients after SUD-related ED discharges relative to their peers and to national benchmarks. PARHM hospitals with SUD-related transformation goals saw lower rates of follow-up compared to participating hospitals overall. 56

Exhibit 3.6. Hospital 16 maintained elevated performance relative to other participating hospital markets with higher rates of adherence to pharmacotherapy for OUD for Medicaid patients..... 58

Exhibit 3.7. Participating hospitals have seen declining adherence to pharmacotherapy for OUD among Medicaid patients during the model implementation period. However, the areas by the five hospitals with MAT-related goals saw slightly higher rates in adherence in recent years compared to PARHM market areas overall..... 59

Exhibit 4.1. The Health Care Payment Learning & Action Network (HCP-LAN)’s Alternative Payment Model (APM) Framework categorizes VBC programs along a continuum..... 63

Exhibit 4.2. PARHM and SSP methodologies contain key differences regarding populations served, care delivery transformation modalities, and goals. 67

Exhibit 4.3. In 2022, nine participating PPS hospitals had market areas in which 30 percent or more of Medicare FFS patients were in SSP ACOs. 69

Exhibit 4.4. From 2019-2022, the patients in the PARHM-SSP group had higher prevalence of chronic conditions..... 70

Exhibit 4.5. From 2019-2022, the patients in the PARHM-SSP group had a higher proportion of inpatient claims resulting in discharge to home versus the PARHM-only group..... 70

Exhibit 4.6. Concurrent participation in both PARHM and an SSP ACO can capitalize on synergies across transformation activities, but hospitals face a financial disincentive and added administrative burden. 73

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Acronyms

ACO	Accountable Care Organizations
AHA	American Hospital Association
AHRQ	Agency for Healthcare Research and Quality
APP	Advanced practice providers
AWV	Annual wellness visit
CAH	Critical access hospital
CHF	Congestive heart failure
CMS	Centers for Medicare & Medicaid Services
COPD	Chronic obstructive pulmonary disease
COU	Continued opioid use
DBR	Detailed Business Requirements
DHS	Department of Human Services
DOH	Department of Health
ED	Emergency department
DRG	Diagnosis-related group
E&M	Evaluation and monitoring
EMT	Emergency medical technicians
FFS	Fee-for-service
FORHP	Federal Office of Rural Health Policy
FQHC	Federally Qualified Health Center
FY	Fiscal year
HCPCS	Healthcare Common Procedure Coding System
HEDIS	Healthcare Effectiveness Data and Information Set
HHI	Herfindahl-Hirschman Index
HPSA	Health Professional Shortage Areas
IPPE	Initial preventive physical examination
IT	Information technology
MA	Medicare Advantage
MAT	Medication-assisted treatment
MBSF	Master Beneficiary Summary Files

MCO	Managed care organization
NCQA	National Committee for Quality Assurance
NPC	Non-physician clinicians
NPR	Net patient revenue
ODU	Opioid use disorder
PARHM	Pennsylvania Rural Health Model
PAU	Potentially avoidable utilization
PCP	Primary care provider
PHE	Public health emergency
PPS	Prospective Payment System
PQI	Prevention Quality Indicators
PRAPARE	Protocol for Responding to and Assessing Patients' Assets, Risks and Experiences
RFA	Request for applications
RHRC	Rural Health Redesign Center
SBIRT	Screening, Brief Intervention, and Referral to Treatment
SDOH	Social determinants of health
SUD	Substance use disorders
TAF	T-MSIS Analytic Files
UPMC	University of Pittsburgh Medical Center
UVS	Unplanned volume shift
VBC	Value-based care

Executive Summary

This report describes experiences and outcomes of the Pennsylvania Rural Health Model through PY4 (2022), focusing on three aspects of the model: 1) the global budget and reconciliation experience, 2) behavioral health care transformation activities, and 3) concurrent participation in other value-based care (VBC) models. Insights described in this report include:

- Global budgets provided hospital participants with greater financial stability, but end-of-year reconciliation—a process that accounts for unpredicted events, shifts in care volume, and other factors—was difficult for hospitals to predict and resulted in repayments to Medicare for many hospitals in PY4 (2022).
- The model served as a catalyst for participating hospitals to address behavioral health needs in their communities in partnership with community providers to meet the model’s goals of reducing potentially avoidable utilization (PAU) and improving health outcomes.
- The shared similarities between PARHM and other VBC models created opportunities to streamline transformation efforts which may have created benefits for participants of concurrent models in care delivery and follow up; however, PARHM hospitals that also participate in other VBC models, including CMS’ Shared Savings Program, experienced some challenges due to lack of alignment across programs.

Lessons learned from this report could inform future Innovation Center models, including the importance of multi-payer engagement and alignment, considerations for additional support for financial planning, and opportunities to foster care delivery transformation in collaboration with partners.

The Center for Medicare and Medicaid Innovation (Innovation Center) within the Centers for Medicare & Medicaid Services (CMS) developed the Pennsylvania Rural Health Model (PARHM or model) in collaboration with the Commonwealth of Pennsylvania to maintain access to essential health care services in rural communities. PARHM is testing the use of hospital global budgets and care delivery transformation on access, quality, and cost of care across six performance years (2019-2024). The model aims to improve population health outcomes, increase access to high-quality care, reduce health care costs for payers, and strengthen the financial performance of acute care hospitals in rural Pennsylvania.¹

The model’s approach to global budget payments is designed to provide rural hospitals with predictable cash flow to foster investment in population health. The model includes two primary components:

- **Global budgets** are prospectively set payments for hospital services designed to stabilize hospital revenues. The prospective global budget for each participating hospital is calculated based on historical net patient revenues before the start of the calendar year, and hospitals are reimbursed during the year according to that budget, rather than for the volume of care they provide. At the conclusion of each calendar year, the budget is reconciled to account for unpredicted events, shifts in care volume, and other factors.² The first annual reconciliation for PY1 (2019) was completed for the five Cohort 1 hospitals in PY2 (2020). The second reconciliation for PY2 (2020) and PY3 (2021) was completed in PY4 (2022).^a
- **Hospital transformation plans** detail the activities that participating hospitals will implement to address the health needs of the community, attain financial sustainability for the rural hospital, achieve savings or budget neutrality for participating payers, build robust community partnerships, and fulfill existing obligations under Medicare requirements.³

The Rural Health Redesign Center (RHRC) administers the model on behalf of the Commonwealth. The RHRC provides technical assistance, applies for grants in collaboration with participating hospitals, and collects data from participating payers and hospitals.

A total of 18 hospitals participated in PY4 (2022). Six payers participate in the model—Traditional Medicare (Medicare fee-for-service [FFS]), Geisinger Health Plan, Highmark Blue Cross Blue Shield, University of Pittsburgh Medical Center (UPMC) Health Plan, Aetna, and Highmark Wholecare (formerly Gateway). Participating commercial payers can choose which of their private (i.e., individual and employer/group products) and/or public insurance products (i.e., Medicare Advantage, Medicaid managed care plans) to include in the model. PARHM allows participating rural hospitals to participate in other Medicare programs, models, or demonstrations.

The Innovation Center contracted with NORC and our partners, Penn State University's Center for Health Care and Policy Research and IBM Watson Health, to conduct an independent evaluation of the model. We use a mixed-methods approach involving both primary and secondary data sources to assess if— and how— the model's approach to global budgets and care delivery transformation achieves the intended goals of the Innovation Center, the Commonwealth, and participating hospitals and payers. Our evaluation captures implementation context, experience, factors that influence achievement of model goals, and how the model has intersected with changes in care delivery and outcomes.^b This report covers Performance Year 4 (PY4), which began in January 2022. Previous evaluation reports covered Performance Years 1 (PY1), 2 (PY2), and 3 (PY3).^c

^a The Innovation Center approved the RHRC's request in response to the COVID-19 pandemic to complete the PY2 (2020) and PY3 (2021) together in PY 4 (2022).

^b Due to the limited hospital participation, this report does not include impact analyses for this evaluation. Based on finding from a previous power analysis, the number of participating hospitals and the resulting study populations size are not sufficient to detect impacts on outcomes at 5% significance.

^c Data for the Medicaid Statistical Information System (T-MSIS) Analytic Files, Medicare cost reports, and global budgets payments spreadsheets included in this report are through calendar year 2021.

The three case studies covered in this report explore in-depth themes identified through prior data collection and document review (**Exhibit ES.1**). For each case study, we use a mixed-methods approach to analyze and triangulate data from model documents, interviews with model participants and partners, and when feasible, quantitative sources. Each case study aligns with one or more of the Innovation Center’s strategic objectives from the [Strategy Refresh](#).⁴ The strategy refresh builds on the lessons learned from the Innovation Center’s first decade and outlines objectives to achieve its vision of “a health system that achieves equitable outcomes through high-quality, affordable, person-centered care.”⁴

Exhibit ES.1. Three case studies explore a specific set of objectives.

Case Study	Case Study Objectives
Experiences with the Global Budget and Reconciliation	Explore hospital experiences with global budget adjustments and reconciliation settlements Examine hospital revenues under the global budget and drivers of reconciliation
Behavioral Health Transformation	Explore participating hospitals’ experiences implementing behavioral health-focused transformation goals, including contextual factors, barriers, and facilitators
Interactions/Alignment between the Model and Other Value-based Care (VBC) Programs	Describe how PARHM interacts with existing VBC programs and identify the degree of overlap between Shared Savings Program ACO and PARHM fee-for-service (FFS) patients living in the market areas of participating PPS hospitals

Experiences with the Global Budget and Reconciliation

In this case study, we examined the extent to which PARHM global budgets succeeded in increasing financial stability for participating hospitals. To do this, we explored the following: hospital revenues and financial health under the global budget, drivers of global budget adjustments and reconciliation, and hospital experiences with the global budget and reconciliation methodology.

Background on the Global Budget Methodology. The baseline for the global budget for the first year in the model is based on historical net patient revenues; the baseline global budget for subsequent years is set to the final global budget from the prior year. Several adjustments are applied to the baseline global budget to determine the prospective global budget that hospitals receive in the upcoming year. After each year concludes, a reconciliation process corrects for unpredicted events, such as a large swing in the payer mix, that occurred after the prospective budget was set. For example, CMMI and the Commonwealth included unplanned volume shift (UVS) adjustments to account for unanticipated market share growth or decline. Differences between the prospective and final global budgets (settlements) are folded into the subsequent year’s global budgets for Medicare FFS. Global budgets for care provided to Medicare FFS patients at CAHs are reconciled to cost-based reimbursement, as before the model.

Adjustments to Baseline Medicare FFS Global Budget (Participating PPS Hospitals). The reconciliation process resulted in an upwards adjustment of the Medicare FFS global budget for seven PPS hospitals (1.6 to 8.7 percent of the baseline global budget) and a downwards adjustment for the other six PPS hospitals (-0.2 to -13.8 percent of the baseline global budget) in PY3 (2021). Unplanned volume shift (UVS) adjustments were a substantial component of Medicare FFS reconciliation payments for most hospitals.

Comparison of Global Budget and Medicare FFS Revenues. For PPS hospitals, biweekly global budget payments were consistently higher than payments they would have received under FFS for the same services; as such, PPS hospitals had higher revenue under the global budget than they would have for the same care provided with traditional reimbursement. Conversely, global budget payments to CAHs declined steadily over time, averaging less than the equivalent FFS value by 2022. Overall, Medicare global budget payments were adjusted upwards for PPS hospitals and downwards for CAHs in the second year of participation. CAHs were reconciled to cost-based reimbursement; those with declining Medicare FFS volume had repayments to Medicare, which were incorporated into the subsequent year's global budgets—resulting in lower biweekly payments.

Clinician Turnover. Participating hospital leaders discussed how the loss of clinicians led to UVS adjustments during the reconciliation process. UVS adjustments are intended to account for market share growth or decline. Hospital leaders described clinician turnover and recruitment challenges that resulted in long periods between the departure of one clinician and the arrival of a new clinician. The global budgets for participating hospitals experiencing clinician losses during the model period included negative UVS adjustments.

Market Concentration/Competition. Over half of participating hospitals held less than 50 percent of the market share for global budget-covered services in their respective market areas over the model period. Hospital leaders noted challenges managing unplanned volume shifts as patients can choose to access hospital services that are most convenient for them.

Financial Performance and Operating Costs. Participating hospitals described efforts to reduce costs and increase operational efficiency. However, after adjusting for inflation, total operating costs increased slightly from PY1 (2019) to PY3 (2021) in PPS hospitals and remained largely unchanged in CAHs. Participating hospital leaders cited rising costs of staffing, drugs and other supplies, and workforce health insurance as challenges to containing costs.

Hospital and Payer Perceptions of Reconciliation and the Global Budget. Participating hospitals appreciated the stable cash flow provided through the Medicare fixed biweekly payments. However, participating hospitals and payers reported that because global budgets are reconciled, financial unpredictability remains. They also reported limited understanding of how reconciliation adjustments are calculated. Participating hospitals and payers continued to express concerns that the global budget does not provide sufficient incentive to invest in transformation, in part due to uncertainty around reconciliation.

Behavioral Health Transformation

Twelve participating hospitals chose to focus transformation efforts on improving behavioral health^d care in their communities by: 1) implementing a behavioral health outreach program, 2) developing a behavioral health telemedicine service line, 3) expanding medication-assisted treatment (MAT) and other substance use disorder (SUD) services, and/or 4) improving SUD management, training, and education.^e For this case study, we explored participating hospitals' experiences when implementing behavioral health-focused transformation goals. This included an investigation of the context in which participating hospitals are working toward behavioral health transformation and how access to and quality of care has evolved over time.

The Model's Role in Driving Behavioral Health Transformation. Consistent with national trends, market areas served by participating hospitals saw an increase in the prevalence of anxiety disorders, depressive disorders, and substance use disorder (SUD) in recent years.^{5,6} Hospital respondents identified the model as helping them focus on specific transformation goals addressing behavioral health needs in their communities. Further, the development of specific, actionable goals served as a catalyst for participating hospitals to make progress toward addressing current and anticipated behavioral health needs at both the patient and community levels. To support hospitals in advancing behavioral health transformation goals, the RHRC pursued grant opportunities in partnership with participating hospitals.

Implementation of Mental Health Transformation Goals. Six hospitals focused their transformation efforts on improving care pathways for individuals who present to the emergency department (ED) with mental health-related concerns. Market areas served by PARHM hospitals showed improvement in 7-day and 30-day follow-up after inpatient stays for mental health diagnoses among Medicaid patients, but a decline in both 7-day and 30-day follow-up rates after ED discharges for mental health diagnoses. Market areas for the six hospitals with mental health transformation goals outperformed market areas for PARHM hospitals overall. One of the contributing factors to higher follow-up rates among these hospitals may have been partnerships with local primary care providers, counseling services, and social service organizations. For example, three participating hospitals partner with local organizations to provide on-site case management and recovery support services. Hospital respondents reported various workforce recruitment and retention obstacles, including provider shortages, policy challenges, and the inability to match salaries offered in urban areas. Lack of transportation results in prolonged ED stays before transfer for inpatient mental health services, imposing a considerable financial burden on participating hospitals. Multiple hospitals reported limited availability of mental health treatment facilities and programs.

^d We use "behavioral health" to refer to substance use disorder and mental health diagnoses, collectively.

^e Many of these goals were chosen in alignment with the model's population health, access to care, and quality of care goals include the following three goals for residents of rural counties: 1) increase access to primary and specialty services; 2) reduce deaths related to substance use disorder (SUD) and improve access to treatment for opioid use disorder (OUD); and 3) reduce rural health disparities through improved chronic disease management and preventive screenings.

Implementation of Substance Use Disorder (SUD) Transformation Goals. Eight hospitals focused their transformation efforts on expanding access to care for patients with SUD. Despite these transformation goals, adherence to pharmacotherapy among Medicaid patients remains low and even decreased in areas served by PARHM hospitals. Despite the presence of behavioral health care providers in participating hospital market areas, access to care remains a challenge due to issues ranging from social stigma to the availability of behavioral health care providers (for example, hours or caseload). For most participating hospitals' market areas, residents do not live more than a 35-mile drive from the nearest provider listed in SAMHSA's Buprenorphine Practitioner Locator. However, proximity to care is not the same as access to care.

Consideration for Future Models. Overall, the model provided the impetus for hospitals to begin addressing many of the challenges their rural communities experience related to behavioral health care delivery through explicit quality goals. Participating hospitals benefited from formally tracking progress toward specific and measurable goals. As such, transformation planning with formalized mechanisms to track completion would likely increase the probability of success of future models. Community partnerships were instrumental to success and should be formally integrated in future models with financial support where appropriate. Lastly, future models should consider integrating other funding sources besides service payments that complement model goals to support rural hospital transformations.

Interactions/Alignment between the PARHM and Other Value-based Care Programs

PARHM allows for participation in other value-based care (VBC) programs.^f VBC programs operating in Pennsylvania concurrently with the PARHM include those serving Medicare FFS, Medicaid, commercially insured, and Medicare Advantage populations. The predominant VBC program serving Medicare FFS patients in Pennsylvania is the Medicare Shared Savings Program (SSP). In this case study, we explored how PARHM interacts with existing VBC programs and examined the number and characteristics of Medicare FFS patients who live in the market areas of participating PPS hospitals and are concurrently assigned to an SSP accountable care organization (ACO).

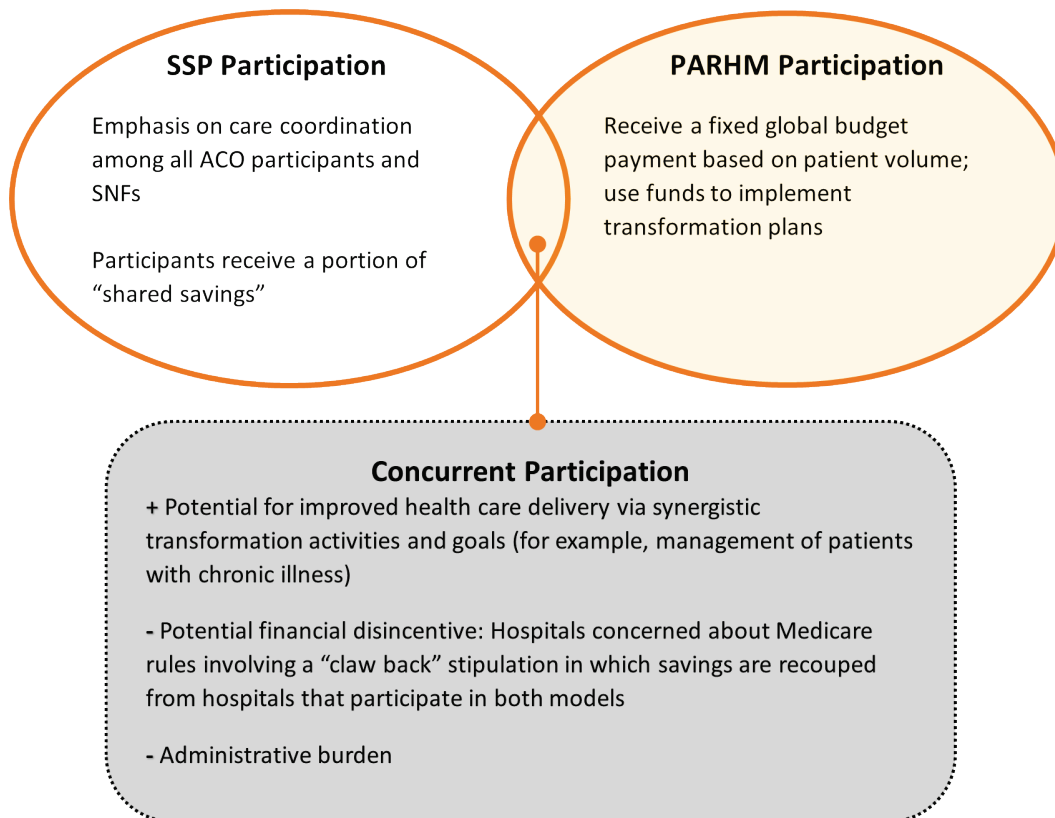
PARHM and SPP Overlap. PARHM and SSP share some overarching objectives but employ different methodologies and have slightly different goals. Overlap exists between patients in the market areas of PARHM hospital participants and patients assigned to SSP ACOs. In 2022, nine participating PPS hospitals had market areas where 30 percent or more of the FFS Medicare patients were assigned to an SSP ACO. When examined in aggregate over time, from 2019-2022, 40–45 percent of Medicare FFS patients in these market areas are assigned to an SSP ACO. There were no notable differences in the demographic characteristics between the

^f CMS prevents ACOs from participating in the Medicare Shared Savings Program if that ACO participates in another Medicare initiative that involves shared savings payments under 42 CFR 425.114.

PARHM-SSP group and the PARHM-only group in terms of age, race, or gender. Though the PARHM-SSP group shows higher rates of chronic conditions, it also shows a higher proportion of patients discharged to home versus post-acute care (such as a skilled nursing facility, long-term care hospital, inpatient rehab facility, hospice) - and short-term acute care (another short-term general hospital or CAH) compared to the PARHM-only group.

Perspectives on Concurrent VBC Programs. PARHM and concurrent VBC programs share similarities in some areas (e.g., reducing potentially avoidable utilization); however, hospitals noted challenges when participating in multiple models with different patient populations, quality metrics, and payment mechanisms (**Exhibit ES.2**). Some hospitals were able to leverage their experience in concurrent VBC programs to support their participation in PARHM. When concurrent VBC programs have complementing approaches to care delivery transformation, it may create efficiencies and increase value in participation. Hospitals noted challenges with different measurement mechanisms and reporting requirements and struggled to understand the financial implications of participating in PARHM and SSP, given the differences in patient populations and objectives. It should be noted that due to the complexity of identifying duplicative payments from the two models, CMS has not to date determined whether funds need to be recouped from PARHM hospitals participating in ACOs that achieved shared savings because of SSP participation.

Exhibit ES.2. Concurrent participation in both PARHM and an SSP ACO can capitalize on synergies across transformation activities, but hospitals face a financial disincentive and an added administrative burden.



Perspectives for Future VBC programs. To support rural hospitals' participation in VBC programs and achieve the goal of all Traditional Medicare beneficiaries under VBC arrangements, efforts across VBC programs should be made to reduce administrative burden and ensure that financial incentives do not conflict. Some payers and participating hospitals did not recognize PARHM's global budget as a VBC program because it did not include a payment tied to quality. Concurrent VBC programs with similar goals could further align quality measures to reduce administrative burdens on participants. Future models for rural hospitals should continue promoting multi-payer alignment and work synergistically with other VBC programs to align care efforts for patients.

Discussion

PARHM created an opportunity for rural hospitals to drive accountable care, strengthen innovation and system transformation, and advance health equity in rural Pennsylvania. Global budgets provided greater financial stability for PPS hospitals, than for CAHs. However, the model did not eliminate financial unpredictability for either PPS hospitals or CAHs due to the reconciliation process. The model hospital transformation planning process allowed hospitals to develop a roadmap of their approach to transform care delivery and established a mechanism to reinforce progress toward those goals. Overall, the model provided impetus for participating hospitals and payers, implementation and community partners, and other state entities to convene and innovate.

Key lessons learned from PARHM that may inform future Innovation Center models include:

- Alignment with existing Medicare, Medicaid, and commercial VBC models will be an important consideration for other state-based models as participation across payers will be necessary to increase model scale, consistent with the Innovation Center's Strategic Objective 5 (Partner to Achieve System Transformation).
- Hospitals may be more likely to join models when they align with other CMS or commercial VBC initiatives. Program alignment could increase the value of participation as our findings revealed there may be some benefits for participants of concurrent models in care delivery and follow up. This alignment will become increasingly important to meet the Innovation Center's Strategic Objective 1 (Drive Accountable Care).
- Both payers and providers value consistency and transparency prior to and during participation. A consistent methodological approach helps both payer and provider participants make realistic financial plans and monitor progress. New models should ensure buy-in from implementation partners and model participants on the design, methodology for reconciliation, and any associated changes to model components over time.
- One of the challenges for participating hospitals and payers was that unplanned and unpredictable changes in contextual factors, such as market competition and clinician turnover, resulted in large settlements and changes in the global budget via the reconciliation process. The complexity of the reconciliation methodology also contributed to challenges in forecasting adjustments for hospital and commercial payers. Annual reconciliations at the end of each performance year can result in changes in payments that hospitals found

difficult to anticipate. Participants would benefit from ongoing information to facilitate financial planning regularly throughout the performance year.

- Reducing potentially avoidable utilization (PAU) of inpatient services relies on access to a continuum of outpatient and community services, such as primary care, behavioral health outpatient and residential services, post-acute care services, and emergency medical services. Global budgets that include professional services for global budget-covered services and for other health care services (e.g., primary care, behavioral health) would align incentives and goals with the Innovation Center’s accountable care and health equity strategic objectives.
- Engagement and upfront investment from other federal entities (e.g., Health Resources and Services Administration and United States Department of Agriculture), health plans, private sector, state and local entities, and philanthropic organizations can enhance transformation sustainability while allowing CMS Innovation Center investments to be budget neutral in the long term.⁷

Chapter 1: Introduction to the PARHM and Evaluation

1.1 Overview of the Pennsylvania Rural Health Model

The Pennsylvania Rural Health Model (PARHM or model) aims to improve population health outcomes, increase access to high-quality care, reduce health care costs for payers, and strengthen the financial performance of acute care hospitals in rural Pennsylvania.¹ Designed to maintain access to essential health care services in rural communities, PARHM is testing the impact of hospital global budgets and care delivery transformation on access, quality, and cost of care. The model's approach to global budget payments is designed to provide rural hospitals with predictable cash flow to foster investment in population health.

Model Design and Components

PARHM includes financial and delivery system transformation components aligned across payers to achieve the model aims. **Global budgets** are designed to stabilize hospital revenues and enable investments in population health and prevention activities beyond the acute care setting.⁸ **Hospital transformation plans** facilitate delivery system transformation to address community health needs, attain financial sustainability for the rural hospital, achieve savings or budget neutrality for participating payers, build robust community partnerships, and monitor participant obligations.³

Hospital Global Budget

The Commonwealth of Pennsylvania (Commonwealth) and the Center for Medicare and Medicaid Innovation (Innovation Center) developed a methodology for calculating a prospective global budget for each participating hospital's performance year. The prospective global budget amount is based on each payer's historical net patient revenue for inpatient and outpatient hospital services. For commercial payers and Medicare FFS, net patient revenue comprises the coverage amount paid for hospital services provided. Each hospital's global budget is the sum of global budget amounts from each participating payer.

Global budgets are reconciled at the end of each calendar year based on inflation, demographic shifts, quality program performance, shared savings adjustments for potentially avoidable utilization, planned service line changes, and market shifts (that is, service line changes, unplanned shifts in patient volume). For CAHs, the proposed Medicare FFS portion of the global budget is reconciled based on the previous year's cost report.² The hospital global budget methodology is described in greater detail in [Chapter 2](#).

PARHM allows participating rural hospitals to participate in other Medicare programs, models, or demonstrations in existence on the effective date. In such instances where a participating hospital is also participating in another alternative payment model, global budgets may be adjusted to avoid duplicative payments or penalties. Additional information about participating hospital participation in other value-based care programs is described in [Chapter 4](#).

Hospital Transformation Plan

PARHM requires that hospitals develop and receive approval for a plan specifying how the hospital will redesign care delivery to be eligible for model participation. Hospital transformation plans emphasize preventive care and services tailored to the needs of the local population, with a focus on investing in population health management and prevention, reducing potentially avoidable emergency department (ED) visits and acute hospitalizations, and improving population health. Participating rural hospitals must submit annual transformation plan updates describing activities completed and changes made during the performance year. Based on such updates, the Commonwealth assesses each participating hospital's progress against transformation plan objectives and provides an annual report to each participating hospital. The annual report summarizes the assessment findings and identifies best practices, opportunities for improvement, and any resources available to help participating hospitals adopt best practices (for example, tools, publications, webinars, or events).

Model Targets

The Center for Medicare and Medicaid Innovation (Innovation Center) and the Commonwealth agreed to participation, financial and quality/population health targets designed to scale the model, achieve cost savings, and improve health care delivery. For additional information on model targets, please reference the [second evaluation report](#).

Rural Hospital Participation. As part of an agreement amended in 2020, the Innovation Center and the Commonwealth agreed to rural hospital participation scale targets for each performance year. For PY3-6 (2021–2024), the hospital participation goal was a minimum of 18 rural hospitals for each full year, a change from the 30 rural hospitals previously required.⁸

Payer Participation Goals. The Innovation Center and the Commonwealth agreed to payer participation scale targets to ensure that a sufficient portion of participating hospitals' net patient revenues were included in the global budget. For PY2-6 (2020-2024), the Commonwealth will ensure that the global budget accounts for at least 90 percent of each participating hospital's eligible net patient revenue.

⁸ The initial agreement with CMS required the Commonwealth to recruit 30 rural hospitals to participate by the third performance year of the model. In response to COVID-19 disruptions, CMMI provided the Commonwealth with one additional year to recruit rural hospitals.

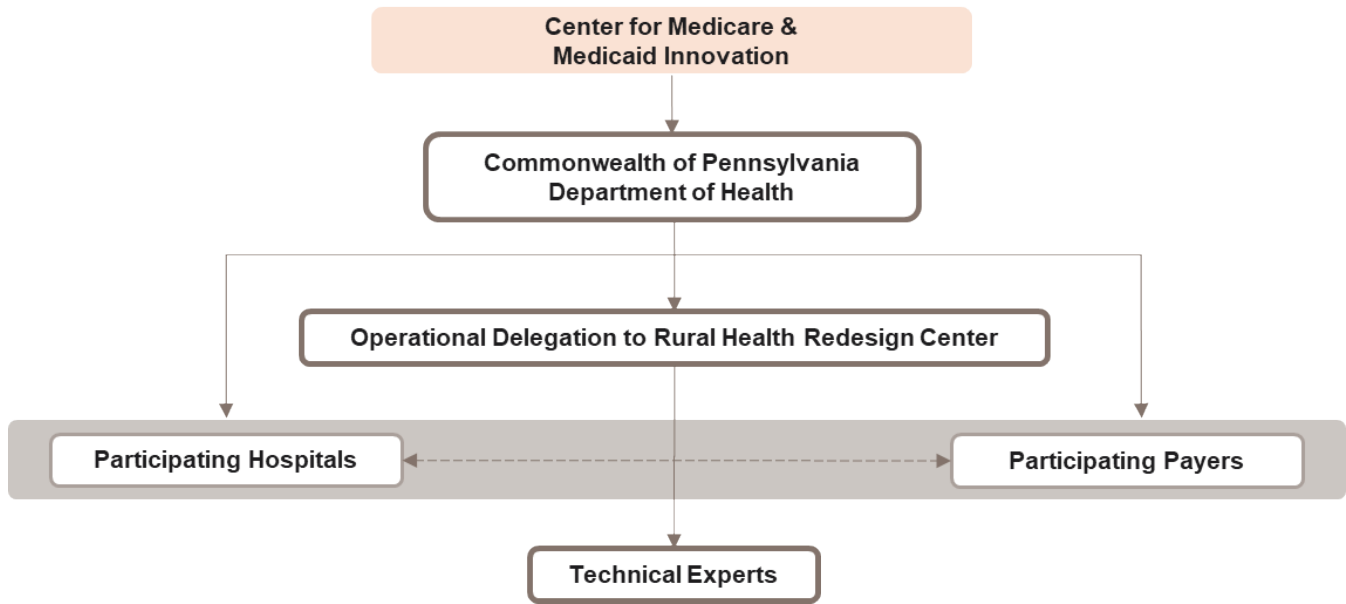
Model Financial Targets. Over the performance years of the model (2019–2024), the Commonwealth is expected to produce \$35 million in cumulative savings. The Commonwealth may request that financial targets be adjusted for exogenous factors (for example, pandemics or epidemics).

Quality Measurement and Population Health. PARHM’s population health, access to care, and quality of care goals advance health equity through the following three goals for residents of rural counties: 1) increase access to primary and specialty services; 2) reduce deaths related to substance use disorder (SUD) and improve access to treatment for opioid use disorder (OUD); and 3) reduce rural health disparities through improved chronic disease management and preventive screenings. On November 30, 2020, the Commonwealth finalized a set of eight quality measures for data collection.⁹ As part of a formal monitoring program, the Commonwealth also tracks quality using existing measures and data sources (for example, Healthcare Effectiveness Data and Information Set [HEDIS] measures) and payer quality data to minimize the administrative burden for payers and hospitals. Medicare global budgets continue to be adjusted based on each hospital’s performance under applicable Medicare quality programs (that is, Hospital Value-Based Purchasing Program, Hospital Readmission Reduction Program, Hospital-Acquired Condition Reduction Program, Hospital Inpatient Quality Reporting Program and Hospital Outpatient Quality Reporting Program).

1.2 Model Participants and Partners

Exhibit 1.1 illustrates the accountability and oversight structure for PARHM, including the Innovation Center, state agencies, implementation partners, technical experts, payers, and the health care delivery system in Pennsylvania. The Innovation Center provided the Commonwealth with start-up funding and the flexibility to modify Medicare payment mechanisms to launch and accommodate the model. The Commonwealth is accountable for meeting Innovation Center goals, notably cost savings.³ The Commonwealth, in collaboration with the independent Pennsylvania Rural Health Redesign Center (RHRC), is responsible for model testing and monitoring, quality assurance, and technical assistance to participating rural hospitals.³ Participating hospitals sign agreements with the Innovation Center, the Commonwealth, and participating payers. Payers also sign agreements with the Commonwealth.

Exhibit 1.1. PARHM employs a multi-layered accountability structure.



Center for Medicare and Medicaid Innovation (Innovation Center)

The Innovation Center provides oversight for PARHM and monitors testing of the model. The Innovation Center also provided funding for the Commonwealth to test the model through October 2022.

The Innovation Center’s Implementation Contractor: Lewin Group. The Lewin Group provides operational and programmatic support for the Innovation Center’s State Innovations Group Multi-Payer Operations. As part of this work, Lewin provides the Innovation Center with analytic support, such as developing hospital-specific dashboards on utilization, quality, and cost.¹⁰

Pennsylvania Department of Health (DOH)

As the signatory on the agreement with the Innovation Center, the DOH is the Commonwealth agency responsible for model oversight. The DOH operated the model during the pre-implementation period until the establishment of the RHRC in PY2 (2020).

Rural Health Redesign Center

The Pennsylvania General Assembly established the Rural Health Redesign Center Authority (Authority) to operate the model and carry out other efforts to sustain Pennsylvania’s rural providers. For additional information on the Authority and the composition of its board, please see the [second evaluation report](#).

In 2020, the Rural Health Redesign Center Organization, a nonprofit 501(c)3 corporation, was structured to support the Authority and the model. In addition to supporting PARHM, the Rural Health Redesign Center Organization seeks to build on the lessons learned from the model to identify scalable solutions for rural communities nationwide.¹¹

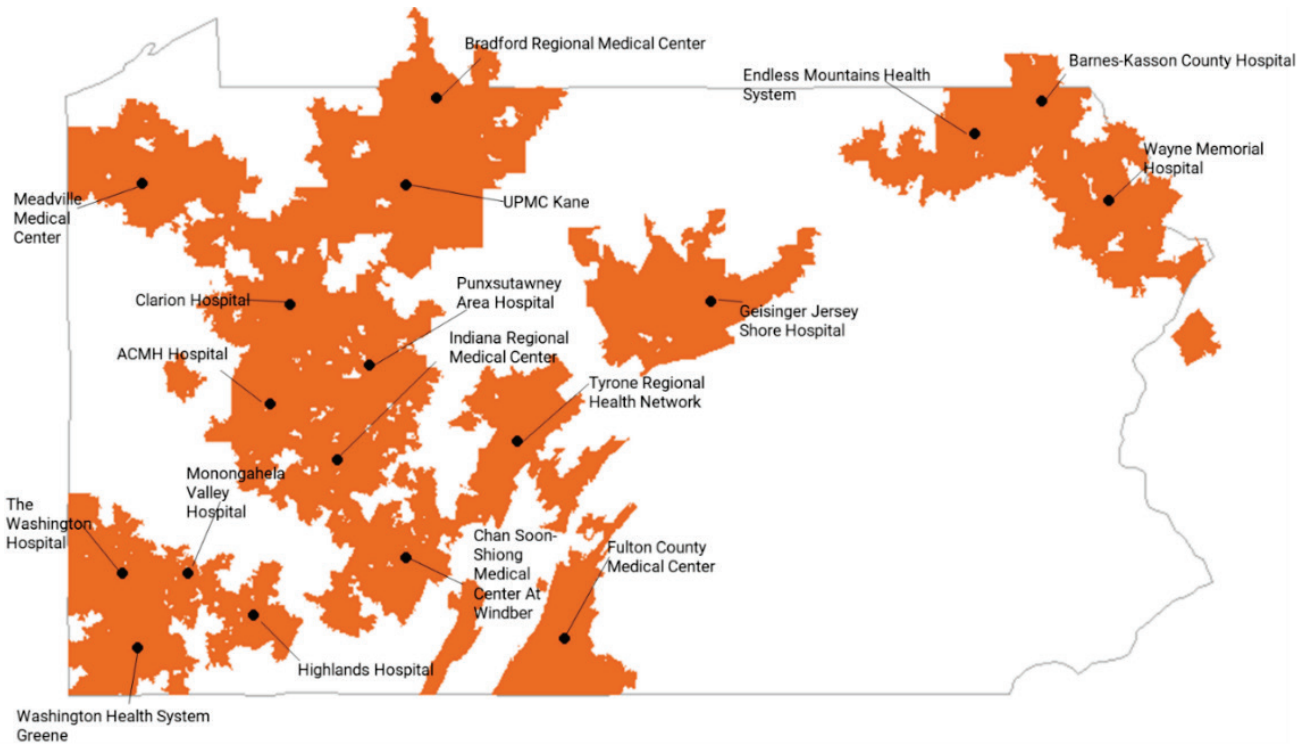
The Authority and Rural Health Redesign Center Organization, known collectively as the RHRC, administers the model on behalf of the DOH. The RHRC monitors the implementation and methodologies of global budgets, approves the hospital transformation plans, and provides regulatory oversight to track progress. The RHRC also provides technical assistance to participating hospitals and payers, applies for grants in collaboration with participating hospitals, collects and maintains data from participating payers and hospitals, monitors transformation plan implementation efforts quarterly, and provides an annual assessment of each participating hospital's compliance with the hospital transformation plan and global budget targets.

The RHRC's Technical Expert: Mathematica. Mathematica supports Medicare and commercial payers with hospital global budget preparation. Mathematica prepares Medicare global budgets for Innovation Center review. They also work with commercial payers to determine data submission guidelines, process data, and send the results back to commercial payers and hospitals. Mathematica prepares annual adjustments and reconciliation for the global budgets.

Participating Hospitals

Hospitals eligible to participate in PARHM included all CAHs and acute care Prospective Payment System (PPS) hospitals located in a rural county, as defined by the Center for Rural Pennsylvania. At the time of the model announcement (2017), 67 rural hospitals, including Pennsylvania's 15 CAHs, were eligible to participate in the model.³ Five hospitals joined the model for PY1 (2019) and comprised Cohort 1. Eight more hospitals joined for PY2 (2020), forming Cohort 2. An additional five hospitals joined the model as Cohort 3 for PY3 (2021). No additional hospitals joined the model beyond Cohort 3. All 18 hospitals participated in PY4 (2022), as shown in **Appendix Exhibit A.1. Exhibit 1.2** depicts the market areas of the 18 hospitals participating in the model. The market areas for some of the hospitals located in Northern and Northeastern Pennsylvania also include ZIP codes in New York and New Jersey.

Exhibit 1.2. The market areas for participating hospitals are located in Western, Northern, and Northeastern Pennsylvania and also include ZIP codes in New York and New Jersey.



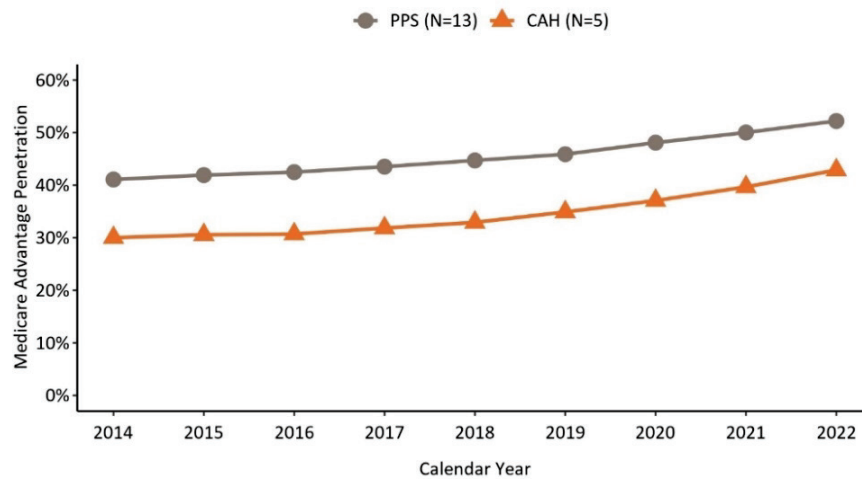
SOURCE: Medicare FFS Claims (CY 2013-CY 2017)

Participating Payers

The Commonwealth engaged Medicare, Medicaid, and commercial payers to participate in the model. For additional information on payer participation, please reference the [second evaluation report](#).

Medicare. Medicare has been a participating payer since the model’s inception. CMS encourages but does not require participation from commercial payers administering Medicare Advantage plans. Medicare Advantage patients are included in the model if participating commercial payers include their Medicare Advantage products. Medicare Advantage has become a growing part of the payer mix within the markets served by participating hospitals (**Exhibit 1.3**).

Exhibit 1.3. Market areas served by participating hospitals have seen a growing share of Medicare patients enrolled in Medicare Advantage plans.



SOURCE: Medicare FFS Claims (CY 2014-CY 2022)

Notes: Participation in Medicare Advantage is defined as being enrolled in a Medicare Advantage plan for at least one month in the calendar year.

Pennsylvania Medical Assistance (Medicaid). The Pennsylvania Department of Human Services (DHS) administers Medicaid, known as Medical Assistance in the Commonwealth, and the separate Children’s Health Insurance Program. Important implementation partners within DHS include both the Office of Medical Assistance Programs, which monitors Medicaid managed care plans, and the Office of Mental Health and Substance Abuse Services, which monitors Medicaid behavioral health managed care plans. Most Medicaid participation in the model is through commercial payers, as nearly all the Commonwealth’s Medicaid patients are enrolled in HealthChoices or Community HealthChoices Program managed care plans for physical and behavioral health services.^h Some participating commercial payers have included Medicaid managed care products in the model.

Commercial Payers. The Commonwealth recruited commercial payers to participate in the model (**Appendix Exhibit A.2**) based on market share in areas where participating hospitals operate. Payers included Geisinger Health Plan, Highmark Blue Cross Blue Shield, University of Pittsburgh Medical Center (UPMC) Health Plan, Aetna, and Highmark Wholecare (formerly Gateway). Participating commercial payers can choose which of their private and/or public insurance products to include in the model. Examples of choices include individual and employer/group products (including self-insured products such as Administrative Service Organizations) for the privately insured and Medicaid managed care plans and/or Medicare Advantage plans for the publicly insured. Participating commercial payers calculate hospital global budgets, provide data for payment and reconciliation, and share performance on statewide quality measures with the Commonwealth.

^h Behavioral health services are provided through Behavioral HealthChoices managed care plans.

1.3 Additional Model Considerations

Over the course of the model, adaptations were made to address challenges that emerged because of the COVID-19 public health emergency, as well as to capitalize on opportunities to transform care delivery through waiver requests and increase Medicaid managed care payer participation.

COVID-19 Exogenous Factor Request

When the COVID-19 pandemic began during PY2 (2020), the Innovation Center granted flexibility in the model in response to the pandemic's impact on health care providers. For example, adjustments were made to quality measurement requirements, hospital participation scale targets, transformation plan deadlines, reporting, and suspension of sequestration. For additional information on COVID flexibilities in PY2 (2020), please reference the [second evaluation report](#).

In August 2021, the Commonwealth submitted a formal written request to the Innovation Center asking for specific considerations regarding the COVID-19 pandemic's impact on model implementation. This request included flexibility to assess the pandemic's impact on global budgets as part of the 2020 and 2021 reconciliations and to ensure global budgets address increased costs associated with the pandemic period. The Innovation Center approved the request to reconcile both PY2 (2020) and PY3 (2021) global budgets together following the completion of PY3 (2021). The Innovation Center also approved requests related to COVID-19 testing and treatment: 1) reimbursement for COVID-19 over-the-counter tests per the CMS Test Demonstration and 2) adjustment for New-COVID Treatment Add-On Payment (NCTAP) and 20 percent diagnostic-related group (DRG) add-on payments to COVID-19 inpatient admissions in accordance with CMS policy.

Waiver Requests

The RHRC identified opportunities to support model goals by waiving certain requirements or prerequisites. In 2022, the Innovation Center denied a waiver request from one CAH to allow for cost-based reimbursement for a provider-based rural health clinic (RHC) rather than the current legislated fee cap, in part due to the limited time remaining in the model to allow for implementation and sufficient testing.¹² The Innovation Center approved a waiver request to continue the COVID-19 Public Health Emergency (PHE) flexibility of sharing staff and space for Inpatient Rehab Facility and swing bed patients under the Medicare program.¹³

In 2023, the Innovation Center approved a waiver request from one hospital to waive the physician certification requirement for the Critical Access Hospital 96-hour rule in 42 C.F.R. §424.15(a). The Innovation Center denied two other waiver requests as adoption would require payment system change requests requiring a minimum of one year to implement.¹⁴

Payer Participation

In October 2019, DHS issued a request for applications (RFA) from managed care plans to provide physical health program services to Medicaid patients (HealthChoices). The RFA required Medicaid managed care plans to participate in the model. Selected applicants were announced in July 2020. However, managed care plans that lost bids to manage Medicaid benefits filed protests, delaying implementation.¹⁵ DHS planned to move forward with the selected applicants in September 2022. Two payers participating in the model lost at least one region, affecting the model's ability to achieve payer scale targets and the ability of the model to impact hospital financial stability. The RHRC decided not to onboard two new payers who won contracts in regions with participating hospitals for PY 5 (2023) due to the administrative burden of onboarding new payers and the limited time remaining in the program.^{16,i} Additionally, in 2021, one payer decided to exclude its tiered networks from the global budget for Cohort 3 hospitals and its Administrative Services Only (ASO) plans for all participating hospitals.¹⁶

1.4 Evaluation Overview

The Innovation Center within CMS contracted with NORC and our partners, Penn State University's Center for Health Care and Policy Research and IBM Watson Health, to conduct an independent evaluation of the model. The model is designed to improve value-based payment reform and delivery system transformation in rural communities. We use a mixed-methods approach involving both primary and secondary data sources to assess whether and how the model's approach to global budgets and care delivery transformation achieves the intended goals of the Innovation Center, the Commonwealth, and participating hospitals and payers. Our evaluation captures implementation context, experience, and facilitators, as well as the model's potential impact on care delivery and outcomes. A key limitation of the analysis is the small number of participants (18 participating hospitals in PY3 [2021]), which makes most comparisons to eligible non-participating hospitals or national or statewide benchmarks infeasible.

As part of the evaluation process, we assessed participant and implementation partner perspectives on the design, implementation, and sustainability of the model to improve the health of rural Pennsylvania residents. In our analysis, we included data from implementation partners and technical experts involved with the model. We also interviewed a sample of participating hospital staff, participating payers, community partners, and Medicare patients. In addition, we interviewed leadership from a sample of non-participating hospital systems to understand their decision not to participate.

ⁱ In the first quarter of 2022, two participating payers—Aetna Better Health (ABH) and Highmark Wholecare (formerly Gateway)—stopped paying some or all hospital global budgets due to the Medicaid re-bid process. ABH will no longer be the Medicaid managed care organization for the northeast region. Highmark Wholecare stopped paying global budgets for two hospitals due to the contract loss in the region.

Research Questions

The Innovation Center developed the initial research questions (**Appendix Exhibit B.1**) and refined them in collaboration with the evaluation team for this report (**Exhibit 1.4**). Note that the time horizon for answering these research questions varies. Questions exploring aspects of implementation can be answered more immediately than those evaluating longer-term outcomes, such as improved population health and financial savings outcomes.

Exhibit 1.4. The case studies presented in this report focus on eight evaluation research questions (RQs).

Research Questions	Experiences with the Global Budget and Reconciliation	Behavioral Health ^j Transformation	Interactions/Alignment between the Model and Other Value-based Care (VBC) Programs
RQ1: What are participating hospitals’ experiences implementing their Hospital Transformation Plans? What factors do participant hospitals cite as barriers or facilitators to operating under the Model?	X	X	
RQ3: How has Medicare spending and service line utilization changed for participating hospitals? Have the changes to participating hospitals’ infrastructure stabilized or improved their financial status and, if so, how?	X		
RQ4: How has the quality of care received by Medicare beneficiaries at participating hospitals changed?		X	
RQ5: What are the reasons that some rural hospitals choose not to participate or defer participation until later performance years?			X
RQ6: How do the characteristics of participating hospitals compare to non-participating rural hospitals in PA and other rural hospitals from across the country?		X	
RQ9: What, if any, evidence is there of changes in quality of care provided to Medicare beneficiaries in the rural areas surrounding the participating hospitals?		X	

^j We use “behavioral health” to refer to substance use disorder and mental health diagnoses, collectively.

Research Questions	Experiences with the Global Budget and Reconciliation	Behavioral Health ¹ Transformation	Interactions/Alignment between the Model and Other Value-based Care (VBC) Programs
RQ10: What are the implications of the Model results for other potential rural-area based models?	X		X
RQ12: What changes have occurred in hospital spending, total cost of care, and health care utilization for Medicaid beneficiaries over the course of the model?	X		

Innovation Center’s Strategy Refresh

In 2021, the Innovation Center released its [Strategy Refresh](#).⁴ The strategy refresh builds on the lessons learned from the Innovation Center’s first decade and outlines objectives to achieve its vision of “a health system that achieves equitable outcomes through high quality, affordable, person-centered care.”⁴ The Strategy Refresh includes five strategic objectives:

1. Drive accountable care
2. Advance health equity
3. Support innovation
4. Address affordability
5. Partner to achieve system transformation⁴

PARHM has informed the Innovation Center’s Strategy Refresh and aligns with multiple objectives. Further, the objectives informed the evaluation aims presented in this report.

Evaluation Methods

We use a convergent mixed-methods design, using both quantitative and qualitative data to analyze activities, outcomes, and relationships.¹⁷ The evaluation combines qualitative and quantitative analyses, conducted in parallel, that consider participating and non-participating hospitals, their community partners, and the broader context in which they operate to address rural community health needs.

In this report, we present three case studies exploring in-depth themes identified through prior data collection and document review in a real-world context. A case study approach is an ideal method for in-depth and multi-faceted exploration of complex issues in real world settings. It is also a valuable method to capture explanatory information relevant to 1) why hospitals chose (or did not choose) to participate in the model, 2) how the model is being implemented and received on the ground, and 3) what barriers and facilitators impact implementation.¹⁸ We used a multiple case or a comparative design, in which we selected a subset of hospitals as cases to evaluate for each research aim. While the case studies inform the overarching research questions (**Exhibit 1.4**), each case study has specific objectives (**Exhibit 1.5**).

For each case study, we used a mixed-methods approach to analyze and triangulate data from:

- Model documents (including hospital transformation plans, RHRC progress reports, and global budget documents)
- Interviews with model participants, non-participants, and implementation partners

- When feasible/appropriate, quantitative sources (including Medicare fee-for-service (FFS) claims, Medicaid claims, and Healthcare Cost Report Information System (HCRIS) data)

We provide background literature for each case study to contextualize findings and policy implications for model design, implementation, sustainability, and scale. These case studies build on information reported from the first, second, and third evaluations and set the stage for additional case studies in subsequent evaluations.

The qualitative analyses included reviewing model documents (secondary data) and thematic analysis of primary qualitative data. Primary data collection included interviews with:

- Participating hospital leadership and staff
- Participating commercial payers
- Model implementation partners (including Commonwealth offices and agencies and technical experts involved with the model)
- Leadership from a sample of Medicare Shared Savings Program Accountable Care Organizations in Pennsylvania

See **Appendix B** for additional details.

We systematically reviewed and coded interview transcripts, observational field notes, and other documents using Dedoose®, a web application for managing, analyzing, and presenting qualitative and mixed-methods data.¹⁹ Employing both inductive and deductive methods, we conducted a cross-site thematic analysis to identify themes, patterns, and divergence across participating hospitals.²⁰

For the quantitative component in this report, we leveraged claims data, cost report data, NPPES and state licensure data to conduct descriptive analyses of various measures and outcomes to inform the case studies. We included the following data:

- Comparison of biweekly global budget reimbursements versus FFS equivalents
- Trends in clinician turnover and market concentration
- Measures of financial performance and costs for PARHM hospitals
- Trends in:
 - Chronic health conditions
 - Medicare Advantage enrollment
 - Adherence to pharmacotherapy
 - Access to behavioral health providers in PARHM market areas

See **Appendix B** for additional details on quantitative measures.

Qualitative and quantitative data were analyzed together to understand the operationalization of the reconciliation process (**Chapter 2**), behavioral health transformation (**Chapter 3**), and interactions and alignment between the PARHM and other value-based care programs (**Chapter 4**).

There were several limitations to the quantitative analyses:

- All claims analysis—including the tracking of provider turnover, utilization, spending, market concentration, chronic condition prevalence, and quality of care—were limited to the population covered by Medicare FFS, Medicaid, and CHIP. Patients covered by Medicare Advantage, commercial plans, or other payers, as well as the uninsured, were omitted from the analysis as payment and utilization data for these populations were not available to us.

Our analysis of the global budget payments focused on the Medicare FFS component, for which we had the most detailed information.

Our quantitative analysis included data available through 2021 and 2022, lagging behind our qualitative data collection, which was conducted mostly in 2023.

Overview of This Report

Our [first evaluation report](#) focused on the implementation experience of participating hospitals (Cohort 1) in PY1 (2019) and of participating payers in PY1 (2019) and PY2 (2020). We also assessed Cohort 1 hospitals' financial performance and trends in Medicare spending and utilization. In our [second evaluation report](#), we focused on the eight hospitals in Cohort 2 that joined the model in PY2 (2020). In our [third evaluation report](#), we presented a descriptive assessment of financial performance, an overview of hospital transformation activities, and three case studies (recruitment and participation of system-affiliated hospitals, engagement and coordination with community organizations and providers, and exploring service line changes).

This fourth evaluation report presents findings from three case studies (**Exhibit 1.5**). In the first case study, we examine how the global budget reconciliation process has been operationalized, with a focus on drivers of global budget adjustments (**Chapter 2**). In the second case study, we examined behavioral health-related transformation goals from different perspectives, including hospital experiences, patient experiences, and community partner engagement (**Chapter 3**). Finally, in the third case study, we sought to better understand the interaction between PARHM and the Medicare Shared Savings Program (SSP). This case study includes stakeholder perspectives on areas of alignment and misalignment as well as differences between patients served by PARHM-only vs. PARHM and SSP overlap market areas (**Chapter 4**). We note that, as with prior reports, the results of the quantitative assessments included in the report cannot be attributed solely to the model. As this is a descriptive analysis rather than an impact assessment, we are solely observing trends in outcomes of interest, not isolating the impact of the model on those outcomes.

Exhibit 1.5. Each case study explores a specific set of objectives.

Case Study	Objectives	Cases	Research Questions (RQ)
Experiences with the Global Budget and Reconciliation	Explore hospital experiences with global budget adjustments and reconciliation settlements Examine hospital revenues under the global budget and drivers of reconciliation	All participating hospitals	RQ1, RQ3, RQ10, RQ12
Behavioral Health Transformation	Explore participating hospitals' experiences implementing behavioral health focused transformation goals, including contextual factors, barriers, and facilitators	A subset of hospitals with behavioral health transformation goals	RQ1, RQ4, RQ6, RQ9
Interactions/ Alignment between the Model and Other Value-based Care (VBC) Programs	Describe how PARHM interacts with existing VBC programs and identify the degree of overlap between Shared Savings Program ACO and PARHM fee-for-service (FFS) patients living in the market areas of participating PPS hospitals	A subset of participating hospitals engaged in other value-based care programs	RQ5, RQ10

NOTE: See Exhibit 1.4 for the list of research questions addressed in this report. See Appendix Exhibit B.1 for a list of all research questions in this evaluation.

Chapter 2: Experiences with the Global Budget and Reconciliation

Key Takeaways

Drivers of Global Budget Adjustments and Reconciliation



- PARHM’s reconciliation process resulted in an upwards adjustment of the Medicare FFS global budget for seven PPS hospitals and a downwards adjustment for the other six PPS hospitals for PY3 (2021).
- Unplanned volume shift (UVS) adjustments were a substantial component of Medicare FFS reconciliation payments for most hospitals.
- Some participating hospitals attributed negative UVS adjustments to clinician losses during the model period. Participating hospital leaders in areas with greater market competition noted the challenges of managing volume shift when patients have a choice of where and when a service is offered most conveniently for them.

Differences in Global Budget and Reconciliation for CAHs and PPS Hospitals



- Overall, Medicare global budget payments were adjusted upwards for PPS hospitals and downwards for CAHs in the second year of participation; average global budget payments to PPS hospitals consistently exceeded the FFS value of services rendered.
- For CAHs, the global budget is reconciled to cost-based reimbursement. As a result, CAHs with declining Medicare FFS volume had repayments to Medicare, which were incorporated into the subsequent years’ global budgets.

Global Budget and Reconciliation Experiences



- Participating hospitals and payers reported that because global budgets are reconciled, they do not eliminate financial unpredictability.
- While participating hospital administrators appreciated the stable cash flow, they cited concern about potential paybacks resulting from future reconciliations as a barrier to investing in care transformation.

PARHM tests the use of hospital global budgets to strengthen financial viability and enhance care delivery at rural hospitals. These central access points to essential health services provide emergency, inpatient, and outpatient services close to home for rural residents. Despite the importance of rural hospitals in their communities, rural hospitals nationwide face financial challenges due to low patient volumes, high proportions of public payers,

workforce shortages, and geographic isolation.^{21,22} Since 2010, 148 rural hospitals—including five in Pennsylvania^k—have closed or converted to other provider types,^l leaving these communities without access to acute inpatient care.²³ Hospitals at risk of closure are likely to exhibit signs of financial distress prior to closure, including negative operating margins and few days of cash on hand.²⁴ To alleviate financial pressures, PARHM’s global budget methodology is designed to provide financial predictability and stability and, in turn, facilitate investments in care transformation.

The purpose of this case study was to examine the extent to which PARHM global budgets were successful in increasing financial stability for participating hospitals. Specifically, we leveraged multiple data sources and a mixed-methods approach to examine hospital revenues and financial health under the global budget, as well as hospital experiences with the global budget and reconciliation methodology. This chapter begins with a description of the global budget methodology, followed by our case study methods and findings, and ends with a discussion summarizing lessons learned. Where applicable in our interpretation of the data, we accounted for the context of the COVID-19 public health emergency (PHE), during which the influx of government relief funds combined with lower patient volumes and higher costs (including that of staffing, drugs, and other supplies and services) influenced the financial performance of rural hospitals across the nation.²⁵

2.1 Global Budget Methodology

Global budgets are designed to stabilize hospital revenues and enable investments in population health and prevention activities beyond the acute care setting. PARHM’s global budget was designed with the intention of stabilizing hospital revenues and, to an extent, separating revenue from the volume of care provided on a day-to-day basis.

Global budgets for each calendar year are calculated prospectively, then reconciled at the end of the calendar year to account for unpredicted events and shifts in care volume during the year.² **Exhibit 2.1** provides an overview of the hospital services included and excluded from net patient revenue (global budget).²

Exhibit 2.1. Inpatient and outpatient hospital services are included in the global budget, while professional and clinic services are excluded.

Included Services	Excluded Services
<ul style="list-style-type: none"> Inpatient hospital services Outpatient hospital services 	<ul style="list-style-type: none"> Professional services (inpatient and outpatient) Clinic services, including those provided by rural health clinics, community mental health clinics, and federally qualified health centers

^k Pennsylvania had two complete closures and three hospital conversions since 2010.²³

^l Converted hospitals do not provide inpatient services, but continue to offer other health services, such as primary care and other outpatient services or long-term care services.²³

Included Services	Excluded Services
<ul style="list-style-type: none"> • Emergency department • Laboratory • Imaging • Evaluation and management services • Same day surgery • Other outpatient services • CAH swing bed services 	<ul style="list-style-type: none"> • Swing bed services at rural PPS hospitals • Dental services • Durable medical equipment • Home health services • Services provided at dialysis facilities, Indian Health Service facilities, skilled nursing facilities, ambulatory surgery centers and other specialty facilities • Ambulance services

NOTES: Inpatient professional services are physician services furnished during a patient’s stay in the hospital. Outpatient professional services are physician services furnished to a patient who has not been admitted to the hospital (for example, in a hospital-based outpatient department). Swing beds are hospital beds that can be used to provide either acute hospital care or post-hospital skilled nursing facility care.

SOURCE: Pennsylvania Department of Health. Technical specification for rural hospital global budget. Published June 30, 2022.

The baseline global budget for the first year of participation in the model is based on historical net patient revenue, essentially insurance payments made by each participating payer for select inpatient and outpatient services (see **Exhibit 2.1**). Specifically, for a hospital’s first year of participation, the baseline global budget is set to whichever is larger: net patient revenues from the most recent year or the average annual net patient revenues over the three most recent years. Each hospital’s total global budget is the sum of global budget amounts from each participating payer. Participating payers have two options for making global budget payments to participating hospitals:

1. **Fixed Global Budget Payment:** Payers provide a fixed amount at a specified frequency (for example, biweekly or monthly) over the year. CMS is testing the fixed biweekly global budget payment methodology for services provided to Medicare fee-for-service (FFS) patients.
2. **Virtual Global Budget Payment:** Payers continue to pay FFS claims for care provided to patients and conduct monthly reconciliations to the monthly global budget amount or carry any overages forward to subsequent months. Commercial payers chose to reimburse participating hospitals using the virtual global budget payment. This approach requires payers to make three types of payments to participating hospitals: 1) an upfront float payment equivalent to one month’s global budget at the beginning of the first global budget year, 2) FFS payments for services rendered, and 3) additional lump sum payments to keep hospitals whole to the global budget if the float payment and FFS payments are less than the cumulative global budget throughout the performance year. Payers conduct an end-of-year settlement to the prospective global budget following six months of claims run out to account for market shifts that may have occurred during the year.²

For subsequent years of participation, the baseline global budget for the year begins with the hospital’s final global budget in the prior year. Several adjustments (**Exhibit 2.2, “Prospective Global Budget Adjustments”**) are applied to that baseline to determine the prospective global budget that hospitals receive in the upcoming year.

After the year concludes, a reconciliation process determines the final global budget for each participating payer. Given that a prospective budget is, by definition, calculated based on incomplete information, reconciliation allows for correction of the budget due to unpredicted events, such as a large swing in the payer mix after the prospective budget is set. Reconciliation also provides hospitals the opportunity to account for revenue growth within the methodology.²⁶ Notably, unplanned volume shift (UVS) adjustments were included to account for unanticipated market share growth or decline. Reconciliation adjustments are described in **Exhibit 2.2, “Reconciliation Adjustments.”** Of note, global budgets for care provided to Medicare FFS patients at CAHs are reconciled to cost-based reimbursement, as before the model. While the model is fundamentally revenue driven for PPS hospitals, reimbursement to CAHs still ultimately follows costs. Following a 6-month runout period for PPS hospitals, and an 18-24 month runout period for CAHs, the differences between the prospective and final global budgets (settlements) are folded into the subsequent year’s global budgets for Medicare and are settled via a lump-sum payment within 90 days between commercial payers and hospitals. The first annual reconciliation for PY1 (2019) was completed for the five Cohort 1 hospitals in PY2 (2020). The second reconciliation for PY2 (2020) and PY3 (2021) was completed in PY4 (2022).^m For Medicare, any amounts due to or from the hospital are prospectively accounted for in the following year’s budget.

Exhibit 2.2. Prospective adjustments are applied to the baseline global budget to compute the prospective global budget, which is subsequently reconciled using reconciliation adjustments to determine the final global budget at the end of the year.

Adjustment	Description
Prospective Global Budget Adjustments	
Unit price adjustments	<p>The Medicare component of the global budget uses the standard FFS methodology: adjustments account for year-on-year changes in unit costs (which incorporates factors including improvements in productivity and provider-specific quality-of-care adjustments),ⁿ changes in geographic adjustment factors, and changes in the wage index.</p> <p>For commercial payers, adjustments reflect the year-on-year changes determined between each individual payer and participating hospital.</p>
Potentially avoidable utilization (PAU) / quality of care (QoC) adjustments	<p>The RHRC sets a PAU opportunity target for each hospital by comparing the hospital’s PAU rate to an external benchmark. Beginning in PY3 (2021), a percentage of the PAU opportunity target is subtracted from the initial global budget.</p>
Demographic adjustments	<p>Adjustments will be made to account for changes in the population and in the distribution of age within the population.</p>

^m The Innovation Center approved the RHRC’s request in response to the COVID-19 pandemic to complete the PY2 (2020) and PY3 (2021) together in PY 4 (2022).

ⁿ Medicare FFS unit cost trends are published by the CMS Office of the Actuary (<https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/FFS-Trends.html>).

Adjustment	Description
Low volume adjustments	Hospitals with very low volume (as determined by Hospital Inpatient Prospective Payment Systems final rule) may apply for an adjustment to help them cover fixed costs.
Planned service line (PSL) changes	<p>Service line changes recorded in hospital transformation plans will be used to adjust future global budgets. For the Medicare FFS component of the budget, a new service line's predicted revenue will be added to the global budget using established FFS rates for the services plus predicted volume, if it is considered an unmet need-related service line expansion. Unmet-need related services must either 1) fall into an essential primary service line (Appendix D) or 2) help address unmet community health needs by the triennial Community Health Needs Assessment (CHNA). If it does not meet one of these two criteria, the service line change will be handled via unplanned volume shift (UVS) adjustments during the reconciliation process for the first two years. Once two years of history are established, the service line is folded into the global budget. Commercial payers continue to handle new service lines entirely outside the global budget for the first two years before it gets folded in.</p> <p>For more information on planned service line changes, see the case study in the third annual report.</p>
Reconciliation Adjustments	
Unplanned volume shift (UVS) adjustments	Substantial shifts in the volume of care that were not accounted for during the planning process will be accounted for in reconciliation. Shifts are considered at the geographic area/payer/service line levels.
Clinic adjustments	Clinic payments are not part of the global budget but are part of the net patient revenue (NPR) calculation used to set it. Shifts in clinic services relative to the baseline period are accounted for in reconciliation.
Non-hospital shift adjustments	Adjustments are made when care shifts to an owned, non-hospital component of the organization.
Other adjustments	Hospitals may request a review of their global budgets for other adjustments to account for other factors impacting their financial situations (for example, epidemics, high-cost drug adjustments, and high-cost claims adjustments), which may be applied with approval by RHRCA and the CMS Innovation Center.
Payer mix adjustments (commercial payers only)	Semiannual reshuffling of the burden of the adjustment between payers based on changes in plan enrollment.
Cost report adjustments (CAHs Medicare FFS only)	For CAHs, Medicare FFS is reconciled back to cost-based reimbursement.

DEFINITIONS: FFS = fee-for-service; RHRCA = Rural Health Redesign Center; CAH = critical access hospital

2.2 Scope of Case Study

In its Strategy Refresh, the Innovation Center described efforts to drive accountable care, support innovation, and partner to achieve transformation.⁴ PARHM tests whether the predictable nature of global budgets will improve the financial viability of rural hospitals and enable them to invest in care transformation to improve quality and meet community needs. The model's global budget methodology is designed to align financial incentives across participating payers to facilitate care delivery investments.

This case study examines the mechanics and experience of global budget reconciliation, including the principal drivers of reconciliation amounts and reconciliation adjustments by type.

Specific research aims addressed include:

- Examine components and drivers of global budget adjustments and reconciliation settlements observed, including financial context for drivers of adjustments and settlements
- Assess hospital financial performance leading up to and following model participation
- Explore hospital experiences planning for and managing global budget adjustments and reconciliation settlements

We conducted a mixed-methods case study informed by both primary qualitative data and secondary data. Broadly, we used preliminary quantitative data to tailor the qualitative interview protocols. In turn, we used the qualitative findings to inform additional quantitative studies to understand the drivers of reconciliation, including clinician turnover, and market competitiveness. Specifications for each of the quantitative measures are detailed in **Appendix Exhibit B.6** and **Appendix Exhibit B.8**.

We first evaluated how PARHM-participating hospitals fared with respect to revenue under the model relative to what they would have been paid on a FFS basis for the same services. We leveraged Medicare FFS claims data^o for each global budget year to compute biweekly FFS amounts billed for global-budget covered services at each participating hospital. The implicit assumption underlying this analysis is that participating hospitals did not change care provision behaviors in response to the global budget and that the biweekly FFS amounts billed reflect actual revenues that PPS hospitals would have received absent the model. We compared these to average biweekly global budget payments as reported on CMS technical direction letters (TDL) by computing global-budget to fee-for-service payment ratios (GB-FFS ratios). We also analyzed Excel workbooks describing and summarizing reconciliation adjustments for the 2021 Medicare FFS global budget for PPS hospitals to compute the size of each hospital's reconciled amount relative to the total global budget and the breakdown of the reconciled amount by adjustment type.

^o Participating hospitals continued to submit Medicare FFS claims for global-budget covered services provided, though claims were not paid out.

We then conducted key informant interviews with participating hospital leaders, commercial payers, and implementation partners (n=36) between May and October 2023. Findings from analyses comparing the global budget to FFS payments were used to inform points of discussion in a subset of hospital leader interviews. We also reviewed primary data collected in previous years (2019-2022) and model documents. These include the Detailed Business Requirements, which formally specify global budget implementation details, and quarterly and annual progress reports submitted by the RHRC to the Innovation Center describing model activities, accomplishments, issues, and other metrics.

Some of these interviews indicated that clinician turnover and market competition were drivers of volatility and unplanned volume shifts. Therefore, we used FFS claims data to examine patterns in clinician turnover, Herfindahl-Hirshman Indices (HHI),²⁷ and market shares of participating hospitals for the following purposes:

- To examine patterns in clinician turnover across participating hospitals between 2016 and 2022, we considered unique clinicians as having a meaningful presence at a particular hospital if they were listed as an attending, operating, referring, or other physician on at least 12 separate claims associated with that hospital. For each hospital, we summarized each year the total number of clinicians, the number of clinicians who are no longer affiliated with the hospital, and the number of clinicians who newly entered the hospital. Although advanced practice providers (APPs) require a physician relationship in Pennsylvania, we examined these trends separately for physicians (MD/DO) and APPs. We note that this analysis is limited by our ability to observe billing clinicians only and does not capture the full scope of clinicians practicing at each hospital.
- To better understand participating hospitals' market conditions, we computed the HHI and market share of global budget-covered services for each participating hospital. The HHI is a commonly used measure of market concentration that accounts for the number of competitors in a market as well as the market share of each competitor, where 10,000 is a perfectly monopolistic market, and 0 is a perfectly competitive market.

Finally, though the PARHM and global budget calculations do not take costs into account, they remain a key consideration to participating hospitals and their operations. Thus, we extracted financial performance and cost measures from the Healthcare Cost Report Information System (HCRIS) to provide financial context for the participating hospitals before and after model implementation.

2.3 Findings

In this section, we present findings related to the size and components of adjustments to Medicare FFS global budgets and compare global budget revenues to the equivalent FFS value of services rendered. Through an exploration of the underlying drivers of global budget adjustments and reconciliation, we identified two key drivers of UVS adjustments—clinician turnover and market competition—which are explored in the context of reconciliation. Lastly, we provide an overview of participating hospitals' costs and financial health in the years

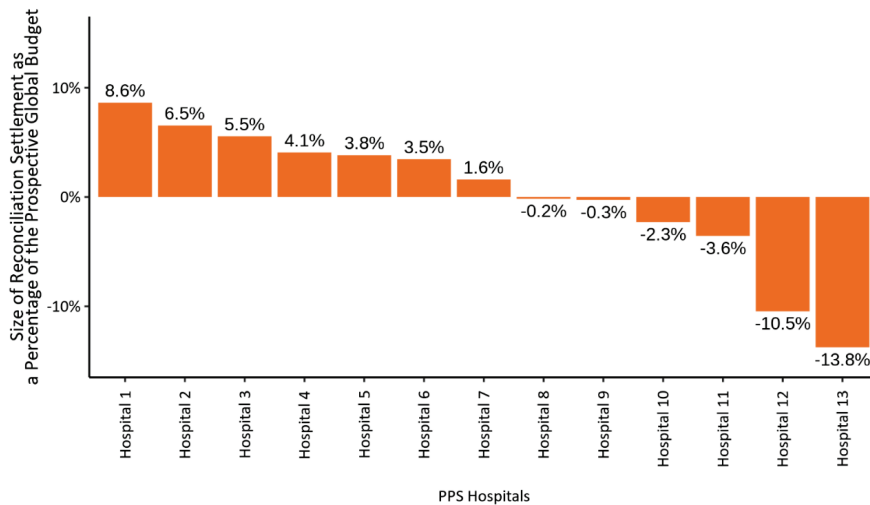
leading up to and following model implementation and describe participating hospitals’ and payers’ overall perceptions of reconciliation.

Overall, global budget payments to participating hospitals were consistently higher than payments they would have received for the same services rendered under traditional Medicare FFS. Hospital leaders continue to appreciate the stable cash flow that the global budget provided, but noted that it was not sufficient to invest in transformation and manage increasing costs. While participating hospitals expected to increase volumes and market share through their transformation activities, they were not able to anticipate how volume declines due to workforce recruitment and retention challenges would subsequently negatively affect the global budget through the reconciliation process. Ongoing technical assistance from partners or a dashboard that allows participants to forecast potential reconciliation settlement amounts, may be possible ways to address these challenges that hospitals faced.

Adjustments to Baseline Medicare FFS Global Budget (Participating PPS Hospitals)

In 2021, the total sum of adjustments to the baseline Medicare FFS global budget for seven of the 13 PPS hospitals were positive, ranging from 1.6 percent to 8.7 percent of the baseline global budget. Adjustments for the remaining six PPS hospitals were negative, ranging from -0.2 percent to -13.8 percent of the baseline global budget (Exhibit 2.3).

Exhibit 2.3. The reconciliation process resulted in an upwards adjustment of the Medicare FFS global budget for seven PPS hospitals and a downwards adjustment for the other six PPS for PY3 (2021).



SOURCE: The Lewin Group Medicare FFS 2021 Global Budget Reconciliation workbook

NOTES: Global budget reconciliation workbooks were not available for participating CAHs.

DEFINITIONS: The baseline global budget is defined as the 2020 final reconciled budget with 2021 unit-cost adjustments for Cohort 1 and 2 hospitals and the 2021 initial global budget prior to the application of prospective planned service line change adjustments for Cohort 3 hospitals.

As shown in **Exhibit 2.4**, UVS adjustments were a substantial component of Medicare FFS reconciliation payments for most hospitals. Most PPS hospitals experienced a change from their baseline Medicare FFS global budget through reconciliation; UVS adjustments accounted for most of these changes. Further, we observed that most hospitals experienced positive UVS adjustments from respiratory-care related services lines (n=11) and negative UVS adjustments resulting from surgical service lines (n=10). This may indicate substantial COVID-related changes in the total volume of respiratory and surgical care that occurred in 2021, which were not uniformly distributed across providers in PARHM market areas. One participating CAH leader expressed concern about the UVS adjustment:

I feel like every time I have an understanding of [the global budget], then there's a component of it that's the unplanned volume shift, too, that that doesn't come in until a year later, when you're looking at the reconciliation. You could feel like oh, yeah, we're fine. Then you hit the reconciliation. It's almost like a curveball, because we don't see significant changes in our volume based on the baseline. And then if there's a change at the service line level, we get dinged on that. We don't have any idea of that, the whole way through the monthly or quarterly process. We don't know what that is. It really is we're blindsided, if there's an unplanned volume shift in the calculation.

Some hospitals attributed UVS adjustments to clinician turnover. For example, one hospital leader described turnover among surgeons (including general, orthopedic, and other specialty surgeons), resulting in fewer surgeries completed than the previous year. While hospitals expected to increase volumes and market share through their transformation activities, they were not able to anticipate how workforce recruitment and retention challenges would affect the global budget through the UVS adjustment. One participating CAH leader commented that while their payments remained consistent throughout the year, they did not consider how clinician turnover would affect year-end reconciliation:

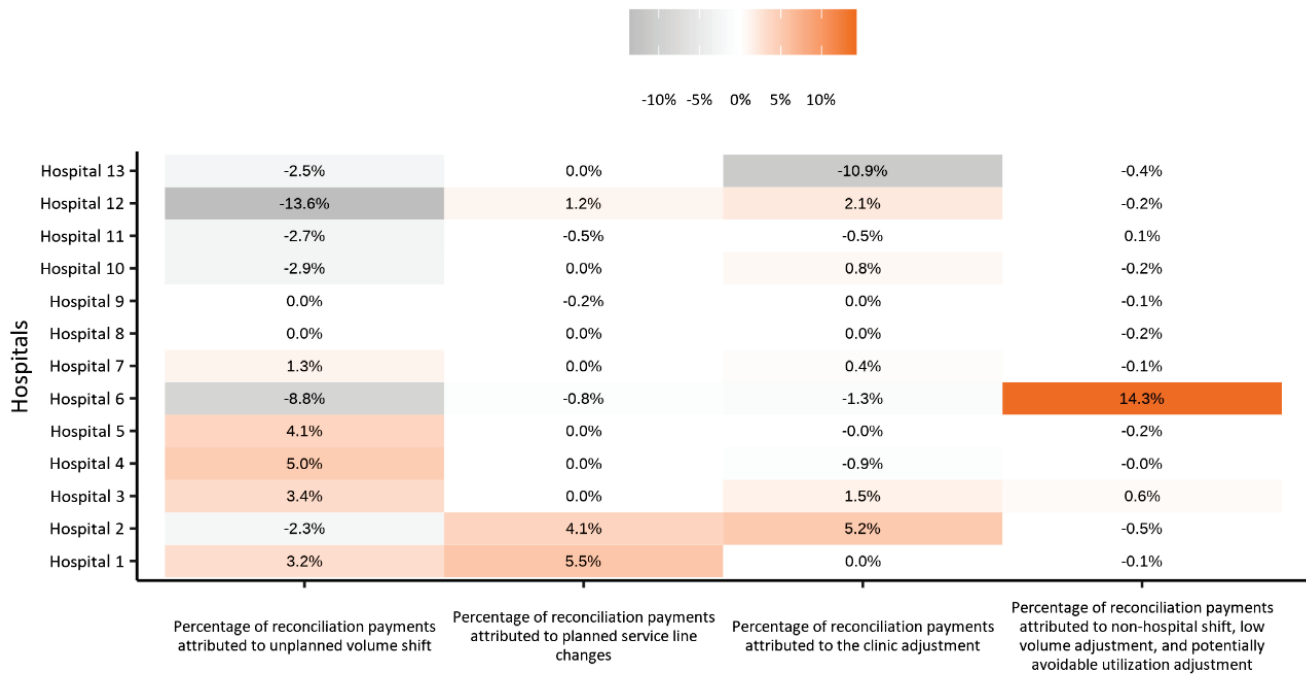
I remember them saying, when they were here talking to our board, that your payment is static through the year. If you lose a surgeon and your volume in surgery drops, and it drops for a certain period of time because you just don't have another surgeon to put in there, that payment keeps you going, until you're able to [hire]...That's all well and good, but then, whenever they do the reconciliation and they say well, you lost your surgeon, so you had a volume shift, and there goes your money. You owe us this back. It didn't really help you, over that time. It diverted it, I guess, until the end of the year.

Unlike UVS adjustments, other adjustments—including the non-hospital shift adjustments (with the exception of “Hospital 6”), low-volume adjustments, and PAU adjustments—were minimal.^P In line with these observations,

^P The unplanned volume shift (UVS) adjustment accounts for substantial shifts in the volume of care that were not accounted for during the planning process. The non-hospital shift adjustment is made when care shifts to an owned, non-hospital component of the organization. The low-volume adjustment helps a hospital with very low volume cover fixed costs. The potentially avoidable utilization (PAU) adjustment is based on an opportunity target set by the RHRC for the hospital. Descriptions of all global budget adjustments are listed in Exhibit 2.2.

some hospital leaders noted that PAU adjustments were not material and cited various barriers to reducing avoidable emergency department visits, such as the lack of an after-hours care option in their community.

Exhibit 2.4. In 2021, UVS was a substantial driver of Medicare FFS reconciliation adjustments for most PPS hospitals, while non-hospital shifts, low-volume, and PAU adjustments were largely minimal across the 13 PPS hospitals.



Reconciliation Adjustments as Percent of Baseline GB (2021 PPS)

SOURCE: The Lewin Group Medicare FFS 2021 Global Budget Reconciliation workbook

NOTES: For Medicare FFS, only PPS hospitals are reconciled through the global budget methodology. This analysis does not include CAHs because the global budget for these hospitals is reconciled to cost-based reimbursement. Total adjustments are defined as the difference between the 2021 final reconciled global budget and 2021 baseline global budget (for Cohort 1 and 2 hospitals, the 2021 baseline global budget is the 2020 final reconciled budget with 2021 unit-cost adjustments; for Cohort 3 hospitals, the 2021 baseline global budget is equal to the 2021 initial global budget prior to prospective PSL adjustments).

Outside of the Medicare FFS global budget, a few participating hospitals also reported that commercial payer-mix changes resulted in overpayments from some payers. Participating hospitals expressed concerns about repayments to participating commercial payers when those payers’ members switched to plans offered by non-participating payers. Specifically, while hospitals expected to receive a set global budget from each participating commercial payer, unanticipated changes in payers’ enrollment during the budget year resulted in payer-mix adjustments that altered the global budget amount. Commercial payers and participating hospitals noted it was difficult to anticipate these shifts in the mix of commercial payers.

Comparison of Global Budget and Medicare FFS Revenues

Trends in biweekly global budget payments relative to FFS equivalents (representing what PPS hospitals would have received absent PARHM and a proxy for the volume of services in CAHs) were similar across the three cohorts of participating hospitals.

For PPS hospitals, biweekly global budget payments were consistently higher than payments they would have received under FFS for the same services; as such, PPS hospitals have thus far fared better in revenues under the global budget than they would have for the same care provided in the absence of PARHM. Conversely, global budget payments to CAHs declined steadily over time, such that they were, on average, lower than the FFS value by 2022 (**Exhibit 2.5, top panel**). For example, among Cohort 1 hospitals,^q GB-FFS ratios averaged 1.36 in CAHs and 1.21 in PPS hospitals in 2019. By 2022, global budget payments were, on average, lower than FFS equivalents for CAHs (with an average ratio of 0.91) but increased to an average ratio of 1.28 for PPS hospitals. Similarly, among Cohort 2 hospitals,^r biweekly GB-FFS ratios averaged 2.36 in the first year of participation (2020) but declined an average of 0.70 by 2022 for CAHs. GB-FFS ratios averaged 1.53 and 1.58, respectively, in 2020 and 2022 for PPS hospitals.

As shown in the lower panels of **Exhibit 2.5**, even though Cohort 1 and Cohort 2 CAHs and PPS hospitals had similar GB-FFS ratios in the first year of participation, Medicare global budget payments were adjusted upwards for PPS hospitals and downwards for CAHs in the second year of participation. In 2022, global budgets in CAHs were further adjusted downwards, but they remained relatively stable in PPS hospitals. Notably, for Cohort 2 CAHs, average 2022 global budget payments amounted to just over 40 percent of average 2020 global budget payments (**Exhibit 2.4, bottom panel**).

Diverging trends in biweekly GB-FFS ratios over time between CAHs and PPS hospitals can be attributed to differences in the reconciliation process. The global budget is reconciled to 101 percent of allowable costs for

CRITICAL ACCESS HOSPITAL (CAH) COST-BASED REIMBURSEMENT

The CAH designation was created through the Balanced Budget Act of 1997 to ensure the sustainability of hospital services in rural communities.²⁸

CAHs receive cost-based reimbursement for inpatient and outpatient services provided to Medicare patients at **101 percent of allowable costs**. Allowable costs must be related to patient care. Unallowable costs are costs not related to patient care, such as patient phones/television, advertising, and staff and clinician recruitment (except Rural Health Clinic).²⁹

Further, CAH cost-based reimbursement is subject to a **2 percent reduction due to sequestration**. Note that the sequestration reduction was suspended from May 1, 2020–April 1, 2022, in response to the COVID-19 pandemic. From April 1, 2022–June 30, 2022, sequestration was limited to a 1 percent reduction.³⁰

^q Cohort 1 hospitals began participating in the model in January 2019.

^r Cohort 2 hospitals began participating in the model in January 2020.

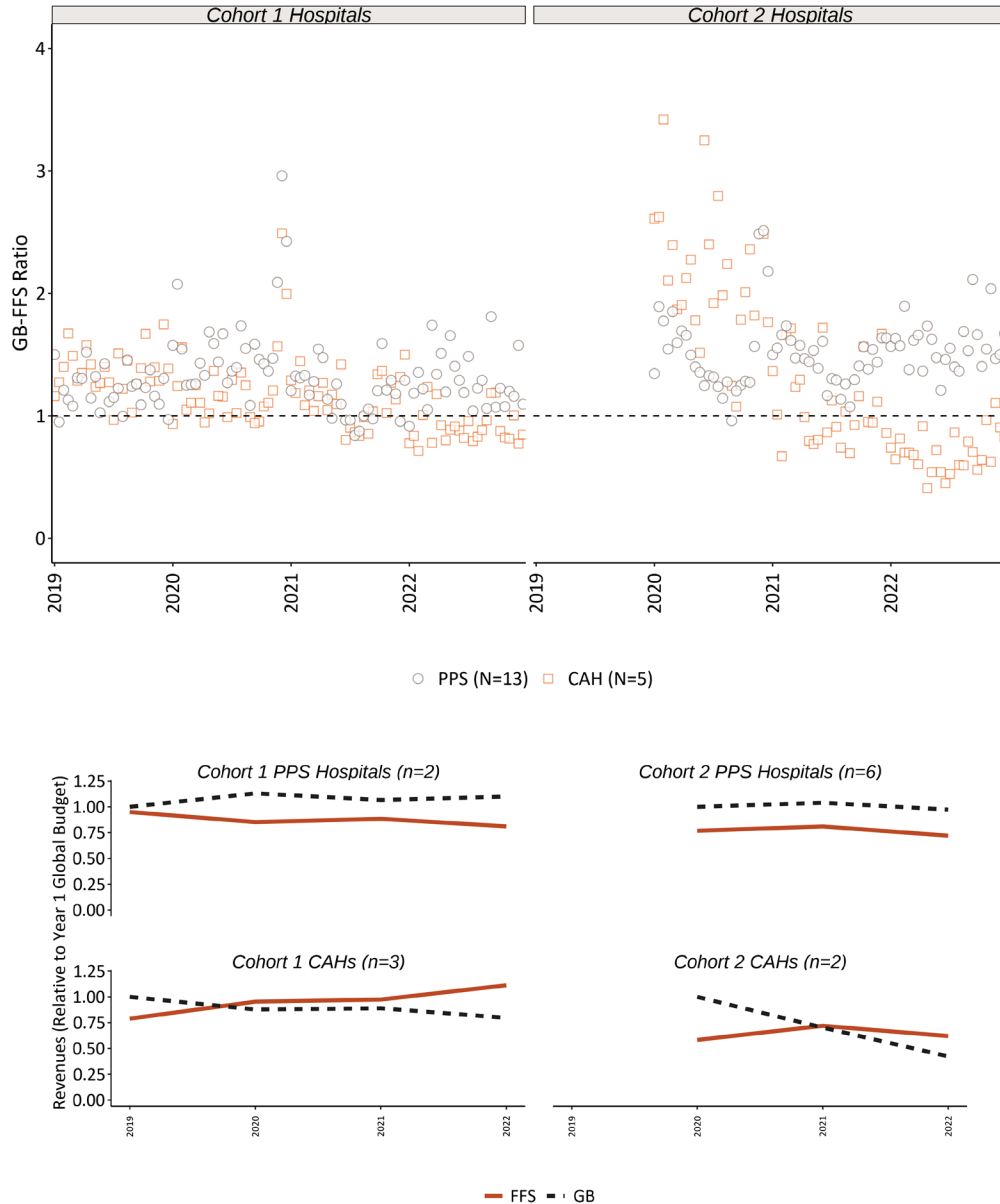
CAHs (with an additional 2 percent sequestration reduction that applies to all FFS payments through 2031). At PPS hospitals, the budget is adjusted according to the global budget methodology (based on factors such as unplanned volume shifts and planned changes to service lines). This resulted in substantially different trajectories in year-to-year global budget adjustments.

Participating CAH leaders explained that the initial global budget was determined based on a three-year average but was reset by their second year of participation in the model based on the most recently filed cost report. As a result, some CAHs had large repayments to Medicare, which were subtracted from the subsequent years' global budgets. Two CAHs entered into agreements with Medicare Administrative Contractors (MACs) to repay their Medicare FFS reconciliation settlements over an extended period (up to 5 years) to avoid having negative cash flow due to the large settlement amounts. One CAH leader noted that since the first settlement, global budget changes have become smaller as CAH global budgets are rebased annually using the most recently available cost report.

Global budget to Medicare FFS ratios were, on average, higher in 2020, with a sharp peak in the spring (**Exhibit 2.5, top panel**), which can be attributed to COVID-related volume declines, as reflected in the decline in total annual FFS equivalents in 2020 relative to 2019 (with exception of Cohort 1 CAHs) (**Exhibit 2.5, bottom panels**). Finally, we note that the direction and magnitude of differences between biweekly global budget payments and FFS equivalent revenues varied widely within PPS hospitals and within CAHs.

Trends in biweekly GB-FFS ratios, annual global budget amounts, and annual FFS equivalent revenues of Cohort 3 PPS hospitals in 2021 and 2022 were similar to those of Cohort 2 PPS hospitals (**Appendix Exhibits C.5 and C.6**).

Exhibit 2.5. Medicare FFS global budget payments to PPS hospitals were consistently higher than payments they would have received under traditional FFS over the model period. Global budget payments to CAHs declined steadily over time, such that they were, on average, lower than FFS equivalents by 2022.



SOURCE: Medicare FFS claims data CMS technical direction letters, 2019-2022

NOTES: Bradford was excluded from analyses as, at the time of analysis, the Innovation Center was considering changes to the status of Bradford’s budget due to downsizing of inpatient and outpatient services. FFS revenues represent the amounts that PPS hospitals would have received absent PARHM. However, because CAHs receive cost-based reimbursement, their FFS revenues serve as a proxy for volume in this analysis. To aid readability, we excluded an outlier of 7.7 among cohort 2 CAHs in the 7th biweekly period (March 25–April 8) of 2020.

DEFINITIONS: Baseline GB = Total global budget revenue in 2019 for cohort hospitals and total global budget revenues in 2020 for cohort 2 hospitals

In interviews, commercial payers described developing their own internal processes to track FFS payments compared to the global budget. Payers noted most participating hospitals are being paid more under the model than they would have under FFS. One payer commented they were prepared for the global budget to exceed FFS in 2020 during the COVID-19 pandemic; however, they also found global budget payments to hospitals were higher than FFS in 2019 and 2021. Another payer also found that FFS payments exceeded the global budget.

Drivers of Global Budget Adjustments and Reconciliation: Clinician Turnover

In the interviews, participating hospital leaders discussed the impact of the loss of clinicians (such as physicians and advanced practice providers [APPs]) on volume and the impact of UVS adjustments during the reconciliation process. They further described the challenges of recruiting and retaining clinicians in rural hospitals. Participating hospitals described the long period of time required to replace clinicians who leave. One participating PPS hospital leader described the effects of clinician losses on the global budget:

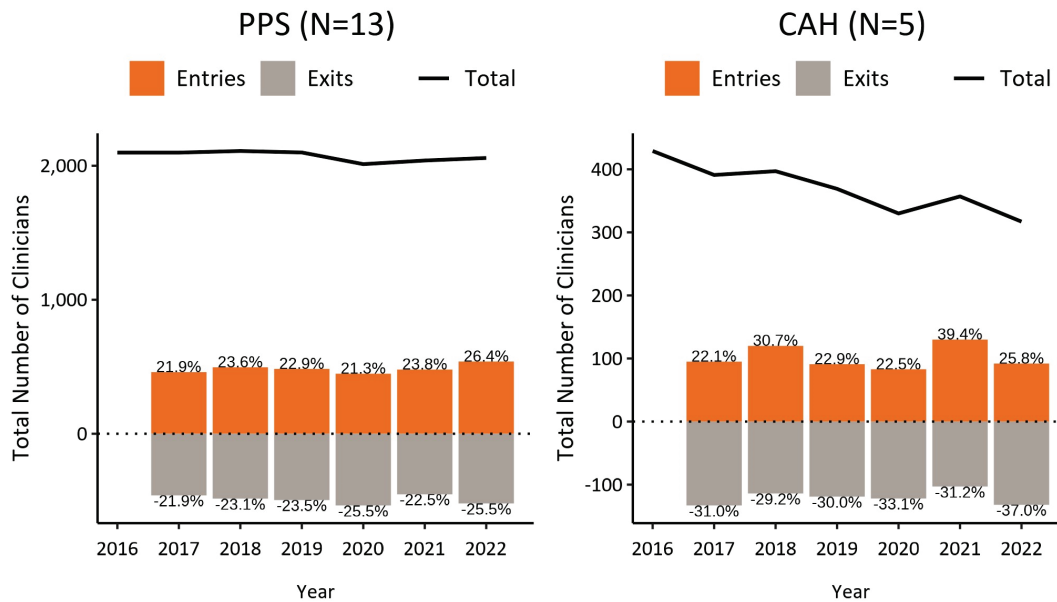
With rural health care, there are a multitude of challenges, but physician recruitment and retention is key. There are not a lot of physicians who want to live in a rural area like [community]...We experienced a period of time where we went without a general surgeon. The global budget parameters would rear its ugly head as far as, "Oh, you had a downturn in volumes. We need to ratchet down the global budget impact in future periods." The lumpiness wasn't immediate, but it does catch up to you in the reconciliation process.

Global budget adjustments and reconciliation were developed to allow participating hospitals to grow their market share and offer new service lines. However, participating hospitals, in particular CAHs, experienced clinician losses during the model period which resulted in lower utilization. The total number of clinicians billing for services provided to Medicare FFS patients was substantially higher at the 13 PARHM PPS hospitals (totaling 2,058 in 2022) than at the five PARHM CAHs (totaling 317 in 2022) (**Exhibit 2.6**). Both PPS hospitals and CAHs experienced turnover during the model period. On average, 24 percent of PPS clinicians and 32 percent of CAH clinicians left participating hospitals (exited) each year. While annual replacement of exiting clinicians at PPS hospitals was nearly complete, the number of new clinicians recruited to CAHs was typically lower than the number of clinicians lost each year. Notably, between 2019 and 2021, the total number of clinicians billing for services provided to Medicare FFS patients declined by 14 percent at CAHs, compared to just 2 percent at PPS hospitals.

We also observed a shift from physicians (that is, MD/DOs) to APPs being listed as the billing physician in PPS hospitals but not in CAHs (**Exhibit 2.7**). Between 2019 and 2022, in PPS hospitals, the total number of physicians fell by 128 (8 percent), while the total number of APPs increased by 93 (25 percent). Conversely, in CAHs, APPs drove clinician loss over this time, falling by 46 percent, compared to a 5 percent decline in total number of MD/DOs. Across specialties, PCPs had the lowest turnover and highest retention rate, with a 10 percent and 1

percent decline in the total number of PCPs in PPS hospitals and CAHs, respectively, over the model period (Appendix Exhibit C.7).

Exhibit 2.6. On average, CAHs and PPS hospitals gained a similar proportion of new clinicians each year, but CAHs lost a greater proportion of clinicians each year compared to PPS hospitals. Thus, while the total number of unique clinicians remained stable in PPS hospitals over time, it declined substantially in CAHs.

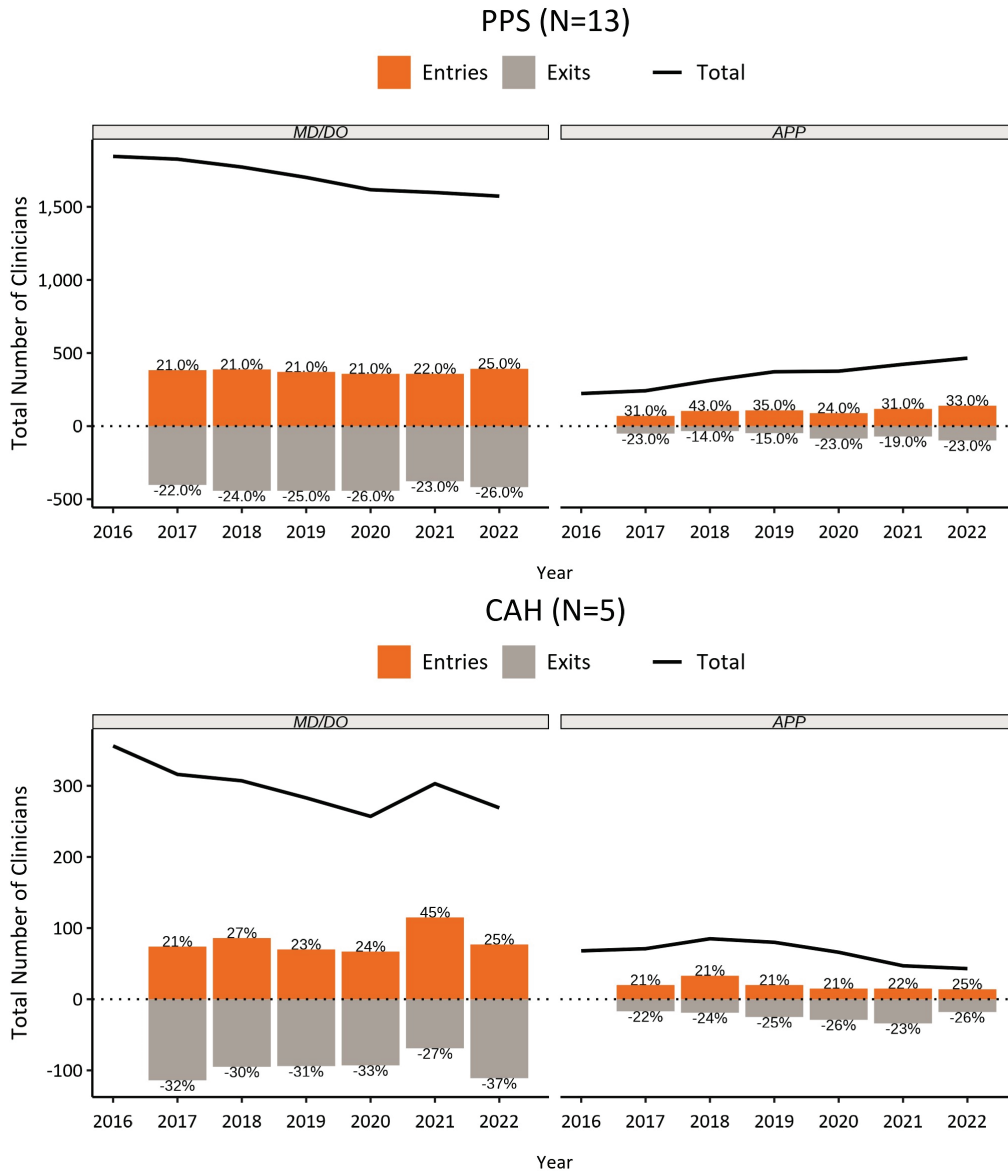


SOURCE: Medicare FFS claims data 2016-2022

NOTES: For any given year, we only counted clinicians listed as an attending, operating, rendering, or other physician on at least 12 FFS claims originating from the same hospital. As 2016 was the earliest year of data assessed, a percent change from the previous year was not included.

DEFINITIONS: New = clinicians listed on at least 12 claims in the current year but listed on fewer than 12 claims in the prior year; Exit = clinicians listed on at least 12 claims in the prior year but fewer than 12 claims in the current year.

Exhibit 2.7. Over the model period, the loss of APPs was a primary driver of clinician decline in CAHs. At PPS hospitals over the same time period, there was a decline in the total number of MD/DOs billing for services provided to Medicare FFS patients; however, these clinicians were largely replaced by an increase in the number of APPs.



SOURCE: Medicare FFS claims data 2016-2022

NOTES: For any given year, we only counted clinicians listed as an attending, operating, rendering, or other physician on at least 12 FFS claims originating from the same hospital. As 2016 was the earliest year of data assessed, a percent change from the previous year was not included.

DEFINITIONS: APPs = Advanced practice providers (includes physician assistants, nurse practitioners, certified registered nurse anesthetists/anesthesiologist assistants, certified nurse midwives, certified clinical nurse specialists); New = clinicians listed on at least 12 claims in the current year but listed on fewer than 12 claims in the prior year; Exit = clinicians listed on at least 12 claims in the prior year but fewer than 12 claims in the current year.

Drivers of Global Budget Adjustments and Reconciliation: Market Concentration/Competition

Despite their rural location,⁵ participating hospitals, including some CAHs, commented on the challenges of market competition in Pennsylvania and its effects on uncertainty from unplanned volume shifts. As shown in **Exhibit 1.2**, some participating hospitals serve overlapping market areas. Participating hospital leaders in more densely populated areas of the state noted the challenges of managing volume shift when patients have a choice of where and when a service is offered most conveniently for them, as one PPS hospital leader commented:

I do not think [the model] makes a lot of sense for us. Why? Because of the shifts. Because of the competition. I do not really consider us rural. When you can get into a car and drive 30 minutes, 45 minutes, and there's a hospital, which is a tertiary or it's part of a large academic medical center, that's not rural...That's why I said [participating hospital], which is a little more isolated, would probably have that ability to say, "I'll wait for Dr. So-and-so, and I'll try to get on his Wednesday schedule," whereas if somebody calls here at [hospital] and they can't get an OB/GYN appointment, their next call is to [neighboring hospital]. Their next call is to [other hospital], right? They have choice. They have competition. I guess that's what I'm getting at is, rural health, there is no competition because it's rural.

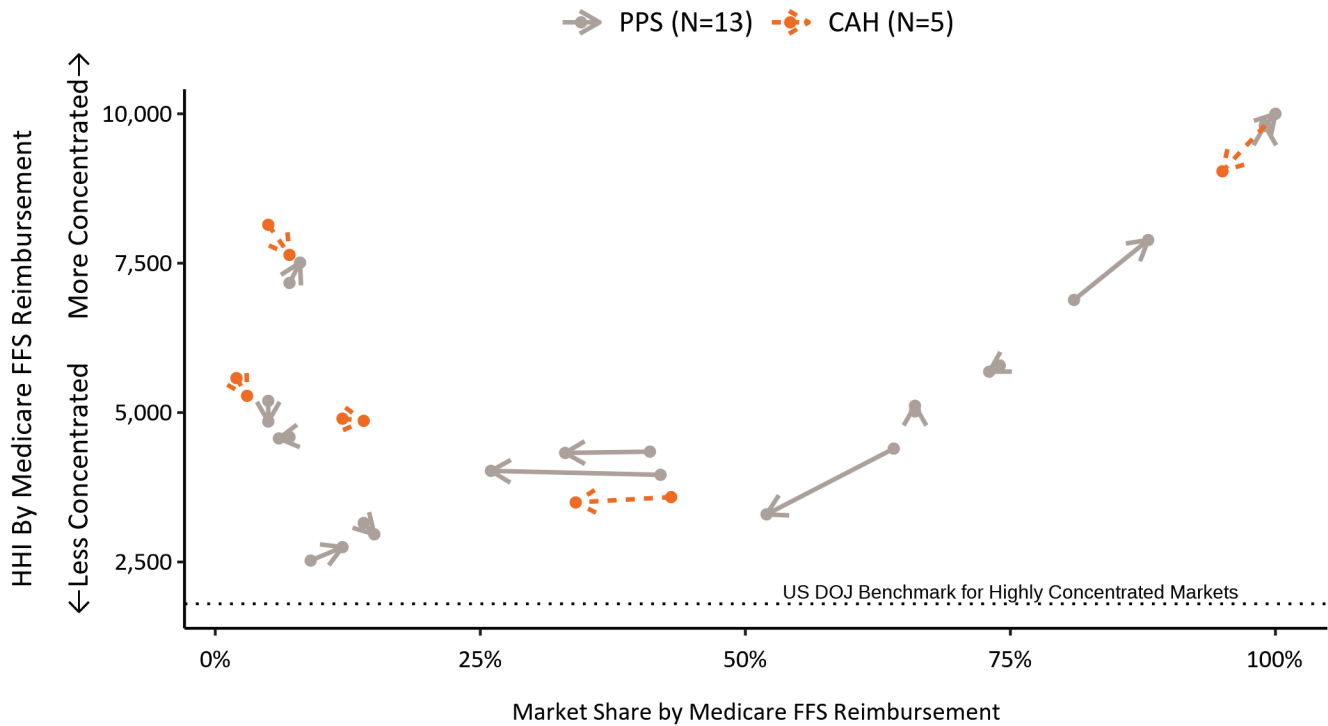
We analyzed Medicare FFS claims to compute the HHI and market share of global-budget covered services for each participating hospital. We defined each hospital's market area as ZIP codes comprising at least 0.75 percent of total revenue and/or wherein the hospital is one of the top two providers of global budget services. **Exhibit 2.8** illustrates the results, with each individual arrow indicating the change in each hospital's HHI and market share from 2019 (arrow origin) to 2022 (arrow point).

We found three participating hospitals (two PPS hospitals and one CAH) were near monopolistic in their market area, meaning they had close to 100 percent of the market share (x-axis) and HHI nearing 10,000 (y-axis) (**Exhibit 2.8**). Consistent with national trends,^{31,32} all participating hospital market areas were highly concentrated (defined by the U.S. Department of Justice as having an HHI > 1,800²⁷). However, most participating hospitals held less than 50 percent of the market share over the model period. This includes eight hospitals (five PPS hospitals and three CAHs), which held less than 20 percent of the market share, indicating relatively more competitive market conditions. On average, participating CAHs operated in more competitive market conditions than participating PPS hospitals, as they operated in market areas with higher HHI (that is, more concentrated) while holding a smaller share of the market. Market conditions for most participating hospitals (including all

⁵ Hospitals were eligible to participate in the model if they were located in a rural county as defined by the Center for Rural Pennsylvania. The Center for Rural Pennsylvania defines a rural county as a county where the population density is less than 284 persons per square mile.

CAHs) became more competitive, with either lower HHI and/or lower market share between 2019 (the origin of the arrows) and 2022 (the end of the arrows).

Exhibit 2.8. All PARHM hospitals were in highly concentrated market areas for global budget covered services provided to Medicare FFS patients, but most PARHM hospitals held less than 50 percent of the market share. Market competition increased for most participating hospitals between 2019 (arrow origin) and 2022 (arrow point).



SOURCE: Medicare FFS claims, 2019 and 2022

NOTES: HHI and market share calculations were based on Medicare FFS claims for global budget covered services with a claim service ZIP code within the participating hospitals’ market areas. Market areas are defined as ZIP codes that comprise at least 0.75 percent of the participating hospital’s total revenue, and any additional ZIP codes wherein the hospital is one of the top two providers of global budget covered services. Arrows show the change in each hospital’s HHI and market share from 2019 (arrow origin) to 2022 (arrow point); longer arrows indicate a larger movement in HHI/market share between 2019 and 2022.

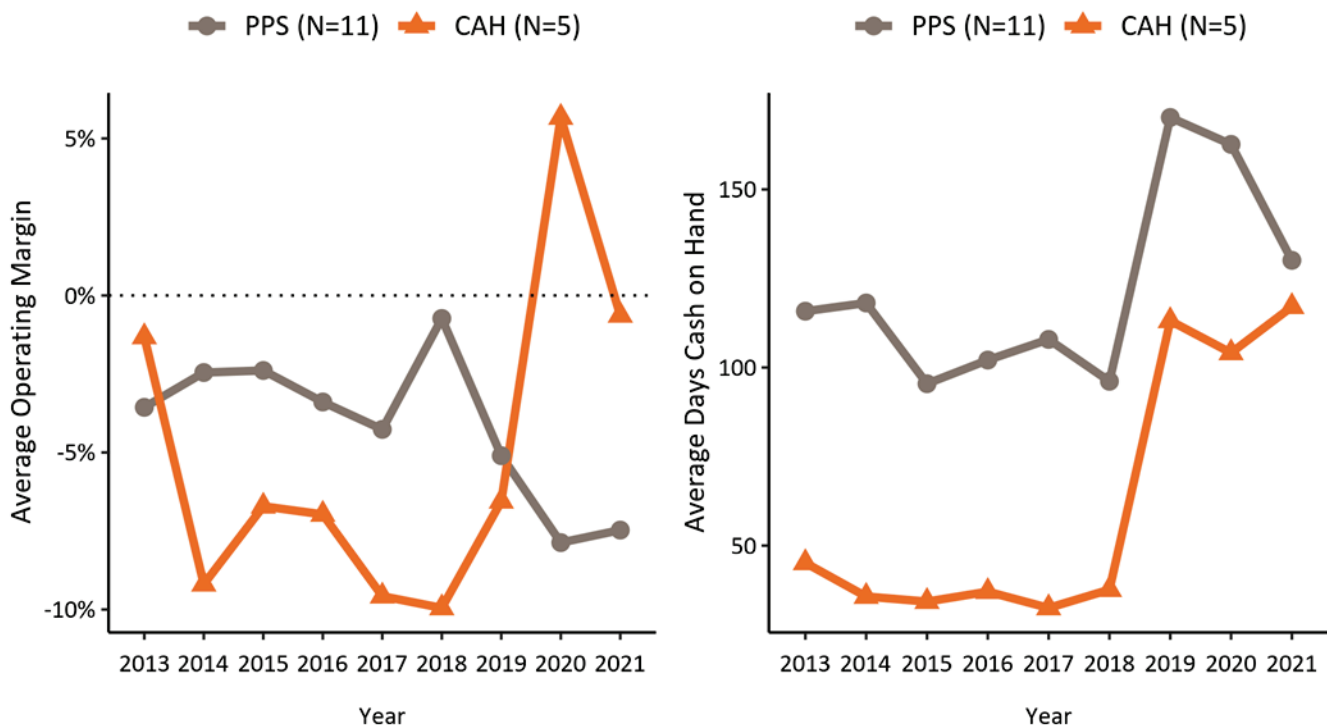
DEFINITIONS: HHI = Herfindal-Hirschman Index (the U.S. Department of Justice Antitrust Division defines an HHI between 1,000–1,800 as moderately concentrated, and HHI above 1,800 to be highly concentrated).²⁷

For context, health care markets are highly concentrated, even in urban areas, across the U.S.. Analysis of short-term general hospital market concentration (for inpatient services). U.S. Metropolitan Statistical Areas (MSAs) found that average HHI increased from approximately 5,500 in 2010 to 5,750 in 2016. Notably, hospital market concentration exceeded 2,500 in 90 percent of MSAs by 2016.³¹ An older analysis of market concentration across non-metropolitan hospitals using 1992 data showed a mean HHI of 6,548 in more urban settings (USDA county codes 4-7) and a mean HHI of 8,081 in more rural settings (USDA county codes 9 and 10).³²

Descriptive Assessment of Hospital Financial Performance

Financial performance was, on average better in PPS hospitals than in CAHs during baseline years (2013–2016) but converged or reversed after model onset, as measured by operating margins (**Exhibit 2.9**), days cash on hand (**Exhibit 2.9**), and long-term-debt to capitalization (**Appendix C.1**). Specifically, CAHs experienced a substantial improvement in financial performance across measures in 2019, while there was no notable improvement in PPS hospitals in either operating margins or in long-term debt to capitalization.

Exhibit 2.9. PPS hospitals generally had better financial performance than CAHs during baseline years (2013–2016). However, CAHs experienced a notable improvement in financial performance at the time of model onset.

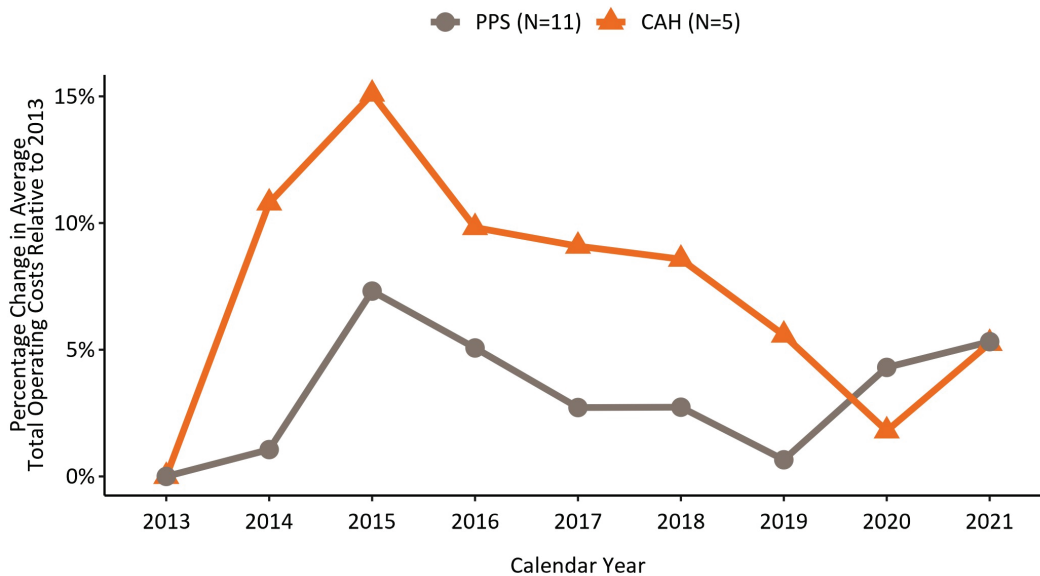


SOURCE: Healthcare Cost Report Information System (HCRIS) data 2013–2021

NOTES: Two PPS hospitals (Bradford and UPMC Kane) were excluded from this figure due to reporting of extreme values. Hospitals entered the model in 2019 (Cohort 1), 2020 (Cohort 2), or 2021 (Cohort 3).

Participating hospitals described efforts to reduce costs and increase operational efficiency. However, after adjusting for inflation, total operating costs increased slightly from PY1 (2019) to PY3 (2021) in PPS hospitals and remained largely unchanged in CAHs (**Exhibit 2.10**). Participating hospital leaders cited rising costs of staffing, drugs and other supplies, and workforce health insurance. However, the ratio of total compensation (salaries, contract labor costs, benefit costs) to net patient revenue in PPS hospitals and the ratio of total salaries to net patient revenue in both PPS hospitals and CAHs remained stable between 2013 and 2021 (**Appendix Exhibit C.1**).

Exhibit 2.10. Real total operating costs have risen slightly in PPS hospitals and have remained largely unchanged in CAHs during the model period.



SOURCE: Healthcare Cost Report Information System (HCRIS) data 2013–2021

NOTES: Two PPS hospitals (Bradford and UPMC Kane) were excluded from this figure due to reporting of extreme values. Hospitals entered the model in 2019 (Cohort 1), 2020 (Cohort 2), or 2021 (Cohort 3). Costs are inflation adjusted to 2021 dollars.

As discussed in the second and third evaluation reports, hospital leaders noted that global budgets do not account for hospital expenses. Participating hospital leaders continued to voice concerns about the global budget keeping pace with increasing costs, with one PPS hospital leader commenting, *The model was intended to address what was a long and systemic matter of small community hospitals facing declining volumes and declining revenue. I think it did do that. What it did not do was something that had not been seen in an extremely long period of time, was an enormous era of inflation, and that is the one thing that was not prepared for.* Further, while participating hospitals made efforts to reduce costs, they reported that unexpected higher costs left fewer resources available to invest in physical plant updates and other capital expenses, such as telehealth and diagnostic technologies.

CAH leaders also described fixed costs (for example, maintaining minimum staffing required for a 24/7 emergency department and lab) that they must shoulder regardless of volume. For example, as shown in **Exhibit 2.11**, inpatient facility occupancy rates have been declining steadily between 2013 and 2020 in CAHs and between 2014 and 2019 in PPS hospitals, indicating lower inpatient revenues over time relative to the fixed costs of maintaining inpatient beds.

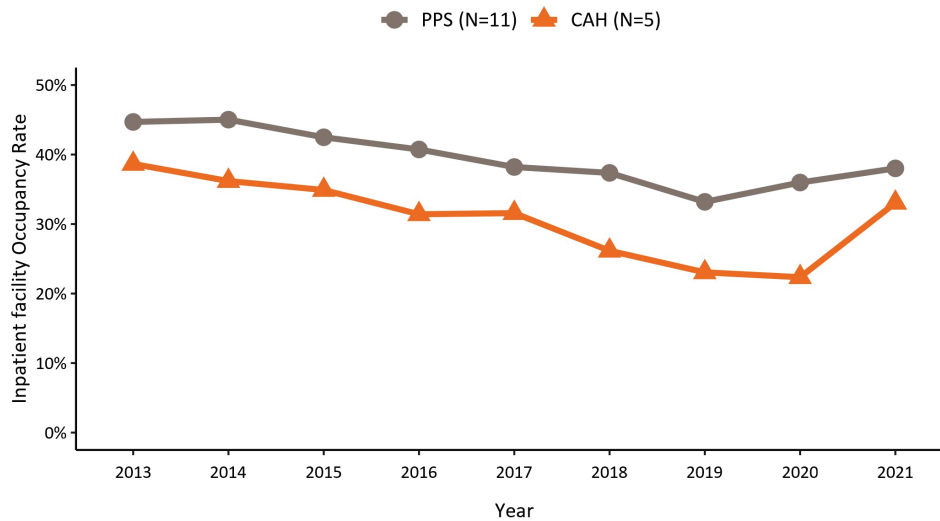
Participating CAH leaders commented on the challenges of reducing staffing costs because they are already operating with minimum staffing needs to comply with Conditions of Participation.[†] One CAH leader explained that regardless of the census, staffing remained constant, with the minimum staffing required:

If it's a low census day, we always have one RN and one LPN on the floor. If they have five inpatients, that's fantastic. If they have 15, not so great for them, but there's not a pool of staff. You either have a lot of nurses sitting with very low census to wait for those 16 patient days, or you have a small staff that typically day-to-day can handle the small census, but when it shoots up, which inevitably it does, then those are very stressful days for that staff...There's not a real happy medium out here...It's not like you have float staff, so sometimes the admin nurses will step up. Either that or if it gets really crazy, they'll call other nurses in, but it's always overtime for them because they're staffed at 40 hours a week. They work a lot of hours.

Commercial payers were also aware of the challenges participating hospitals are facing with increasing costs. They were sensitive to these pressures and the potential impacts of global budget reconciliation repayments on the financial performance of participating hospitals. As the model allowed for commercial payers to determine how to handle reconciliation on an individual basis, one commercial payer noted they specifically considered the financial pressures rural hospitals are facing when determining how to approach reconciliation and rate setting negotiations. Payers provided such flexibilities consistent with the model goals of strengthening the financial viability of participating hospitals.

[†] The Medicare Conditions of Participation (CoP) are a set of federal requirements that hospitals must comply with in order to receive Medicare/Medicaid payment. The CAH CoP can be found here: <https://www.ecfr.gov/current/title-42/chapter-IV/subchapter-G/part-485/subpart-F>. Compliance is assessed through observations, interviews, document/record reviews, and surveys.

Exhibit 2.11. Inpatient facility occupancy rates have fallen steadily since 2014 in both PPS hospitals and CAHs, with recovery beginning in 2020 in PPS hospitals and in 2021 in CAHs.



SOURCE: Healthcare Cost Report Information System (HCRIS) data

NOTES: Two PPS hospitals (Bradford and UPMC Kane) were excluded from this figure due to reporting of extreme values.

Hospital and Payer Perceptions of the Global Budget and Reconciliation

As noted in previous reports, participating hospitals appreciated the stable cash flow provided through the Medicare fixed global budget. The predictable cash flow was particularly helpful during the COVID-19 PHE when many services were limited, and afterward, when utilization continued to lag pre-pandemic levels. One PPS hospital leader commented, *It played an important element for us in terms of helping to sustain cash flow during a really, really challenging period of time.* Overall, both PPS hospital and CAH leaders were satisfied with the stable payments provided by the global budget.

While CAH leaders appreciated the stable cash flow, they had concerns about overall decreasing biweekly payments in subsequent performance years. CAH global budgets are rebased annually using the most recently available cost reports.² CAHs continued to reconcile to cost-based reimbursement,⁴ with the reconciled amount applied to prospective global budgets. As a result, three of five participating CAHs experienced decreased biweekly payment amounts in their prospective global budgets in PY3 (2021), and four CAHs experienced decreased biweekly payment amounts in their prospective global budgets in PY4 (2022). As noted earlier, repayments contributed to reduced cash flow for these hospitals. Despite these challenges, participating CAHs still found value in the global budget, with one CAH leader commenting:

⁴ Because CAHs continued to reconcile to cost-based reimbursement under PARHM as with before the model, average CAH payments for Medicare FFS services did not decline or change due to the model; they would have similarly declined due to changes in volumes, payer mix, and costs absent the model.

I hope even if the model goes away they will keep this for us. The biweekly payment not based on our census has been monumentally helpful to us for planning purposes because our census can be one today and 15 next week. We have months that are very low census months and months that are higher census months. Having that consistency with the biweekly reimbursement so you're not going—it's not either feast or famine. It all comes out to the same dollar at the end of the day, but the way they're paying it is much more helpful than what we had before. That is the one good financial thing I could say has really come out of this.

Participating hospitals and payers reported that, because global budgets are reconciled, they do not eliminate financial unpredictability. While participating hospitals and commercial payers adapted to global budget monitoring and planning, they could not anticipate the financial outcomes of reconciliation (with the exception of CAHs for Medicare FFS). Specifically, participating hospitals could not forecast potential UVS adjustments. One implementation partner commented:

While we're hoping for predictability, we really do not have it because the reconciliation...the UVS that, if you grow market share, you want to be able to have your global budget flex with that growth, is the very thing that has caused the most unpredictability and the most complication with the program.

Further, participating hospitals and commercial payers reported a limited understanding of how reconciliation adjustments are calculated. Reconciliation amounts were calculated by implementation partners using data provided by payers. Multiple hospital and payer respondents noted the data entered a “black box,” and they were not able to validate settlement amounts internally. As one participating payer noted:

I think the reason why it's difficult to predict is because of the adjustments that are made throughout the year could go either way, depending upon patterns of care and things like that, which we don't have good visibility to understand where it will go.

In addition, hospitals noted the complexity and level of effort required to understand and manage the model. Smaller hospitals noted a lack of staff capacity to focus on the model.

The timing of reconciliation was challenging for participating hospitals and payers. While participating hospitals and payers recognized the need for the claims runout period and time needed to complete the reconciliation calculations, they noted the timelines remained challenging for financial planning and accounting purposes. One participating hospital leader noted that they did not receive the budget until the first quarter of the year for the performance year that began on January 1. Several hospitals operate on fiscal years that do not align with the calendar years used in the model, creating additional complexity. Participating hospitals described receiving monthly reports but noted the data were three to six months old. As one participating PPS hospital leader noted, *The problem is, during the year, we are never really sure where we are going to end up and if we*

need to reserve an amount for that, and the run out's then 18 months after the year ends, and so, I think it's a little overly complicated. Commercial payers also expressed concerns about the timing of reconciliation and said they would like to see reconciliation completed within one year of the end of the performance year.

Participating hospitals and payers continued to express concerns that the global budget does not provide sufficient incentive to invest in transformation. Hospital leaders were cautious about investing in transformation due to the potential of facing future repayments due to reconciliation. Hospitals considered resources and staffing capacity when developing and updating hospital transformation plans. As a result, hospitals made small, incremental investments in transformation, with many activities supported by grant funding. One participating CAH leader commented:

What we found out with the model was that we did not get any more money or anything that we could set aside and use into the community like we thought we would. As time went on, we have less money, because we have found out that we were overpaid by CMS, by some other payers, and now, we are in a hole because we have to pay that money back, not leaving anything to reinvest into the community. It seems like that the model's purpose was to help us help the community and that never came to fruition.

Participating payers appreciated the stability of the global budget methodology in PY4 (2022). By PY4 (2022), the global budget methodology was set. However, as noted in previous reports, commercial payers were frustrated by the time needed to solidify the global budget methodology, including ongoing adjustments to the reconciliation process during the model period. One participating payer commented on the need for a set methodology before a model begins:

It honestly doesn't really matter to us, whether they make payment right away or they wait. It just feels like the rules change every year. I know we make exceptions. There was an exception made to a hospital last year. Which, again, it is not going to break us, but then I have to explain to our accounting department why we're not going to get the credit for the cash until the next year. It just adds more complexity, so I would be more—I would push for more stringent rules and regulations for this and really try not to adjust.

In previous years, commercial payers also noted the burden of implementing changes to data files to address changes to the specifications of the global budget methodology. In PY4 (2022), there were minimal changes to the global budget methodology, excluding COVID-related adjustments.

2.4 Discussion

The testing of PARHM's global budget advances the CMS Innovation Center's strategic objective to drive accountable care. PARHM's global budget is an innovative payment model providing hospitals with financial

predictability through prospective global budgets intended to allow them to transform care to improve access, quality, care coordination, and outcomes.

Participating hospitals appreciated the financial stability provided by the global budget and PPS hospitals overall fared better than they would have under traditional FFS. Participating hospitals and payers noted benefits to participation, with all hospitals continuing to operate and participate in the model. As noted in previous reports, all participating hospitals appreciated the stable cash flow provided by the global budget, particularly during the COVID-19 pandemic. Overall, global budget payment amounts exceeded Medicare FFS equivalents for the services provided more consistently in PPS hospitals than in CAHs. As one participating PPS hospital leader commented, *In the aggregate I'd say that we were probably pleased with it, but [sic] we were better off with it than had we not participated.* PPS hospitals experienced greater financial stability in Medicare FFS through the global budget methodology's reconciliation process than CAHs. Participating hospitals and payers recognized benefits to participation, with all hospitals continuing to operate and participate in the model.

Hospitals and commercial payers reported that while the global budgets provided predictable cash flow during the year, the reconciliation process limited the model's overall effect on reducing year-to-year financial unpredictability. The UVS adjustments were a substantial driver of Medicare FFS reconciliation settlements for PPS hospitals. While the UVS adjustments were included in the global budget methodology to allow hospitals the flexibility to grow services, they also apply to reductions in volume or services, which result in declines in subsequent global budget amounts. Notably, our analysis revealed that unplanned and unpredictable changes in contextual factors, such as market competition and clinician turnover, resulted in large settlements and changes in the global budget via the reconciliation process. Despite the relatively concentrated markets in which PARHM hospitals operate, this evaluation also suggests that hospitals operating in less competitive markets may be less likely to see large, unpredicted declines in global budgets due to downward UVS shifts.

Commercial payers also expressed concerns about the reconciliation adjustments and their inability to forecast the outcomes of reconciliation due to the complexity of the methodology and data inputs required. The COVID-19 pandemic affected volume and financial outcomes for all participating hospitals, and it is unclear how the reconciliation process, and UVS adjustment in particular, would have fared absent the pandemic.

CAHs, overall, experienced decreased global budget payments for Medicare FFS in later model years due to a combination of declines in total Medicare FFS volume and incorporation of settlements (due to overpayments in previous years) in future global budgets. As noted in **Exhibit 1.4**, Medicare Advantage penetration has increased across the participating market areas since the implementation of the model. CAHs expressed concerns about managing the decreased cash flow, the key benefit of the model. Notably, two CAHs experienced such large decreases that they entered into agreements to repay Medicare FFS reconciliation settlements over an extended period to avoid having negative cash flow. Reconciliation to cost-based reimbursement resulted in no change to the total Medicare FFS reimbursement received.

However, despite concerns about global budget adjustments and reconciliation, participating hospitals experienced reduced variability in cash flow and increased short-term revenue predictability. PARHM's global budget enhanced weekly and monthly predictability and delayed the effects of clinician losses or other unexpected events and shifts in care volume.

Hospitals and payers noted the global budget did not support investments for transformation, in part due to uncertainty around reconciliation. Both participating hospitals and payers described the intent of the model to support investments in care delivery transformation and community investment. However, participating hospitals were hesitant to make large-scale investments in transformation due to the potential for repayment to payers following reconciliation. Participating hospitals were further limited by staff capacity to implement transformation initiatives. As the RHRC noted in their proposed Next Generation Concept,^v the PARHM global budgets are calculated based on patient revenues and do not account for additional funds that would be necessary for investing in transformation activities by the participating hospitals, which on average had negative operating margins prior to model onset (Exhibit 2.8).³³ While the global budget provided stability and prevented further decline in operating margins, hospitals with negative margins would not have sufficient resources (e.g., dedicated funding, staff) to invest in transformation. Further, participating hospitals reported inflation and increased staffing costs following the COVID-19 pandemic, which created additional financial pressures.

Despite these financial challenges, participating hospitals were driven by the transformation planning process to make incremental changes to improve the quality of care and population health. These efforts were further supported through technical assistance and grant support from the RHRC and other partners (for example, the Pennsylvania Office of Rural Health and local foundations).

Future models for rural providers can consider opportunities to improve financial predictability as a method for driving accountable care. Several respondents spoke about the challenges of implementing changes to the global budget methodology during the performance years. Future models could minimize annual changes to the methodology during performance years to provide more stability to participating payers and providers. Similarly, timelines changed during the performance years, creating challenges for participating payers and hospitals. Clearly defined timelines and processes are crucial for ensuring that participants have complete information in a timely manner, which facilitates both financial and transformation planning.

During the model recruitment phase, transparent communication and enhanced education could include providing potential participants with scenarios showing positive and negative adjustments and the underlying contextual factors (for example, clinician gains/losses, market share gains/losses) and operational changes that may influence these financial outcomes. Further, participating hospitals may benefit from ongoing technical assistance or a dashboard that allows participants to model potential scenarios of reconciliation. A dashboard

^v In December 2022, the RHRC submitted a next generation concept document in accordance with the Amended State Agreement which states the Commonwealth can submit to CMS a proposal for a new model test by December 31, 2022, to potentially be implemented January 1, 2025. The proposed next generation concept builds on the lessons learned from PARHM.

could allow participants to forecast reconciliation settlement amounts under different scenarios involving varying levels in market shifts (involving service line changes or unplanned volume shifts), improvements in performance quality, levels of inflation, market-area demographic shifts, and other factors considered in the reconciliation process. By allowing providers and payers to explore potential scenarios between annual reconciliations, these resources can help facilitate improved financial forecasting and planning.

Finally, guardrails—or some threshold for reconciliation amounts to avoid outliers from unexpected change—could provide additional predictability for both payers and hospitals. The model’s reconciliation process can result in additional payments to hospitals or repayments to payers. Participating payers noted that, unlike other programs, the model does not set any parameters or guardrails around year-to-year variability due to reconciliation.

Chapter 3: Behavioral Health Transformation

Key Takeaways

Role of Hospital Transformation Planning



- The hospital transformation planning process serves as a catalyst for hospitals to identify innovative strategies to address behavioral health-related needs.

Implementation of Behavioral Health Transformation Activities



- Participation in the model motivated hospitals to partner with local primary care providers, counseling services, and social service organizations.
- Market areas of participating hospitals showed improvement in 7-day and 30-day follow-up rates for Medicaid patients after inpatient stays for mental health diagnoses, but a decline in both 7-day and 30-day follow-up rates after emergency department discharges for mental health diagnoses. The lack of follow-up after emergency department visits may be due to limited availability of inpatient and outpatient behavioral health care services.
- Market areas of participating hospitals saw elevated rates of follow-up care after ED discharges for Medicaid patients with substance use disorder (SUD) compared to similar hospitals and to national benchmarks. One contributing factor to higher follow-up rates may have been formalized partnerships with community-based organizations that provide substance use recovery support.
- While participating hospitals noted that model participation encouraged investment in medication-assisted treatment (MAT), barriers to local treatment persist, including resistance from providers and clinical directors to providing MAT services (such as liability concerns, lack of time, and staff turnover).

Lessons Learned



- The model’s transformation planning process provides a framework for participating hospitals to develop actionable goals focused on behavioral health and establishes a mechanism to reinforce progress toward those goals.
- The model is hospital-centric, and funding does not flow directly from hospitals to support the model’s goal of decreasing deaths from SUD and improving access to treatment for opioid use disorder (OUD). Participating hospitals reported financial constraints and often rely on funding outside of the model to support transformation.

While the prevalence of SUD^w and mental illness is similar in urban and rural communities, rural communities face a unique set of challenges that contribute to disparities in behavioral health outcomes.³⁴ The behavioral health^x care needs of rural residents are often unmet due to lack of affordable, accessible, available, and acceptable services.³⁵

Affordability is a major barrier for rural residents who are more likely to live in poverty and be uninsured or underinsured.³⁶ This barrier is exacerbated by geographic inaccessibility. Rural residents travel more than twice the distance (17.8 miles) than urban residents (8.1 miles) for health care services.³⁷ Furthermore, the availability of behavioral health care is severely limited by the shortage of eligible clinicians in rural communities. As of December 2023, 168 million Americans live in a mental health professional shortage area.³⁸ This lack of availability impacts rural residents most, with 60 percent of mental health professional shortage areas located in rural communities.³⁸

Acceptability—the extent to which an individual is willing to seek care for a behavioral health concern—compounds the challenges associated with other domains of access.³⁵ Research suggests that rural residents are more likely to report stigma around mental illness and as such are less likely to seek help.³⁴ Additionally, as a byproduct of living in smaller communities, rural residents are more likely to personally know their mental health clinicians, which can discourage seeking care.³⁹

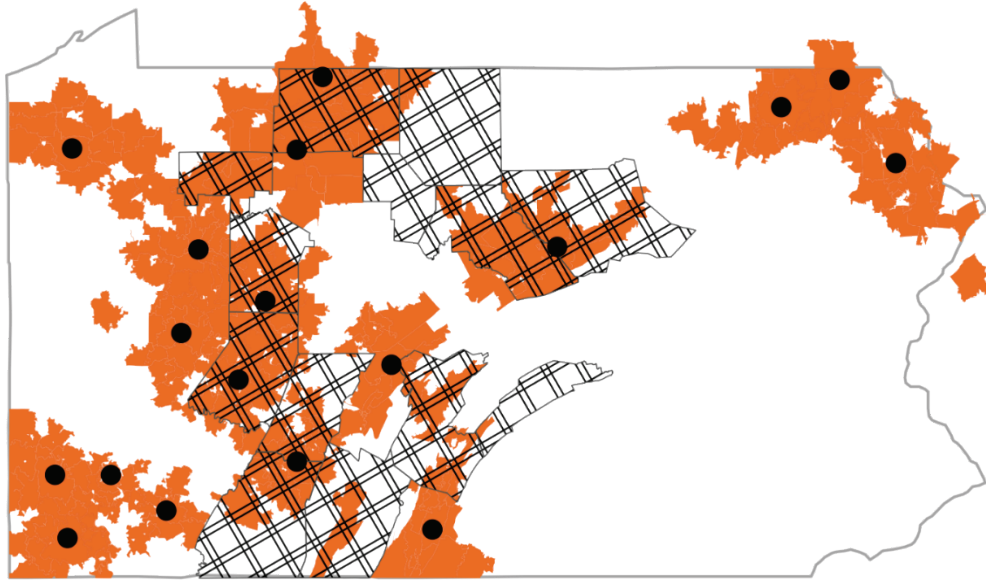
Pennsylvania has one of the highest rates of drug overdose mortality (42.4 per 100,000) in the United States.⁴⁰ This rate is significantly higher than the national average (28.3 per 100,000).⁴⁰ Furthermore, SUD affects one in four families in Pennsylvania, and there are an estimated 1.2 million Pennsylvania residents in SUD recovery.⁴¹ Many participating hospitals serve areas located within mental health care Health Professional Shortage Areas (HPSAs) (**Exhibit 3.1**). Additionally, prior interviews with model participants highlighted that participating hospitals find it challenging to refer patients for behavioral health care due to limited services in PARHM market areas. One of the overarching model goals is to decrease deaths from SUD and improve access to treatment for opioid misuse.^y

^w For the purpose of this chapter, substance use disorder (SUD) includes opioid use disorder (OUD), alcohol use disorder (AUD), and other drug use disorders.

^x We use “behavioral health” throughout this chapter to refer to SUD and mental health diagnoses, collectively.

^y While the model goal targets SUD specifically, we have broadened our exploration to behavioral health more generally given the high prevalence of co-morbid SUD and mental health diagnoses, especially in the wake of the COVID-19 pandemic.

Exhibit 3.1. Geographic mental health care HPSAs overlap with the market areas served by many participating hospitals.



SOURCE: Medicare FFS Claims (CY 2013-CY 2017), HRSA Shortage Designation Management System

NOTES: Orange areas indicate PARHM market areas. Black dots () indicate participating hospitals. The checkered pattern () indicates geographic mental health HPSAs.

This chapter describes hospital transformation activities related to behavioral health care access and quality. As described in [Chapter 1](#), each participating PARHM hospital is required to develop a plan outlining how the hospital will redesign care delivery to address community health needs. The hospital transformation plans include specific, measurable, and actionable transformational goals and are updated annually to describe activities completed and changes made during the prior performance year. Furthermore, hospitals monitor progress toward completion of transformation activities on a quarterly basis to ensure accountability. More than half (n=12) of participating hospitals developed transformation goals related to improving behavioral health care delivery through program implementation, service development and expansion, training/education, and engagement with community partners.

The data presented in this chapter should be considered in the context of PARHM transformation goals and other factors that influence behavioral health transformation in participating market areas. Participating nonprofit hospitals are required to conduct community health needs assessments (CHNA) every three years,⁶⁴ and these CHNAs highlight many of the issues covered by transformation planning. As part of the CHNA process, participating hospitals are also required to update their Community Health Improvement Plan (CHIP) annually and evaluate progress toward addressing unmet needs.⁴² Additionally, participating hospitals may draw on other

funding sources outside the model (for example, Rural Communities Opioid Response Program grant,² State Opioid Settlement funding,^{aa} and foundation grants) to facilitate behavioral health-related transformation activities. There is some overlap among the model's transformation planning process, other community hospital requirements, and other funding sources available to community hospitals throughout the PARHM performance period. Collectively, participating hospitals leveraged these complementary sources to address unmet behavioral health needs in rural Pennsylvania.

3.1 Scope of Case Study

The Innovation Center Strategy Refresh identifies partnering as an important part of achieving system transformation.⁴ The model motivated participating hospitals to leverage the hospital transformation plans to focus on systems change across the behavioral health care continuum. Through the transformation planning process, PARHM hospitals developed goals that involved engaging community partners to advance health equity. To meet community needs and address model goals, most participating hospitals developed at least one transformation goal related to enhancing behavioral health care delivery in their communities.

This case study explores participating hospitals' experiences implementing behavioral health-focused transformation goals. This includes an investigation of the context in which participating hospitals work toward behavioral health transformation, the quality of their behavioral health care, and how access to and quality of care has evolved over time.

Specific research aims addressed include:

- Understand behavioral health needs in the communities served by participating hospitals
- Describe hospital transformation goals and activities focused on behavioral health care access and quality
- Explore hospital-level and community-level implementation facilitators and barriers associated with behavioral health-focused goals
- Assess patient access to behavioral health services and quality of care in participating hospital market areas.

This case study was informed by both primary qualitative data and secondary quantitative data. First, we conducted key informant interviews with hospital leadership (clinical and administrative), community partners, and implementation partners (n=50) between May and October 2023. We then conducted a thematic analysis of interview transcripts to identify key topics relevant to our case study objectives. We also reviewed the hospital transformation plans (2019-2023) as well as primary data collected from 2020 to 2023. In addition to the

² The Rural Communities Opioid Response Program is a multi-year initiative that addresses barriers to treatment for SUD, including OUD. More information can be found here: <https://www.hrsa.gov/rural-health/opioid-response>

^{aa} Pennsylvania expects to receive over \$1.07 billion over 18 years to address the opioid crisis as part of the landmark settlement against opioid manufacturers and distributors. More information can be found here: <https://paopioidtrust.org/>

qualitative analyses, we conducted descriptive analyses of the Transformed Medicaid Statistical Information System (T-MSIS) Analytic Files (CY 2016-CY 2021) and Medicare Fee-for-Service (FFS) Research Identifiable Files (CY 2016-2021) to assess the health status of patients and the quality of their care. We also utilized the National Plan and Provider Enumeration System (NPPES) and state licensure data to measure patient proximity to providers.

We employed a mixed-methods approach to integrate the qualitative and quantitative findings. First, we used preliminary quantitative data to tailor the qualitative interview guides and inform hospital selection. We then used the qualitative findings to contextualize the quantitative findings and to understand the implementation experience, barriers, and facilitators for participating hospitals.

3.2 Findings

The model's hospital transformation planning process motivated participating hospitals to identify and work toward achieving behavioral health-related transformation goals. Participating hospitals that focused on expanding access to care for patients with SUD saw improved measures of access. Participating hospitals that focused on care pathways for individuals who present to the emergency department with mental health-related concerns saw improved follow-up measures. Despite improvements in measures of access and follow-up measures, behavioral health workforce shortages, difficulty finding long-term treatment for behavioral health, and transportation challenges created barriers to achieving transformation goals.

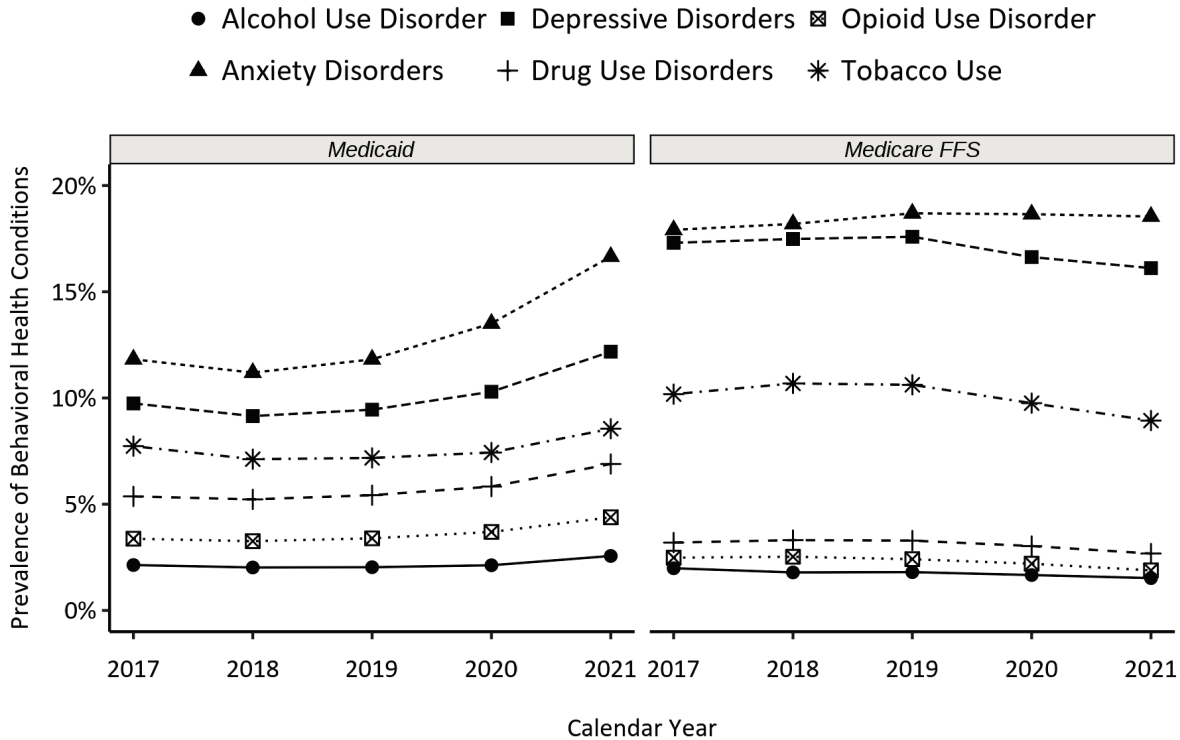
The Model's Role in Driving Behavioral Health Transformation

Consistent with national trends, market areas served by participating hospitals saw an increase in the prevalence of anxiety disorders, depressive disorders, and SUD for the Medicaid population in recent years (Exhibit 3.2).^{5,6} The Medicare FFS population saw slight declines in the prevalence of these behavioral health conditions over the same period, though rates of anxiety and depression remain elevated. Hospital leaders also noted shifts in the prevalence of chronic behavioral health conditions in their communities. For example, several respondents highlighted an increase in methamphetamine use occurring in tandem with an uptick in the number of individuals experiencing OUD. Emergency department clinicians also noted an increase in patients presenting with anxiety, depression, and suicidal ideation, as well as an increase in inpatient hospitalizations for behavioral health concerns. As one CAH clinical staff member explained, *Prior to 2019, we very rarely had to have sitters^{bb} for behavioral health patients in our [emergency department], but since 2020, we have sitters for people in behavioral health crisis on a weekly basis.* This trend was highlighted by a PPS hospital administrator

^{bb} Hospital "sitters" provide continuous observation of patients at risk of harming themselves or others.

who shared that *approximately 30 percent of [their] emergency department discharges right now are related to behavioral health.*

Exhibit 3.2. The prevalence of behavioral and mental health conditions has been increasing among Medicare FFS and Medicaid (FFS and managed care) patients residing in market areas served by PARHM participating hospitals over the model’s performance period.



SOURCE: 2017-2021 T-MSIS Analytic Files, 2017-2021 Medicare Enrollment Data
NOTES: Presence of chronic conditions are defined based on sets of diagnoses and procedures published on the CMS Chronic Condition Warehouse^{cc}

To address the increasing need for behavioral health care, 12 participating hospitals are focusing their transformation efforts on improving behavioral health care in their communities through at least one of four goals: 1) improving SUD management, training, and education, 2) expanding MAT and other SUD services, 3) implementing a behavioral health outreach program and/or 4) developing behavioral health telemedicine services. **Exhibit 3.3** provides additional detail about the specific types of transformation activities that participating hospitals undertook to improve behavioral health. The rows identify the relevant transformation goal (e.g., expand MAT or other SUD services), and each column describes the action steps that hospitals took to achieve the associated transformation goal (e.g., engaging community partners or providers).

^{cc} <https://www2.ccwdata.org/web/guest/condition-categories>

Exhibit 3.3. Hospitals sought to improve behavioral health through program implementation, service development and expansion, and training/education.

Transformation Goal	Engage Community Partners or Providers	Engage Staff and/or Patients	Monitor and Evaluate Data	Change Service Lines, Expand Workforce	Implement Protocols, Workflows or Databases	Conduct Follow-ups or Post-Discharge Activity	Use Patient Registries	Screen and/or Refer Patients	Hire/Assign Care Coordination Staff	Grants and/or Waivers	Other	Total Number of Hospitals
Improve SUD Management, Training and Education	0	0	0	1	1	0	0	0	0	0	0	1
Expand MAT or Other SUD Services	6	3	1	4	3	2	0	3	2	1	1	7
Implement BH Outreach Program	3	2	2	3	2	2	1	3	1	1	1	3
Develop BH Telemedicine Service	1	2	3	3	2	0	0	0	0	1	2	3

NOTES: Numbers represent distinct hospitals. “Other” includes hiring contractors, redesigning physical plant space, and allocating hospital resources or staff. This data reflects hospital transformation plans from PY4 (2022).

ACRONYMS: BH = behavioral health, SUD = substance use disorder, MAT = medication-assisted treatment.

Hospital respondents identified the model as helping them focus on specific transformation goals related to behavioral health. Some respondents explained that the hospital transformation planning process provided the *momentum* to identify concrete goals related to behavioral health. Hospital respondents ranging from clinical staff members to administrative leadership noted that the model helped them to prioritize behavioral health needs in their communities. As one participating CAH leader reported:

Our hospital wouldn't have the [behavioral health] focus without the Rural Health Model. It would have been on my radar, but I wouldn't have been able to give it the time or energy...the Rural Health Model has helped me focus because I do have to give quarterly updates, I do have to show the data. Without [the model], we wouldn't be even a fraction of where we are.

Further, the development of specific, actionable goals served as a catalyst for participating hospitals to make progress toward addressing current and anticipated behavioral health needs at both the patient and community levels.

To support hospitals in advancing behavioral health transformation goals, the RHRC pursued grant opportunities in partnership with participating hospitals. For example, the RHRC received a Rural Communities Opioid Response Program (RCORP) grant from the Health Resources and Services Administration (HRSA) on behalf of seven participating hospitals and eight community partners. The grant supports the placement of peer recovery specialists and case managers in hospital emergency departments to conduct assessments, link patients to treatment providers and support services, and serve as recovery navigators before, during, and after treatment. Participating hospitals valued the role of the RHRC in identifying and leading the application process for grants that align with their transformation goals and address community needs.⁴³

In the following sections, we describe the transformation activities that participating hospitals undertook to improve SUD and mental health care access and quality in their communities as well as associated outcomes.

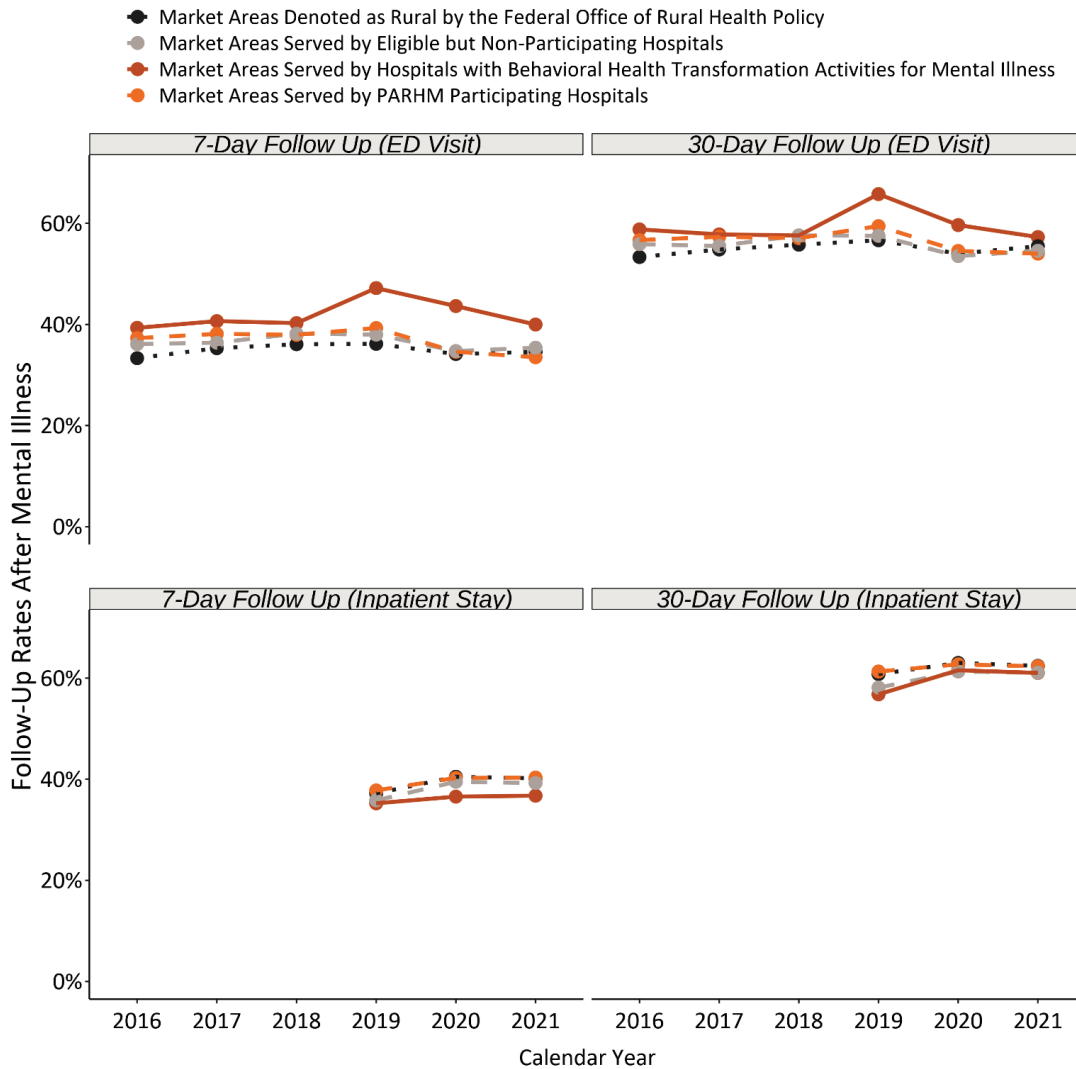
Implementation of Behavioral Health Transformation Activities

PARHM hospitals made substantial progress toward achieving their transformation goals. Hospital transformation goals included connecting patients who present to the emergency department for mental illness with outpatient mental health care services, improving care coordination for individuals with mental illness, developing telehealth services for behavioral health, and establishing community partnerships to support population mental health. In response to these goals, participating hospitals have established new service lines, enhanced workflows for mental health screening and intervention, and partnered with local, federally qualified health centers, primary care providers, and mental health practitioners to coordinate pathways to outpatient care.

Insights on Follow-up Rates for Emergency Department Visits and Inpatient Stays for Mental Health-related Concerns

Six hospitals (two CAHs and four PPS) focused their transformation efforts on improving care pathways for individuals who present to the emergency department for mental health-related concerns. We used Medicaid claims to assess follow-up measures related to mental health-related concerns as an indicator of progress towards mental health-related goals. The measures assess ED visits and inpatient stays for patients with mental health-related diagnoses, followed by a mental health visit within 7 or 30 days. Mental health-related concerns, as categorized in the follow-up measure, includes diagnoses such as schizophrenia, bipolar disorders, generalized anxiety disorder, and major depressive disorder. For areas served by PARHM hospitals overall, there was progress in 7-day and 30-day follow-ups after inpatient stays for mental health diagnoses for Medicaid patients, but a decline in both 7-day and 30-day follow-up rates after emergency department discharges for mental health diagnoses. Among areas served by the six hospitals, follow-up rates after emergency department discharges for mental health-related concerns declined but remained higher than non-participating hospitals' market areas and national benchmarks year over year (**Exhibit 3.4**). Rates of follow-up after inpatient stays were higher than after ED visits in PARHM market areas overall, and follow-up rates after inpatient stays continue to increase in areas of the six hospitals focused on this. This suggests that inpatient discharge planning may be more effective than that of EDs and that discharge procedures used by inpatient departments may help inform and improve ED discharge procedures.

Exhibit 3.4. Market areas for the six hospitals focused on improving care pathways for individuals with mental health diagnoses had higher follow-up rates for Medicaid patients following related ED visits compared to benchmarks. Follow-up rates after inpatient stays for mental health improved annually among Medicaid patients in market areas for these hospitals.



SOURCE: 2019-2021 T-MSIS Analytic Files

NOTES: NQF #3489 – Follow-Up After Emergency Department Visit for Mental Illness and NQF #0576 - Follow-Up After Hospitalization for Mental Illness were used for this analysis. National benchmarks are not available prior to 2017 for inpatient stay follow up.

Low rates of follow-up after emergency department visits for mental health-related concerns may be due to the limited availability of appropriate care along the continuum in the community (for example, residential and intensive outpatient treatment facilities). Especially during the COVID-19 pandemic, hospitals experienced difficulties securing available beds for mental health diagnoses at appropriate facilities. Hospital respondents highlighted the current lack of outpatient care options for mental health patients, contributing to overrun ED units and extended inpatient stays.

I don't know that the rural health model could do much with that. It's more of finding a place for [individuals with behavioral health needs] rather than [the hospital] being the place everybody else can dump them and leave them for months at a time because we can't place them.

Several participating hospitals, particularly CAHs, reported that they have limited inpatient and outpatient services to offer patients experiencing mental health-related concerns beyond monitoring in the emergency department. One hospital respondent highlighted that they are seeing *people [with behavioral health-related issues] being held in the emergency department for sometimes weeks* without behavioral health services or referral to treatment. A member of the leadership team echoed this observation at another participating hospital:

We had a patient in our emergency department getting no behavioral health support because we don't have the service, just medical care, for 53 days waiting for a bed...There are not the resources available to take care of these people on an outpatient or inpatient basis.

This delay particularly affects patients who could potentially be sent directly to residential treatment. Although we observed some improvements in follow-up care for mental health diagnoses, timely follow-up care does not occur after approximately 40 percent of emergency department discharges for mental health-related concerns (**Exhibit 3.4**). This may suggest limited access to appropriate care.

Low rates of timely follow-up care and inadequate access to mental health care, combined with transportation issues and workforce shortages, significantly impact the ability of participating hospitals to address the mental health needs in their communities. One hospital respondent highlighted the issue, stating, *The closest [treatment facility] would be an hour. Over an hour. We have to pay for transport of those patients.* Lack of transportation and the resultant prolonged ED stays before transfer for patients also impose a considerable financial burden on participating hospitals.

Hospital respondents reported various workforce shortages and retention obstacles, including provider shortages, policy challenges, and the inability to match competitive salaries in urban areas. Across participating hospitals, respondents face difficulties recruiting behavioral health providers to address the increasing mental health needs of their communities. One hospital respondent said: *If you were to call right now to any of the mental health providers around, you're probably looking at least a six-month wait. Two to six. They'll tell you*

two, but it's likely six. Respondents emphasized the urgency with which they need to hire providers since *mental health concerns don't go away while waiting for help*. Hospital respondents repeatedly expressed the difficulty of recruiting physicians and psychiatrists due to the lack of competitive pay in rural areas. Similar challenges were noted in efforts to attract nurse practitioners and community-based behavioral health providers. Workforce shortages and retention issues compound the complexities hospitals encounter when trying to enhance behavioral health care across the care continuum.

Insights on Follow-up Rates for Emergency Department and Inpatient Stays for Substance Use Disorder

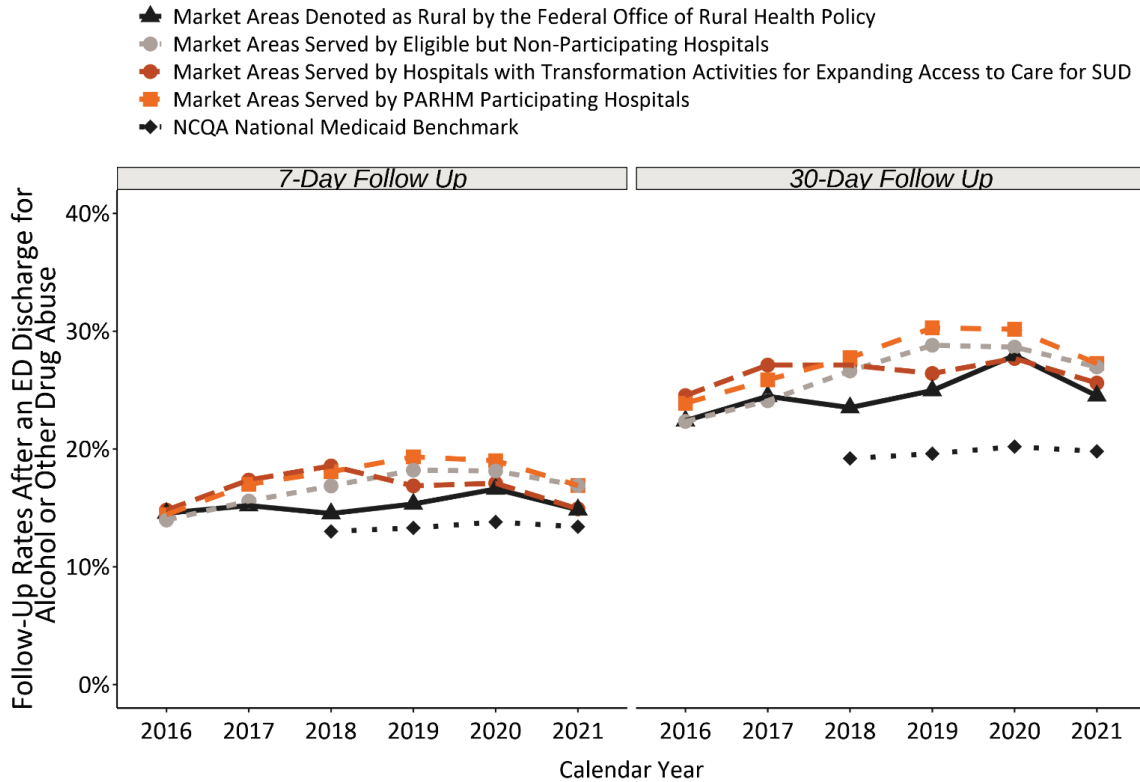
Eight hospitals (three CAHs and five PPS) focused their transformation efforts on expanding access to care for patients with SUD, specifically. For instance, one CAH developed a transformation goal to implement a recovery outreach program in their emergency department. To accomplish this goal, the hospital hired a social worker to identify all patients with SUD who visited the emergency department and then conduct follow-up at 2-days, 5-days, and 30-days after the visit. The recovery outreach program, implemented as part of the hospital's transformation plan, may have contributed to a higher rate of referrals to appropriate SUD treatment following discharge from the emergency department. Further, an administrative leader from this hospital shared:

We're having success with [new behavioral health care protocols]. I recently got some data on our behavioral health patients. From August of 2019 to August of this year [2023] we've had nearly a 35 percent reduction in behavioral health visits to our emergency department. That's tremendous. I attribute that to the protocols that we've put in place, and the resources that we've been able to gather...I'm very proud of the behavioral health work.

However, this hospital's success is atypical. The market areas served by participating hospitals overall saw 21 percent higher ED utilization for behavioral health issues in 2020 relative to 2019. In 2021, those areas saw another 5 percent increase in utilization. This trend is reflected in rural areas across Pennsylvania, with ED utilization for behavioral health increasing 15 percent from 2019 to 2020 and a further 3 percent from 2020 to 2021.

We used Medicaid claims to assess a follow-up measure for alcohol or other drug abuse or dependence as indicators of progress toward SUD-related goals. This measure evaluates ED visits for patients with a principal diagnosis of SUD or any drug overdose diagnosis, followed by a subsequent visit for SUD. Areas served by PARHM hospitals in the model had higher rates of both 7-day and 30-day follow-ups compared to other market areas and to national benchmarks for the Medicaid population. However, across areas served by all eight hospitals with transformation goals related to expanding access for SUD, rates for 7-day and 30-day follow-ups for Medicaid patients were lower than areas served by PARHM hospitals overall after 2018 (**Exhibit 3.5**). Rates of follow-up care are higher than when the model began for areas served by PARHM hospitals as a whole, but rates stagnated or declined at hospitals focusing on expanding access to SUD care.

Exhibit 3.5. Participating hospitals saw elevated rates of follow-up care for Medicaid patients after SUD-related ED discharges relative to their peers and to national benchmarks. PARHM hospitals with SUD-related transformation goals saw lower rates of follow-up compared to participating hospitals overall.



SOURCE: 2016-2021 T-MSIS Analytic Files

NOTES: NQF #3488 - Follow-Up After Emergency Department Visit for Alcohol and Other Drug Abuse or Dependence was used for this analysis. National Benchmarks are not available prior to 2017.

The three participating hospitals focused on expanding access to care for SUD have formalized partnerships with community-based organizations that provide on-site counselors and/or certified recovery specialists^{dd} to provide substance use recovery support at three participating hospitals. At each of these three hospitals, the respective community partner provides a staff member to triage and support individuals who present to the emergency department with substance use concerns. This support is available Monday through Friday from 9 a.m. to 5 p.m., and the counselors/certified recovery specialists are trained to conduct behavioral health intakes, warm hand-offs, and any necessary follow-up care.

^{dd} As defined by [The Academy for Addiction Professionals](#), certified recovery specialist is “an entry-level certification aimed at those who can use their life experiences to help others in treatment and recovery.”

Though we do not see correlational evidence that the formalization of partnerships with community-based organizations improved follow-up rates, we heard in interviews that the on-site counselors play a crucial role in addressing SUD needs. One hospital respondent who works with a community partner in this capacity shared that when an individual presents to the emergency department with SUD, *the first call [they] make is to [the community partner] for a certified recovery specialist*. The community partner emphasized this relationship and further highlighted the importance of this collaboration:

I think the most important role as a CRS [certified recovery specialist] is to really bridge the gap between the client and what they need. Whether they need to get in front of an MAT provider for further treatment...or something else, we can bridge the gap and help them get what they need.

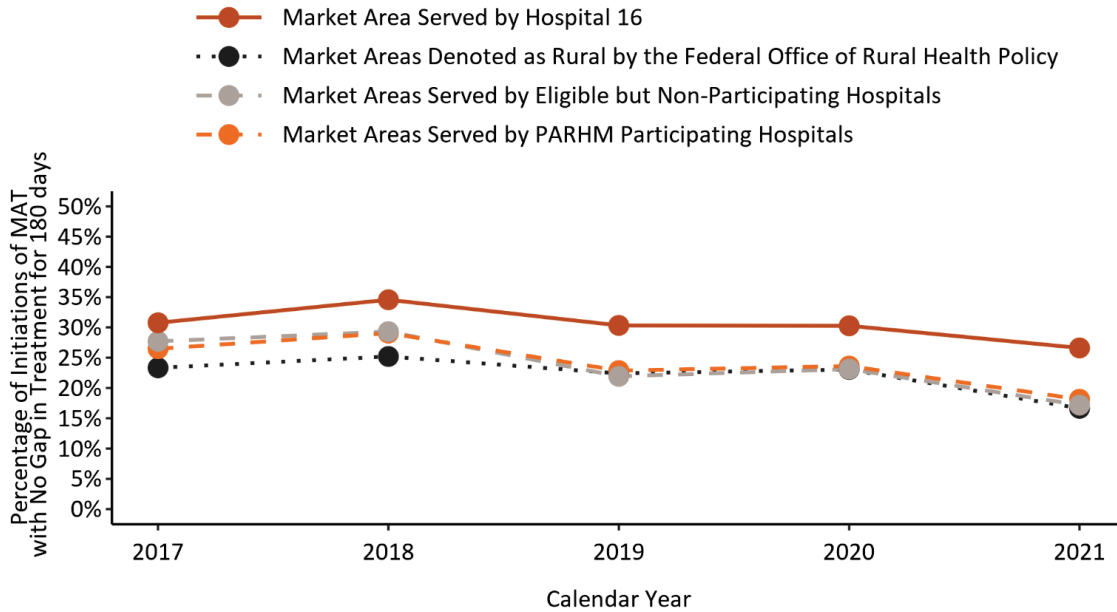
As such, other factors, such as lack of access to outpatient care or limited availability of transportation, may contribute to lower rates of follow-up among the hospitals among PARHM hospitals with SUD-related transformation goals.

Insights on Access and Adherence to Medication-Assisted Treatment

To further address SUD in their communities, five hospitals (one CAH and four PPS) focused their transformation efforts on increasing access to medication-assisted treatment (MAT) in their communities. Three of these hospitals established MAT programs in their communities and use MAT as one *tool in their toolbox* to treat SUD. One hospital received funding through RCORP to open two additional MAT clinics in their community.

One participating hospital (hospital 16) with a transformation goal to expand MAT had high rates of adherence to pharmacotherapy over the lifespan of the model and aligned more closely to the national rates (**Exhibit 3.6**). Clinical leadership noted that transformation planning increased hospital 16's accountability to achieve transformation goals, including formalizing MAT pathways and establishing relationships with pharmaceutical companies to provide medications (for example, Sublocade and Vivitrol).

Exhibit 3.6. Hospital 16 maintained elevated performance relative to other participating hospital markets with higher rates of adherence to pharmacotherapy for OUD for Medicaid patients.



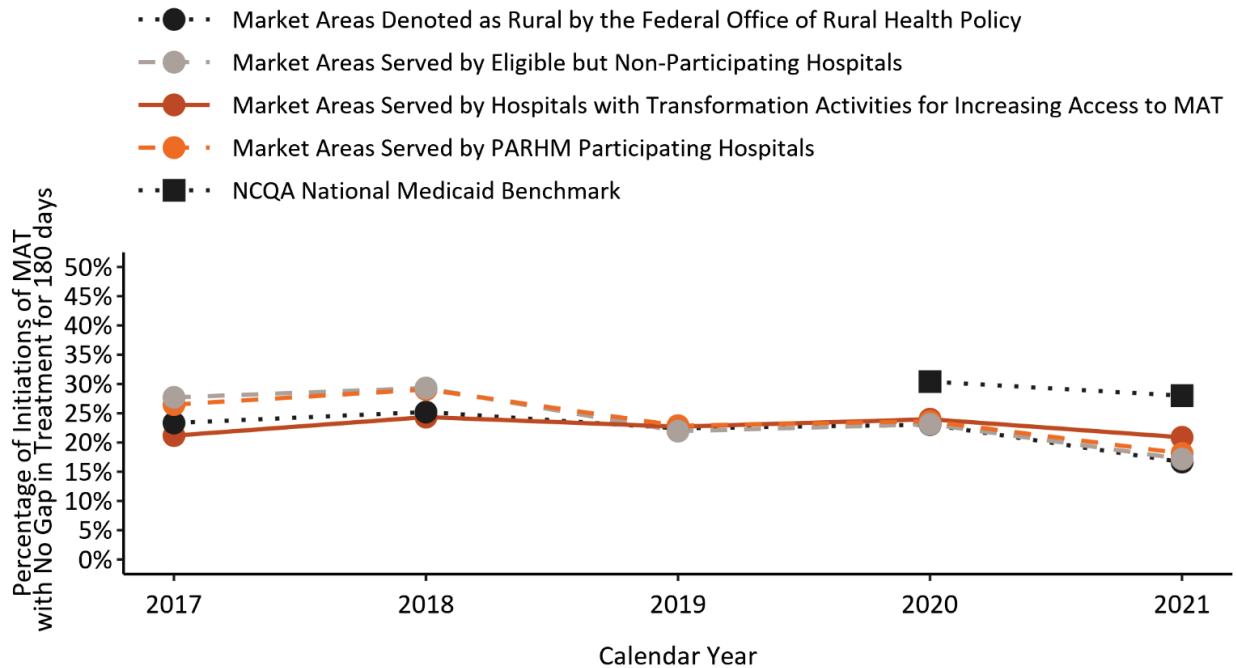
SOURCE: 2017–2022 T-MSIS Analytic Files

NOTES: NQF #3175 - Pharmacotherapy for Opioid Use Disorder was used for this analysis.

DEFINITIONS: Hospital 16—patients living in areas served by hospital 16.

Generally, adherence to pharmacotherapy for Medicaid patients remains low and is even decreasing in the areas served by PARHM hospitals (**Exhibit 3.7**). Across the five hospitals with MAT-related goals, initial rates of adherence to pharmacotherapy were lower compared to other market areas. However, in recent years (2019–2021), these hospitals achieved similar or higher adherence rates to pharmacotherapy. As such, trends in the utilization of care and quality of care observed from Medicaid claims data may highlight participating hospitals’ focus on specific transformation activities.

Exhibit 3.7. Participating hospitals have seen declining adherence to pharmacotherapy for OUD among Medicaid patients during the model implementation period. However, the areas by the five hospitals with MAT-related goals saw slightly higher rates in adherence in recent years compared to PARHM market areas overall.



SOURCE: 2017–2021 T-MSIS Analytic Files

NOTES: NQF #3175 - Pharmacotherapy for Opioid Use Disorder.

Limited access to MAT can be a driver of low adherence to MAT. For most participating hospitals’ market areas, residents do not live more than a 35-mile drive from the nearest provider listed in SAMHSA’s Buprenorphine Practitioner Locator. However, proximity to care is not the same as access to care. It is important to consider issues ranging from social stigma to the availability of MAT providers (for example, hours or caseload) that still pose substantial access barriers to MAT despite living relatively close to treatment. One hospital respondent noted that even though there are inpatient facilities within 30 miles of their hospital, they are *sending individuals to Pittsburgh and Philadelphia because everyone around [them] is full or identifies an insurance issue and won’t take [their patients]*. A shortage of available transportation exacerbates the existing challenges in accessing MAT.

While participating hospitals reported model participation and encouraged investment in MAT, barriers to providing treatment locally persist, including resistance from providers and clinical directors in providing MAT services (such as liability concerns, lack of time, and staff turnover). Staff turnover among trained MAT providers has also impacted multiple hospitals, particularly during the COVID-19 pandemic. One participating hospital leader reported:

Inevitably, we've dealt with staffing turnover of those [trained MAT providers] folks. Especially during COVID, we trained up two or three, got them ready for their waiver, applied, and then they moved. It was almost like the cycle starting all over again.

3.3 Discussion

PARHM hospitals shared positive feedback about the model's transformation planning process, which provided a framework to develop actionable goals focused on behavioral health and a mechanism to reinforce progress toward those goals. Future global budget models should incorporate transformation planning with requirements to formally track progress toward specific and measurable goals. While some hospitals may have engaged in behavioral health-related transformation activities without the model, participation provided hospitals with an accountability structure and focus areas. Improvements in SUD measures, such as elevated performance in Medicaid patients' adherence to pharmacotherapy in areas served by Hospital 16 compared to other market areas, may be associated with the transformation efforts of the participating hospitals overall.

Participating hospitals engaged community partners to provide behavioral health services. These partnerships were instrumental to success and should be formally integrated and financially supported in future models. Given that many residents rely on their local hospital as a gateway to appropriate behavioral health care, partnerships play a vital role in providing residents with access to behavioral health services and reducing potentially avoidable utilization (PAU) associated with behavioral health needs. That said, the model's global budget does not currently include professional services rendered by community providers nor those provided by entities affiliated with the participating hospitals. Including reimbursement for professional services as part of the global budget in a hospital-based model could facilitate referrals for behavioral health care, promote continuity of care, and reduce PAU. However, community-based clinicians provide many of the behavioral health services along the care continuum and would likely remain outside of a hospital global budget. Rural, community-based providers have limited financial resources and have struggled to recruit and retain staff.⁴⁴ Identifying federal, state, or private entities to provide start-up funds to support hospital-community partnerships may allow for enhanced community collaboration that more effectively supports the behavioral health care needs in participating market areas.

Participating hospitals reported that financial constraints are inextricably linked with other identified challenges such as transportation and workforce shortages, and they often rely on funding outside of the model. As noted in Chapter 2, hospitals were hesitant to invest in transformation due to uncertainty about the global budget. Furthermore, the global budget did not provide any dedicated funding for transformation activities. Hospital respondents indicated a varying reliance on scarce or insufficient external or grant funding, particularly for community-based behavioral health initiatives. In particular, lack of access to and/or ability to fund non-emergency medical transportation is disproportionately burdensome in rural communities and leads

to poorer treatment outcomes.³⁷ Addressing behavioral health treatment needs may involve creating financial incentives for community-based care to reduce the necessity of inpatient care as the sole option for community mental health and SUD treatment. Participating hospitals also need support to identify other potential funding sources that complement model goals.

The RHRC provided an avenue to collectively pursue grants that support behavioral health-related transformation. Participating hospitals have limited bandwidth to apply for grants to support their behavioral health work. Hospitals benefited from the assistance of an implementation partner who understands rural hospital needs and can offer staff capacity to pursue external funding. Additionally, the RHRC supports collaboration and efficiencies across participants. Technical assistance, such as the support provided by the RHRC, is a crucial strategy to advance health equity in rural communities.⁴⁵ Continued opportunities for technical assistance as part of the model would help participating hospitals explore and collaboratively pursue additional funding streams to achieve behavioral health-related goals.

Overall, the model provided the impetus for hospitals to begin addressing many of the challenges their rural communities experience related to behavioral health care delivery. Despite implementation challenges and the increased prevalence of mental illness and SUD in market areas of participating hospitals, participating hospitals demonstrated a commitment to behavioral health care transformation. Additionally, participation in the model encouraged hospitals to implement innovative behavioral health care delivery strategies, enhance hospital-community partnerships, and advance health equity in rural communities.

Chapter 4: Interactions/Alignment between the PARHM and Other Value-based Care Programs

Key Takeaways

PARHM and Shared Savings Program Overlap



- PARHM participating hospitals also participate in other value-based care (VBC) models, including CMS' Shared Savings Program (SSP).
- PARHM and SSP share some overarching objectives but employ different methodologies and have slightly different goals.
- In 2022, nine participating PPS hospitals had market areas where 30 percent or more of the Medicare FFS patients were assigned to an SSP ACO.

Perspectives on Concurrent VBC Programs



- PARHM and concurrent VBC programs share some similarities; however, hospitals noted challenges participating in multiple models with different patient populations, quality metrics, and payment mechanisms.
- When concurrent VBC programs have complementing approaches to care delivery transformation, it may create efficiencies and increase value in participation.

Perspectives for Future VBC programs

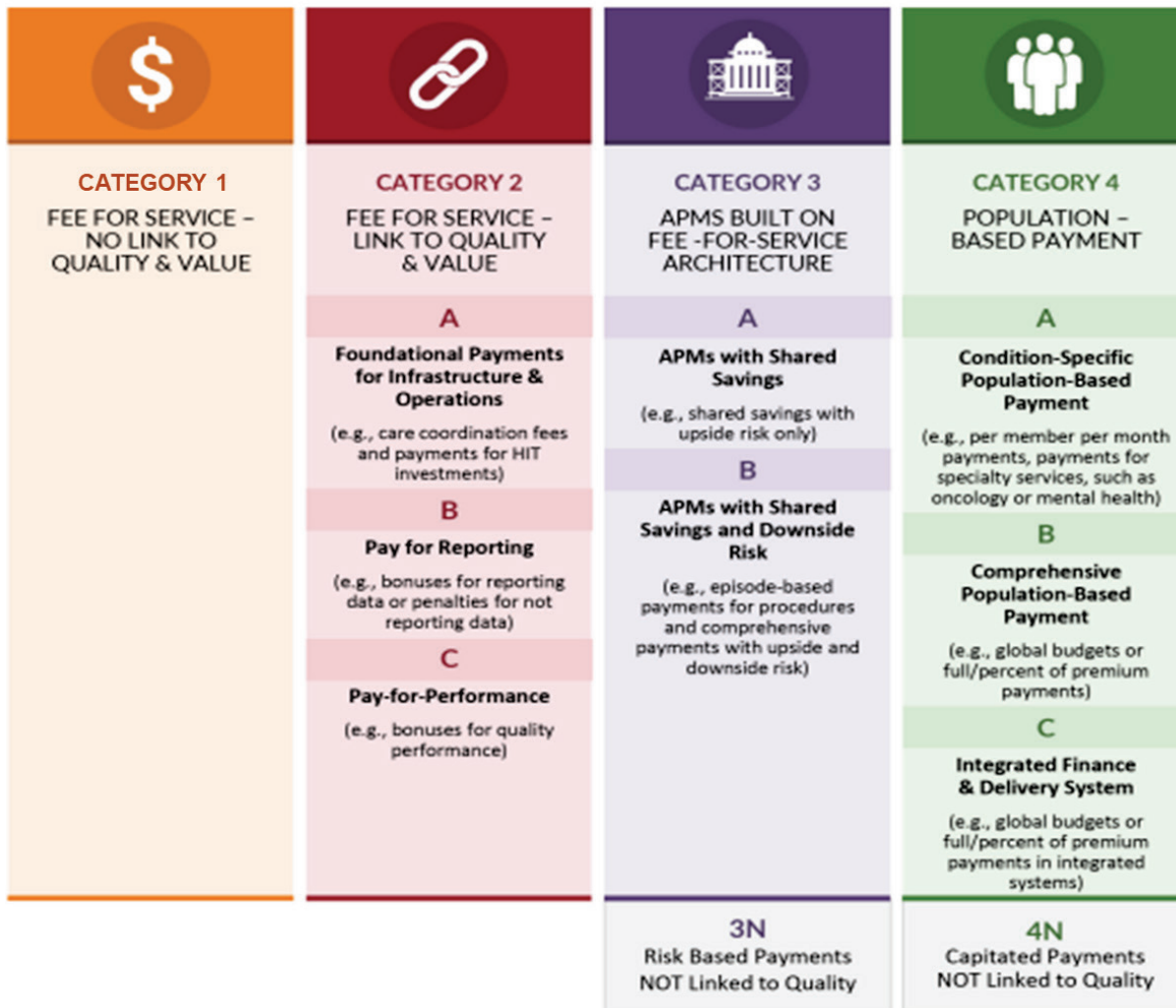


- Concurrent VBC programs with similar goals could further align quality measures to reduce the administrative burden on participants.
- To encourage participation in concurrent VBC programs, payment mechanisms across VBC programs should not conflict.
- Some payers and participating hospitals did not recognize PARHM's global budget as a VBC program because it included minimal payment tied to quality.

Since 2010, the CMS Innovation Center has developed and tested new payment and delivery system models designed to improve health care quality and reduce costs.⁴⁶ Payers increasingly participate in or offer alternative payment models⁴⁷ that promote value-based care (VBC) by shifting providers from a fee-for-service (FFS) reimbursement model based on health care volume to a system that incentivizes providers to focus on quality outcomes and efficient care delivery. Value-based care has been defined in several ways. Some definitions focus on additional payments to providers that meet quality standards, such as a pay-for-performance model. In contrast,

others incorporate financial risk arrangements and cost containment strategies as well. For this case study, we use the following broad definition of VBC from Werner et al.: “Payment with some linkage to quality, value, or infrastructure.”⁴⁸ Given the variations in approaches to value-based care, the Health Care Payment Learning & Action Network (HCP-LAN) Alternative Payment Model (APM) Framework (**Exhibit 4.1**) is a commonly referenced categorization of VBC along a continuum of payment advancement ranging from FFS payments with no link to quality or value (Category 1) to population-based payments (Category 4).^{49,ee}

Exhibit 4.1. The Health Care Payment Learning & Action Network (HCP-LAN)’s Alternative Payment Model (APM) Framework categorizes VBC programs along a continuum.



SOURCE: HCP-LAN Alternative Payment Model (APM) Framework White Paper: Refreshed 2017

^{ee} In 2021, 40 percent of U.S. health care payments measured by LAN flowed through Categories 3 and 4 models (APMS built on FFS architecture and population-based payments, respectively). This is up from 23 percent in 2015. Sources: <https://hcp-lan.org/workproducts/apm-infographic-2015.pdf>, [2022 APM Measurement Infographic - Health Care Payment Learning & Action Network \(hcp-lan.org\)](https://hcp-lan.org/workproducts/apm-infographic-2022.pdf)

Historically, rural hospitals and clinicians have had limited participation in VBC programs.⁵⁰ For critical access hospitals (CAHs), this lower participation may stem from CAHs' cost-based reimbursement, which often conflicts with VBC programs that are based on historical FFS claims (e.g., global budgets).^{ff} CAHs typically have fewer resources for upfront investments and staff necessary to support care delivery transformation, and they have limited financial reserves to take on risk under VBC programs. A 2019 review of past, current, and future Innovation Center payment reform initiatives found that only 27 of 67 Innovation Center payment initiatives were applicable to CAHs.⁵¹ Furthermore, some studies have found that safety-net hospitals were more likely than non-safety-net hospitals to be penalized under VBC programs not specifically designed for safety net hospitals. A larger percentage of safety net hospitals participating in Medicare's value-based purchasing received payment reductions than others due to worse performance on process and patient experience measures.⁵² Safety net hospitals also received more payment cuts under the Hospital Readmissions Reduction Program. These payment cuts may be due to higher rates of medical complexity and socioeconomic challenges.⁵³ Designing VBC initiatives specifically for rural areas is essential to increase participation in VBC programs and ensure their success in rural hospitals.⁵⁰ When hospitals serving rural and underserved areas received upfront funding as part of VBC programs, they were able to make investments in infrastructure and processes that are important to success in VBC models.^{54,55}

VBC Programs in Pennsylvania Operating Concurrently With PARHM

PARHM is not a shared savings model^{gg} and allows for participation in other traditional Medicare, Medicaid Managed Care Organization (MCO), commercial payer, and Medicare Advantage VBC programs.^{hh} The 18 participating hospitals and rural residents to whom they furnish care can participate in other VBC programs.ⁱⁱ However, the participating hospitals may be subject to adjustments to the global budgets to avoid duplicative accounting and adjust for revenue under such programs, models, or demonstrations per the Commonwealth's agreement with CMS.³

VBC programs operating in Pennsylvania concurrently with the PARHM include those serving Medicare FFS, Medicaid, commercially insured, and Medicare Advantage populations. These programs vary in their VBC components; some tie payment to quality (that is, Category 2 programs), and others involve risk-based and population-based payments (Categories 3 and 4). The predominant VBC program serving Medicare FFS patients

^{ff} As discussed in [prior evaluation reports](#), for CAHs participating in PARHM, the Medicare FFS portion of the global budget is reconciled to cost-based reimbursement, as before the model.

^{gg} PARHM does not fully qualify as a Category 4 VBC model because the population-based global budget payment, limited to select hospital services, does not meet the comprehensiveness criteria.

^{hh} CMS prevents ACOs from participating in the Medicare Shared Savings Program if that ACO participates in another Medicare initiative that involves shared savings payments under 42 CFR 425.114.

ⁱⁱ Individuals covered by the model include Medicare FFS and commercially insured patients who live in PARHM hospital catchment areas. For the commercially insured, individuals are covered by the model if they are members of health plans (lines of business) that participating commercial payers have included in their agreements with PARHM hospitals. These lines of business can include Medicare Advantage, Medicaid managed care, and commercial (e.g., employer-sponsored health coverage). Commercial payers participating in the PARHM differ in the lines of business they include in the model based on their offerings and business decisions (both of which can change from year to year).

in Pennsylvania is the Medicare Shared Savings Program (SSP), in which Accountable Care Organizations (ACOs) are responsible for assigned patients' quality, cost, and experience of care (that is, Category 3).^{56,57,jj} The Pennsylvania Department of Human Services (DHS) also started incorporating VBC into its Medicaid program in 2017.⁵⁸ Currently, MCOs participating in the Commonwealth's physical health and behavioral health managed care programs must have a percentage of their provider payments in value-based arrangements (50 percent and 20 percent, respectively). Commercial payers operating in Pennsylvania, including those participating in PARHM, also have VBC payment arrangements for some commercially insured and Medicare Advantage populations with providers and PARHM-participating hospitals. Publicly available data on the number of payers with these arrangements and their features are not readily available. Examples include UPMC's Shared Savings Program and Highmark's Quality Blue Hospital Pay for Value Program and True Performance initiative for Medicare Advantage and commercially insured populations.⁵⁹

Research and Prior Findings on Overlapping VBC Programs

Peer-reviewed research on the impacts of provider participation in concurrent VBC programs remains scarce. Of the studies that do exist, there is some evidence that participation in concurrent VBC programs may have some benefits. For example, one study examined hospital participation in multiple CMS voluntary VBC programs, including ACO programs and the Bundled Payment for Care Initiative. The study found that concurrent participation was associated with greater reductions in readmissions under the Hospital Readmission Reduction Program.⁶⁰ Another study evaluated whether outcomes in the Medicare Bundled Payments for Care Improvement program differed depending on whether patients were assigned to ACOs in the SSP (SSP ACOs). It found that, compared with patients who only received care under bundled payments, patients assigned to bundled payments and SSP ACOs were associated with lower spending on institutional post-acute care, and fewer readmissions for medical and surgical episodes.⁶¹

In [previous evaluation reports](#), we identified PARHM's relationship to existing VBC programs as an area of concern for some commercial payers and system-owned hospitals. Commercial payers were concerned about the administrative burden of reconciling PARHM within the scope of their existing VBC programs and the potential for duplication of payments for the same VBC activities. The perceived misalignment of PARHM and other existing VBC programs limited health-system participation in PARHM.⁶²

^{jj} Other CMS VBC programs concurrently operating in Pennsylvania included Comprehensive Primary Care Plus, Next Generation ACO (NGACO), and Comprehensive End-Stage Renal Disease models (all three models ended in 2021). Consistent with a recent Rural Policy Research Institute Health Panel report on rural hospital designations and payments, we classify Medicare baseline payment system adjustments, such as the CMS Hospital Value-Based Purchasing Program, as VBC.^{jj})

4.1 Scope of Case Study

For VBC programs to be successful at improving health outcomes while containing costs, they should be harmonized across payers.⁴⁸ In its Strategy Refresh, the Innovation Center acknowledged that CMS Innovation Center models allow providers to participate in multiple VBC models, sometimes competing.⁴ CMS VBC programs may also overlap with commercial payer VBC programs. Understanding how CMS VBC programs can be harmonized and how they relate to commercial VBC programs is increasingly important, given the growing participation in VBC⁶³ and the role of commercial health plans in providing services to Medicare and Medicaid patients.

As a multi-payer rural model, PARHM offers a unique opportunity to observe VBC program overlap in rural areas, to understand where there is alignment, and to determine whether further harmonization is necessary for participating hospitals to meet model goals. This case study explores how PARHM interacts and overlaps with existing VBC programs, including the extent to which PARHM is aligned with other VBC programs.

Specific aims addressed include:

- Describe how PARHM interacts with existing VBC programs
- Identify the magnitude of overlap between the populations served by SSP and PARHM
- Identify differences in the populations served by PARHM only versus PARHM and SSP
- Understand perspectives on areas of alignment and misalignment between PARHM and existing VBC programs

Both primary qualitative data and secondary quantitative data informed this case study. We conducted key informant interviews with participating hospital leaders, commercial payers, implementation partners, and leadership from SSP ACOs in which participating PARHM hospitals had contracts (n=24) between May and October 2023. We also reviewed primary data from previous years (2019-2022) and model and public documents.

To assess the number of Medicare FFS patients served by both models, we conducted a descriptive analysis of Medicare FFS Research Identifiable Files (2019-2022) and Master Data Demonstration files from the CMS Master Data Management system (2019-2022). Both sources were accessed via the Virtual Research Data Center. Master Data Demonstration and Beneficiary Base files were used to identify Medicare FFS patients assigned to an SSP ACO during the model year while also living in the market area of a PPS model participant. To assess differences in the populations served by PARHM only versus the two models concurrently, we separated the individuals living in the market areas of participating PPS hospitals into two groups: a PARHM-only group (those not assigned to an SSP ACO) and a PARHM-SSP group (those assigned to an SSP ACO). The Medicare Chronic Conditions and Inpatient Claims files were then used to assess differences in 1) the prevalence of chronic illness between the two groups, and 2) discharge dispositions following an inpatient stay during the model period.

CAHs were excluded from the quantitative analysis because they are reimbursed based on cost under PARHM. Therefore, the model does not serve as a VBC model for these hospitals. It should also be noted that this analysis focused on SSP because preliminary analysis revealed this program accounted for much of the overlap between the model and other VBC programs among Medicare FFS patients during the model period. Other VBC programs established through CMS accounted for less than 1 percent the overlap. Information on VBC programs offered through commercial payers was not available. The current analysis excludes CAHs because these facilities get reimbursed based on cost under PARHM.

The key differences between the PARHM and SSP models (**Exhibit 4.2**) form an important background for the findings of this case study. Under SSP, model payments include all Medicare Parts A and B expenditures, thus covering a wider array of services than PARHM. The population served by SSP are individuals enrolled in Medicare FFS, and eligible patients are assigned to an ACO based on where they receive the plurality of their primary care services. On the other hand, PARHM is not tied to a specific payer and is instead based on net patient revenue. While both models strive to improve access to high quality care and reduce costs, PARHM participants design their own approach to improving health care delivery in their rural communities through hospital transformation plans. If the hospital chooses, care coordination may be a part of a hospital’s transformation plan. This differs from SSP, where care coordination is a primary focus. SSP is designed so that the ACO (consisting of physicians, hospitals, and other healthcare providers) coordinates services to ensure appropriate care is provided while avoiding medical errors and unnecessary services and limiting growth in Medicare expenditures.⁵⁶ While approaches can vary across SSP ACOs, high-performing ACOs create collaborative relationships among local hospitals and primary care providers. This collaboration ensures physicians have the necessary information about patient admissions and discharges to help plan for follow-up services.⁶⁴ Under PARHM, the risk associated with financial gains and losses resides primarily with the individual participating hospitals. In contrast, under the ACO model, the risk resides with the ACO, which can decide to what extent that risk is passed on to its participants.

Exhibit 4.2. PARHM and SSP methodologies contain key differences regarding populations served, care delivery transformation modalities, and goals.

Model Methodologies	PARHM	SSP
CMS Payment	Global budgets based on hospital historical net patient revenue	Percent of shared savings achieved against a set performance year (PY) expenditure benchmark
Model Payment Included Services	Inpatient (IP) hospital services, outpatient (OP) hospital services such as emergency department, lab, imaging, E&M services, same day services, other OP services, CAH swing beds	All Medicare Parts A and B expenditures, including services specifically NOT covered by PARHM (such as IP and OP professional services, durable medical equipment, home health, dialysis, skilled nursing facilities, and provider-based clinic revenue)

Model Methodologies	PARHM	SSP
Payment Timing	Prospective with end-of-year reconciliation	SSP ACOs financially reconciled and shared savings payments delivered ~ 9 months after the end of a PY
Patient Population	The model is not tied to a specific patient population and is based on net patient revenue	Medicare FFS population is assigned to an SSP ACO based on where they are receiving the plurality of primary care services
Care Delivery Transformation	Hospital transformation plans tailored to the needs of the local population, emphasizing preventive care and services, improving population health, and reducing potentially avoidable utilization	Care coordination across ACO participating providers and SNFs
Model Goals	<ul style="list-style-type: none"> • Maintain and increase access to high-quality care • Improve health outcomes for PA rural residents • Reduce the growth of hospital expenditures • Improve financial viability of PA rural hospitals 	<ul style="list-style-type: none"> • Achieve better health for individuals and populations through coordinated, high-quality care • Lower growth in Medicare expenditures • Promote accountability for a patient population

4.2 Findings

PARHM hospitals could participate in PARHM and other VBC programs, including SSP ACOs, which resulted in a significant ACO presence in some PARHM-participating hospitals’ market. When compared to the population served by PARHM only, the population served by both models concurrently had a higher prevalence of chronic conditions as well as a higher proportion of patients discharged to home with self-care or home health following any inpatient hospitalization. While this could be due to patients served by PARHM and SSP receiving care from better-resourced hospitals, it is also possible there are benefits for patients served by concurrent VBC programs that may work synergistically to manage patient care. For example, PARHM and SSP ACOs share similar overarching goals, such as reducing potentially avoidable utilization. However, rural hospitals faced challenges when participating in multiple VBC models, including PARHM and SSP ACOs, with different measurement mechanisms and reporting requirements. Hospitals also struggled to understand the financial implications of participating in concurrent VBC programs. Understanding the overlap between Innovation Center models and other VBC programs is increasingly important as certified models or successful elements of model tests are adopted broadly within the healthcare system.

Overlap between PARHM and SSP

Overlap exists between patients in the market areas of PARHM hospital participants and patients assigned to SSP ACOs. Publicly available data on ACO participants confirms that half of PARHM hospitals, including two CAHs, participated in an SSP ACO during the model period (**Appendix C.15**). In addition, **Exhibit 4.3** shows that most of the participating PPS hospitals in PARHM have market areas in which at least 30 percent of the Medicare FFS patients are in an SSP ACO. When examined in aggregate over time, from 2019-2022, 40 to 45 percent of Medicare FFS patients in these market areas are assigned to an SSP ACO.

Exhibit 4.3. In 2022, nine participating PPS hospitals had market areas in which 30 percent or more of Medicare FFS patients were in SSP ACOs.



SOURCE: 2022 Medicare Master Data Demonstration files, PARHM Project files

NOTES: CAHs excluded from this analysis

Chronic Conditions and Discharge Dispositions in PARHM-only and PARHM-SSP Overlap Group

To help characterize the population served by PARHM versus the population served by both PARHM and SSP, we assessed differences in the prevalence of chronic conditions and discharge dispositions between the two groups.

Exhibit 4.4 compares the prevalence of chronic conditions in Medicare FFS patients in the PARHM-only and PARHM-SSP groups. To qualify as having a chronic condition, the patient must have met the criteria for the condition at any point from 2019-2022. It should be noted that no notable differences were found in the demographic characteristics between the two groups in terms of age, race, or gender. However, the PARHM-SSP

group had a slightly higher proportion of females (55 percent vs 52 percent) (**Appendix Exhibit C.15**). The PARHM-SSP group had higher prevalence rates for every condition assessed.

Exhibit 4.4. From 2019-2022, the patients in the PARHM-SSP group had higher prevalence of chronic conditions.

Condition	PARHM-SSP Group (N patients=74,462) (FFS only)	PARHM-only Group (N patients=102,614) (FFS only)
COPD	20.4%	17.1%
Depression	26.6%	23.0%
Diabetes	29.8%	24.1%
Heart Failure	17.3%	14.3%
Obesity	36.8%	28.6%
Cancer*	15.1%	12.3%
Average Hierarchical Condition Categories (HCC) score**	1.36	1.25

SOURCE: Medicare Beneficiary Summary Files, Medicare FFS Inpatient files, Medicare Master Data Demonstration files, PARHM project files

NOTES: *Includes patients that meet criteria for any of the following conditions at any point during the analysis period: breast cancer, colorectal cancer, endometrial cancer, lung cancer, prostate cancer, urologic cancer

**HCC scores not available for 2022

Prevalence represents the number of patients that ever had the condition during the period assessed divided by the total number of unique patients in each group during the same period.

This analysis excludes CAHS.

DEFINITIONS: PARHM-SSP: Patients living in the market area of a PARHM PPS hospital while being assigned to an SSP ACO. PARHM-only: Patients living in the market area of a PARHM PPS hospitals who are not assigned to an SSP ACO.

Exhibit 4.5 compares the distribution of discharge dispositions for all-cause inpatient stays in the PARHM only and PARHM-SSP groups from 2019-2022. Though the PARHM-SSP group shows higher rates of chronic conditions during this period (**Exhibit 4.4**), it also shows a higher proportion of patients discharged to home versus post and short-term acute care compared to the PARHM-only group.

Exhibit 4.5. From 2019-2022, the patients in the PARHM-SSP group had a higher proportion of inpatient claims resulting in discharge to home versus the PARHM-only group.

Discharge Disposition	PARHM-SSP Group (N=74,462 FFS patients)	PARHM-only Group (N=102,614 FFS patients)
Self-Care	38.5%	36.8%

Discharge Disposition	PARHM-SSP Group (N=74,462 FFS patients)	PARHM-only Group (N=102,614 FFS patients)
Home Health	26.5%	23.4%
Post-Acute	26.9%	29.1%
Short-Term Acute Care	3.6%	4.0%
Died	3.1%	4.5%
Other	0.7%	1.2%
Against Medical Advice	0.7%	0.9%

SOURCE: Medicare Beneficiary Summary Files, Medicare FFS Inpatient files, Medicare Master Data Demonstration files, PARHM project files

NOTES: This analysis excludes CAHS.

DEFINITIONS: PARHM-SSP: Patients living in the market area of a PARHM PPS hospital while being assigned to an SSP ACO. PARHM-only: Patients living in the market area of a PARHM PPS hospitals who are not assigned to an SSP ACO.

Perspectives on Concurrent Participation in VBC Programs

Hospitals participating in concurrent VBC programs described PARHM and other VBC programs as *accidentally aligned*. The SSP, commercial VBC programs, and PARHM share similar overarching objectives to enhance patient care through delivery system reform. However, the included services, care delivery transformation, payments, and specific goals may vary. For example, some commercial VBC programs are focused on improving quality within a particular care setting, like the ambulatory setting, whereas SSP relies on coordination of care across hospital and professional services, as well as other services like provider-based clinics. PARHM’s hospital-centric design relies on primary care and other service lines to reduce potentially avoidable utilization. Hospital leaders explained that because these VBC programs have the same overarching goal, efforts to improve quality through one VBC program may improve performance in other VBC programs despite programs not sharing quality measures and reporting requirements. For example, one hospital shared that as part of their PARHM hospital transformation activities, they have a patient navigator who monitors patients with chronic conditions who frequently utilize the emergency department and work to connect them to services to reduce future avoidable readmissions. Through these activities, they also work towards meeting their commercial VBC program’s quality measure of reducing avoidable readmissions. As discussed in [Chapter 1](#), the Commonwealth monitors data on eight quality measures that fall within the following domains: chronic conditions, substance use, and access to care.^{kk} In this way, hospitals described a shared focus on managing patients with ongoing

^{kk} As part of a formal monitoring program, the Commonwealth also tracks quality using existing measures and data sources (e.g., Healthcare Effectiveness Data and Information Set [HEDIS] measures) and payer quality data to minimize the administrative burden for payers and hospitals. The Commonwealth initially was required to develop an All-Payer Quality Program by PY2 (2020), scheduled to take effect in PY3 (2021), with the goal of adjusting global budgets based on each hospital’s performance. The All-Payer Quality Program was cancelled due to limited Commonwealth resources during the COVID-19 pandemic. Global budgets continue to be adjusted based on each hospital’s performance under applicable Medicare quality programs.

health issues, such as chronic conditions or behavioral health needs, for SSP and PARHM. One participating hospital leader commented:

On the ambulatory side, we're checking boxes [for commercial VBC quality metrics], and... the cascading effects on the health system are going to achieve the goals in your [PARHM hospital transformation plan].

Some hospitals were able to leverage their experience in concurrent VBC programs to support their participation in PARHM. Hospitals with a history of participation in VBC programs, including experience implementing and reporting on quality initiatives, described being prepared at the outset of PARHM about creating hospital transformation plans and implementing action steps needed to accomplish their goals (*[participation in VBC programs prior to PARHM] definitely made us more confident to be able to achieve a transformation plan*, one respondent said). For example, one hospital described being able to employ a multidisciplinary care team created to implement quality initiatives for their other VBC programs to support the implementation of hospital transformation plan action steps for PARHM. Where possible, hospital leaders described proactively identifying specific transformation activities that aligned with existing quality initiatives of other VBC programs to maximize efforts and minimize administrative burdens (*there is only so much bandwidth to do so much*, one respondent said). One hospital noted that a benefit of aligning transformation activities with quality initiatives for other programs was that other VBC programs offer opportunities to earn funding, either as a bonus payment tied to quality or through shared savings. These funds could be invested in transformation activities.

Hospitals faced challenges participating in concurrent VBC programs with different measurement mechanisms and reporting requirements. These challenges stem from the need to adhere to the distinct requirements established by various VBC programs. Hospitals explained that participating in multiple VBC programs places considerable administrative burden on staff who must implement quality initiatives for other service lines or track and report different quality measures for similar activities. Though hospitals do not have quality reporting requirements for PARHM, hospitals that participate in concurrent VBC programs and face competing quality reporting requirements for other VBC programs noted limited staff bandwidth to develop and annually update hospital transformation plans.

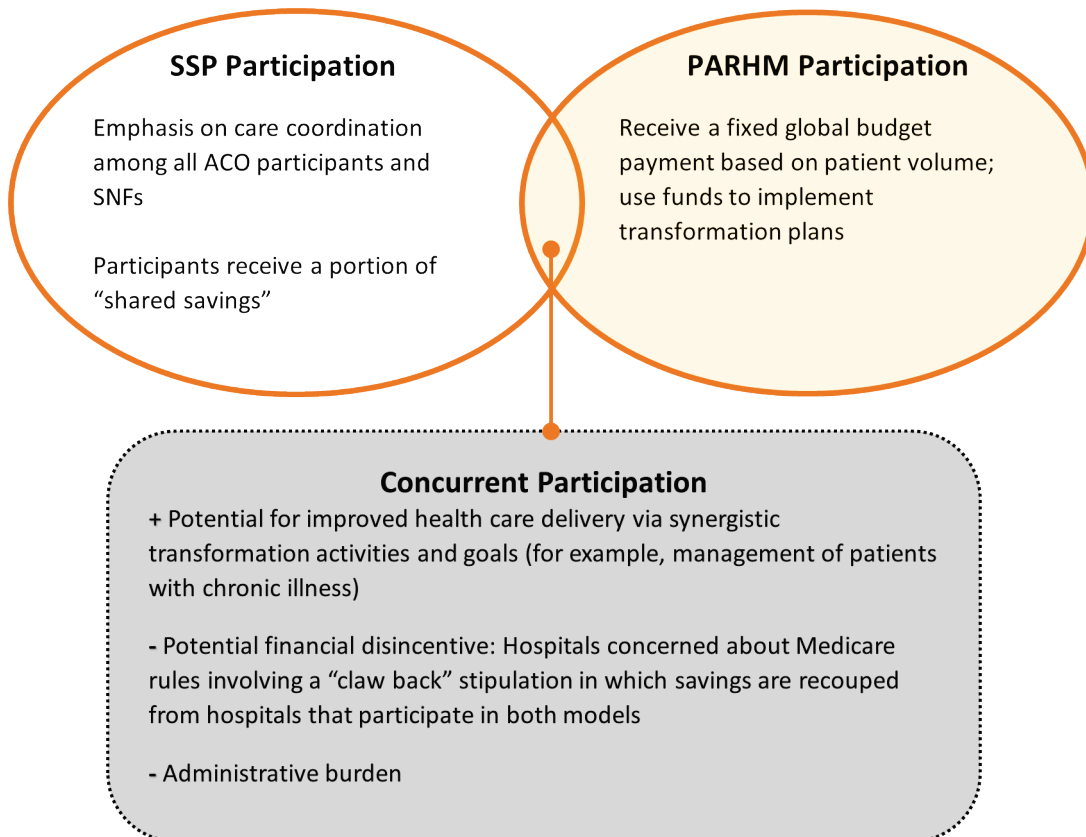
Hospitals struggled to understand the financial implications of participating in PARHM and SSP, given the differences in patient populations and objectives. Some hospital leaders described uncertainties about the potential impact that earning shared savings through SSP would have on their global budget payment. As shown in **Exhibit 4.6**, PARHM hospitals that earn shared savings through the SSP may be subject to a “claw back” through their global budget. Hospital leaders suggested that potential shared savings earned should not be factored into global budget payments due to the programs' differences in patient populations and objectives. As shown in **Exhibit 4.2**, PARHM and SSP have similar but distinct model goals. SSP relies on primary care and other sectors not covered under PARHM to prevent unnecessary utilization and generate shared savings. Complex arrangements for the distribution of shared savings, coupled with the opacity of the global budget and

reconciliation process, have created uncertainty among these hospitals. A hospital leader highlighted their uncertainty regarding the overlapping payment methodologies and noted the potential contradiction of receiving shared savings while incurring penalties for volume changes in their global budget:

We participate in a Medicare ACO, and...[PARHM] ...we are getting shared savings [through the ACO], but I'm also paying money back to Medicare as a penalty for volume shift, basically, in my settlement process. If I'm sharing savings in Medicare, meaning that our whole ACO...has saved lots of money for Medicare, how am I having volume-shift adjustment that is negatively affecting my global budget? It just didn't make sense to me.

Because SSP and PARHM include different services and mechanisms to meet their objectives, these programs may work synergistically to improve efficiencies in chronic condition identification and management for patients, as indicated in **Exhibits 4.4 and 4.5**. However, the potential for shared savings to be clawed back poses a disincentive for participation in PARHM and SSP. **Exhibit 4.6** summarizes the potential advantages and disadvantages for providers concurrently participating in PARHM and SSP.

Exhibit 4.6. Concurrent participation in both PARHM and an SSP ACO can capitalize on synergies across transformation activities, but hospitals face a financial disincentive and added administrative burden.



Commercial payers expressed concerns about redundancies and complexities accompanying VBC overlap.

Hospital leaders described some benefits of participation in commercial VBC programs that support their participation in PARHM. However, as discussed in our [third evaluation report](#), some payers were concerned about hospitals that concurrently participate in PARHM and their VBC programs. Payers were concerned about the complexities for hospitals participating in VBC programs with differing quality measures and payment mechanisms. Payers also voiced concerns about the potential to pay for the same value-based care twice. For example, hospitals could receive shared savings as part of an ACO and receive direct payments from payers for the same hospital utilization reduction. Payers added that if hospitals participate in numerous VBC programs, it can be challenging to determine which programs drive positive outcomes. As one payer noted:

I think it's just way too complex to have two value-based arrangements on top of each other. It's just unnecessary..., even just simple things like one of them being calendar year and another being fiscal year, or...what services are included and what services aren't included.

Perspectives for Future VBC Programs

Hospitals, payers, and ACO leaders called for improved standardization of VBC programs. While hospitals worked to align their activities under concurrent VBC programs, as discussed above, hospital leaders noted that across payer programs, different quality and cost measures require additional resources to manage and create an “*overwhelming administrative burden*” to implement. One hospital leader suggested that VBC programs adopt a more holistic view and focus on population health rather than quality measures targeting different, specific service lines. Hospital leaders suggested that among VBC programs with quality measures (that is, commercial programs and SSP), using the same definitions for similar quality measures and similar reporting mechanisms would reduce the burden on hospital staff. One ACO leader added that if payers could create synergistic VBC programs, it could *accelerate the movement towards value-based care*. Payers also called for improved alignment to reduce the burden but recognized it could be a *battle* working across payers with different quality programs and reporting requirements.

Some hospitals preferred participating in SSP ACOs over PARHM because of key model differences in patient population and funding mechanisms. Some hospital leaders noted that the identification and attribution of the population for their SSP participation is more straightforward to track and therefore manage, relative to PARHM, which is not tied to a specific patient population. They also thought the shared savings methodology were more transparent than global budget payments with reconciliation. The ability to earn shared savings also allowed them to earn revenue that could be invested in future transformation activities, which contrasts with the PARHM global budget. However, one implementation partner suggested that a global budget model, or some other model focused on maintaining access in rural communities, is needed in addition to an ACO framework to *keep rural hospitals open*. One participating hospital leader commented:

I think the challenge there is [PARHM and SSP] are two completely different programs with two completely different sets of objectives, so as administrators, we really feel why bother being in both...If you're going to penalize me and put me back to zero where I started, then, why do I do the work?...[concurrent participation is not] helping me pay the light bill and keep the doors open.

Model participants and implementation partners had mixed views on whether PARHM had the necessary elements of a VBC program. Most commercial payers had VBC arrangements with at least some participating hospitals before model implementation. These programs were primarily quality-focused, offering bonuses or other enhanced payments tied to quality performance. Commercial payers suggested that payments under PARHM should be more closely tied to quality to be considered a VBC program. Hospital leaders' perceptions of PARHM as a VBC program were split. Some thought that PARHM was a VBC program because of the focus on quality through the hospital transformation plans, and they felt financially at risk through the global budget. However, others agreed with commercial payers—PARHM's payments lacked a clear tie to quality—and noted that the global budget adjustment made the global budget payment different from other VBC programs with risk.

4.3 Discussion

PARHM's design (that is, global budget payments to rural hospitals and aligned incentives across participating payers to support delivery system transformation) advanced the CMS Innovation Center's strategic objectives to drive accountable care, advance health equity, and partner to achieve system transformation. PARHM hospitals created hospital transformation plans intended to promote quality and improve health outcomes. However, hospitals noted the challenges of improving population health given the hospital-centric focus of the model and the lack of opportunity to earn bonus payments or shared savings to invest in further population health efforts. Hospitals and implementation partners noted the benefits of the global budget for maintaining access to care in rural communities. PARHM's global budget is a multi-payer effort; however, there are challenges for hospitals and payers participating in other VBC programs that were not designed to work with PARHM.

There is some evidence that there may be benefits for patients served by concurrent VBC programs. There was considerable overlap between Medicare FFS patients in PARHM PPS market areas and patients in SSP ACOs. When compared to the PARHM-only group, the PARHM-SSP group had a higher prevalence of chronic conditions as well as a higher proportion of patients discharged to home with self-care or home health following any inpatient hospitalization. While this could be due to patients in the PARHM-SSP group receiving care from better-resourced hospitals, it is also possible there are benefits for patients served by concurrent VBC programs that may work synergistically to manage patient care. For example, PARHM's hospital-centric design coupled with SSP's focus on care coordination across the continuum may lead to efficiencies in managing patient care. Limited research exists on the impact on patients served by concurrent accountable care relationships, particularly in rural areas with historically limited VBC participation.

Overlapping VBC programs had limited alignment of program design, which created challenges for hospitals and commercial payers. PARHM and other VBC programs aim to improve health outcomes and lower the growth of health care expenditures. However, PARHM differs from concurrent VBC programs because of its focus on increasing access to care in rural communities. Furthermore, hospitals noted challenges participating in multiple models with varying patient populations, payment mechanisms, and incentives. Hospitals struggled with the financial uncertainty of earning shared savings in SSP ACOs and receiving global budget payments through PARHM, and the possibility of CMS to recouping SSP shared savings from PARHM participants. Commercial payers echoed concerns about hospitals' participation in VBC programs with different objectives; in other words, some programs are tied to quality while others are focused on reducing healthcare spending growth. Hospital leaders also suggested a lack of effort across VBC programs to align quality measures and reduce the burden for hospitals. Hospitals participating in concurrent VBC programs noted challenges in reporting quality measures with different definitions for different programs.

Continued variations of VBC programs may limit hospitals' participation in future VBC programs. Without a concerted effort to reduce administrative burden and ensure that financial incentives across programs do not conflict, rural hospitals may struggle to participate in concurrent VBC programs. As previously discussed, rural providers often lack the resources to invest in the needed staff and technology to participate in multiple programs.⁵⁰ Furthermore, when VBC programs have competing financial incentives—for example, the possibility that shared savings earned under SSP ACOs may be adjusted for in the PARHM global budget—there are limited benefits of concurrent participation for rural hospitals with small operating margins to invest in transformation and maintain access to care in their communities. It should be noted that to date, CMS has not recouped funds from PARHM hospitals participating in ACOs that achieved shared savings due to the complexity of identifying duplicative payments from the two models. Future models for rural hospitals should consider ways to continue promoting multi-payer alignment and work synergistically with other VBC programs to align care efforts for patients.

When concurrent VBC programs have aligned approaches to care delivery transformation, it may create efficiencies and increase the value of participation. While the lack of alignment between PARHM and SSP created an administrative burden for hospitals, concurrent participation may have benefits for patients and hospitals. For example, care coordination provided under SSP ACOs may also create efficiencies for transformation planning and activities. Future models should consider mechanisms to meaningfully align with concurrent VBC initiatives to advance the CMS Innovation Center's strategic objectives and to support participation in VBC programs while minimizing administrative burden for participants. Specifically, alignment of transformation activities, quality metrics/reporting requirements, and financial incentives may reduce administrative burden and support rural hospitals' participation in future VBC programs by creating efficiencies and adding value to participating in concurrent programs.

Chapter 5: Discussion

PARHM created an opportunity for rural hospitals to drive accountable care, strengthen innovation, and move toward system transformation in collaboration with community partners to advance health equity in rural Pennsylvania. The model has accomplished this in the following ways:

The model helped rural hospitals maintain access to care for rural communities. By providing stable payments to hospitals and establishing accountability across participating payers and hospitals, global budget payments allowed participating hospitals to maintain essential service lines and access to local care in rural Pennsylvania. PARHM's global budget supported hospital participants to maintain operations during the unanticipated COVID-19 public health emergency (PHE) and reduced unpredictable payments; however, the reconciliation process did not eliminate financial unpredictability. PPS hospitals experienced greater financial stability in Medicare FFS through the global budget reconciliation process while CAHs saw lower revenue through reconciliation to cost-based reimbursement.

Despite initial challenges with hospital recruitment for the model (discussed in previous reports), the retention rate among participating payers and hospitals is 100 percent through PY5 (2023). All 18 participating hospitals in the three cohorts kept their doors open and continued to participate in the model. All five commercial payers have remained in the model and were committed to ensuring rural hospitals stay open to maintain members' access to care in those communities.

The model supported hospitals to develop and monitor progress toward transformation goals. The model hospital transformation planning process allowed hospitals to develop a roadmap for transforming care delivery and established a mechanism to reinforce progress toward those goals. The process helped hospitals focus limited resources on targeted goals and encouraged them to report regularly on progress toward improved quality of care and population health, including goals related to behavioral health. Even though participating rural hospitals reported limited staff capacity (due to limited funding for dedicated staff and workforce shortages exacerbated by the COVID-19 PHE), they made incremental progress. Hospital participants built on the foundation of existing community partnerships and established new ones to further their goals and advance collaboration on grant opportunities outside of the model. Technical assistance and grant support from the RHRC and other partners, such as the Pennsylvania Office of Rural Health and local foundations, also supported care delivery transformation.

The model provided impetus for participating hospitals and payers, implementation and community partners, and other state entities to convene and innovate. While the global budget did not include additional funding to invest in transformation, the Rural Health Redesign Center (RHRC) provided an avenue for model participants to collaborate and collectively pursue grants that supported hospital transformation activities. In addition, the RHRC provided technical assistance from rural health experts and former rural hospital leaders, which contributed to the

successful implementation of model activities. These opportunities for technical assistance as part of the model facilitated collaboration among participants, and in some cases, additional funding streams to achieve behavioral health-related goals.

The case study analyses identified facilitators and barriers that could inform future Innovation Center models. Key lessons learned from PARHM include the following:

- Multi-payer engagement in the model moved participants toward value-based care (VBC) within a state that has an increasing percentage of Medicare Advantage and Medicaid managed care patients. This VBC readiness is consistent with the Innovation Center’s Strategic Objective 5 (Partner to Achieve System Transformation). Alignment with existing Medicare, Medicaid, and commercial VBC models will be an important consideration for other state-based models as participation across payers will be necessary to increase model scale.
- Participation in complementary VBC models could be a value proposition for potential participants as our findings revealed there may be some benefits for participants of concurrent models in care delivery and follow up. Hospitals may benefit from participating in concurrent VBC programs, especially if the programs include efforts to establish efficiencies, reduce administrative burden, and ensure that financial incentives across programs do not conflict. Hospitals may be more likely to join future models when they align with other CMS or commercial value-based care initiatives, which will become increasingly important for meeting the Innovation Center’s Strategic Objective 1 (Drive Accountable Care).
- A key engagement strategy for PARHM includes soliciting input from model participants through the RHRC. The RHRC board, established in PY2 (2020), includes an equal mix of payers and provider representatives and supports the continued engagement of implementation partners (described in the [second annual report](#)). An independent entity that represents the diverse interests of payer and provider model participants should be engaged from the pre-implementation period to ensure buy-in from model participants and partners on the design, methodology for reconciliation, and any associated changes to model components over time.
- Repeated changes to the global budget methodology throughout the course of the model led to financial planning and reporting challenges. Both payers and providers value consistency and transparency prior to and during participation. Future models should have more opportunities for input on the methodological approach from potential participants during the pre-implementation phase. This early input may enhance the value proposition of the model and help both payer and provider participants make realistic financial plans.

One of the challenges for participating hospitals and payers was that unplanned and unpredictable changes in contextual factors, such as market competition and clinician turnover, resulted in large settlements and changes in the global budget via the reconciliation process. The complexity of the reconciliation methodology also contributed to challenges in forecasting adjustments for hospitals and commercial payers. Annual reconciliations at the end of each performance year can result in changes in payments that hospitals found difficult to anticipate. Hospitals that conducted financial planning before some of the reconciliation adjustments occurred

did not have adequate information for decision-making. Participants would benefit from a dashboard or another performance reporting resource to facilitate financial planning regularly throughout the performance year and explore potential scenarios for annual reconciliations.

- Hospitals need to be able to make investments in staffing resources and data capacity to implement transformation activities and track progress. While the global budget provided stability and prevented further decline in operating margins, hospitals with negative margins did not have sufficient resources to invest in transformation. Further, participating hospitals reported that inflation and increased staffing costs following the COVID-19 pandemic created additional financial pressure. Engagement and upfront investment from other federal entities (e.g., HRSA Federal Office of Rural Health Policy and Bureau of Health Workforce, and USDA), health plans, private sector, state and local entities, and philanthropic organizations can enhance model sustainability while still allowing the CMS Innovation Center investments to be budget neutral in the long term.⁷ Most participants did not have a pre-implementation period because the recruitment was conducted in cohorts. Establishing a pre-implementation period with an actively engaged technical assistance entity, such as the RHRC, may have supported hospitals to collaborate and pursue additional funding streams to support more robust transformation work.
- Reducing potentially avoidable utilization of inpatient services relies on access to a continuum of outpatient and community services, such as primary care, behavioral health outpatient and residential services, post-acute care services, and emergency medical services. Global budgets should include professional services (both inside and outside the hospital setting) to drive accountable care more effectively.
- When VBC initiatives have similar objectives and have the same measurement and reporting requirements, hospitals report greater progress toward transformation goals. However, many VBC initiatives have different requirements, leading to an undue administrative burden. Alignment with concurrent VBC initiatives should be part of the design and the value proposition of participation in future models. A streamlined approach should be used to account for transformation activities, quality metrics, and financial incentives across models.

In our fifth and sixth final evaluation reports, we will continue to track model progress and explore the local context and model components that influence payer and hospital participation and overall model implementation.

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