The Pennsylvania Rural Health Model (PARHM)

Third Annual Evaluation Report

Presented to:
Elvedin Bijelic
Center for Medicare & Medicaid Innovation
Centers for Medicare & Medicaid Services
7500 Security Boulevard
Baltimore, MD 21244

Presented by:
Alana Knudson
Project Director
NORC at the University of Chicago
4350 East-West Hwy, Suite 800
Bethesda, MD 20814
Knudson-Alana@norc.org

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Table of Contents

List of Exhibits

Contributors

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

Noorhan Abduljaleel
Samantha Augenbraun
Meghana Chandra
Erin Ewald
Diane Farley (Penn State University's Center for Health Care and Policy Research)
Kan Gianattasio
Rachel Henke (IBM Consulting)
Aleena Imran
Miriam Lupovitch
Jessica Kasten (IBM Consulting)
Alana Knudson
Daniel Krauss
Sai Loganathan
Shena Popat
Rich Rodriguez
Jenna Sirkin
Michelle Spafford
Mackenzie White (IBM Consulting)

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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
OUD	Opioid use disorder
PARHM	Pennsylvania Rural Health Model
PAU	Potentially avoidable utilization
PCP	Primary care providers
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

The Center for Medicare & Medicaid Innovation (Innovation Center) within the Centers for Medicare & Medicaid Services (CMS) developed the Pennsylvania Rural Health Model (PARHM or model) with the Commonwealth of Pennsylvania to maintain access to essential health care services in rural communities. Commenced in 2019, PARHM is testing the impact of hospital global budgets and care delivery transformation on access, quality and cost of care across six performance years. PARHM has three aims:

- to improve population health outcomes and increase access to high-quality care for rural Pennsylvanians,
- reduce health care costs for payers, and
- improve the financial health of acute care hospitals in rural Pennsylvania.[1]

The model includes financial and delivery system transformation components to align incentives across participating payers for participating hospitals to achieve the model aims.

- **Global budgets** are prospective, fixed payments for hospital services designed to stabilize hospital revenues with annually-adjusted predictable cash flow that enables hospitals to invest in population health and prevention activities.[2]
- **Hospital transformation plans** identify and implement activities to address health needs of communities, 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 Innovation Center contracted with NORC and partners, Penn State University's Center for Health Care and Policy Research and IBM Consulting, to conduct an independent evaluation of the model. For this evaluation, 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 the implementation context and experience, facilitators and barriers, and potential effects on care delivery and outcomes. This report covers Performance Year 3 (PY 3), which began January 2021. Previous evaluation reports covered Performance Years 1 (PY 1) and 2 (PY 2).

In addition, this evaluation report includes three case studies that explore in-depth themes identified through prior data collection and document review. These themes are:

1. Recruitment and Participation of System-affiliated Hospitals
2. Engagement and Coordination with Community Organizations and Providers
3. Exploring Service Line Changes

For each case study, we use a mixed-methods approach to analyze and triangulate data from model documents; interviews with model participants, non-participants and implementation partners; and when

feasible, quantitative sources. We present background literature for each case study to put into context findings and policy implications for model design, implementation, sustainability and scale. These case studies build on information reported from the first and second evaluation reports and set the stage for additional case studies in subsequent reports.

For this report, we also present a descriptive analysis of financial performance, spending and utilization, and access and quality of care outcomes for hospital participants during years 2016 (baseline) to 2021 (PY 3). The results of the quantitative assessment included in the report cannot be attributed solely to the model. As this is a descriptive analysis, we are solely observing trends in outcomes of interest.

Model Participation

The model was open to critical access hospitals (CAHs) and rural acute care hospitals. Five hospitals joined the model for PY 1 (2019) and became Cohort 1. Eight more hospitals joined as Cohort 2 in PY 2 (2020). Five additional hospitals joined the model in PY 3 (2021) as Cohort 3. No additional hospitals joined in PY 4 (2022), leaving the total number of hospital participants at 18. This number meets the modified scale target in the amended Innovation Center-Commonwealth agreement.

The model uses the Center for Rural Pennsylvania's definition of rural to determine participation eligibility for acute care hospitals. The Center designates that rural counties have a population density less than the average population density in the Commonwealth (currently 284 persons per square mile).[4] This definition allows inclusion of more densely populated areas that do not meet most federal rural definitions, including that used by the Federal Office of Rural Health Policy (FORHP).[a] Thirteen of the 18 participating hospitals are in areas designated as rural by both FORHP and the Center for Rural Pennsylvania; five participating hospitals (Geisinger Jersey Shore, Penn Highlands Tyrone, Washington Hospital, Penn Highlands Mon Valley, Highlands Hospital) are located in rural areas based only on the Pennsylvania definition.

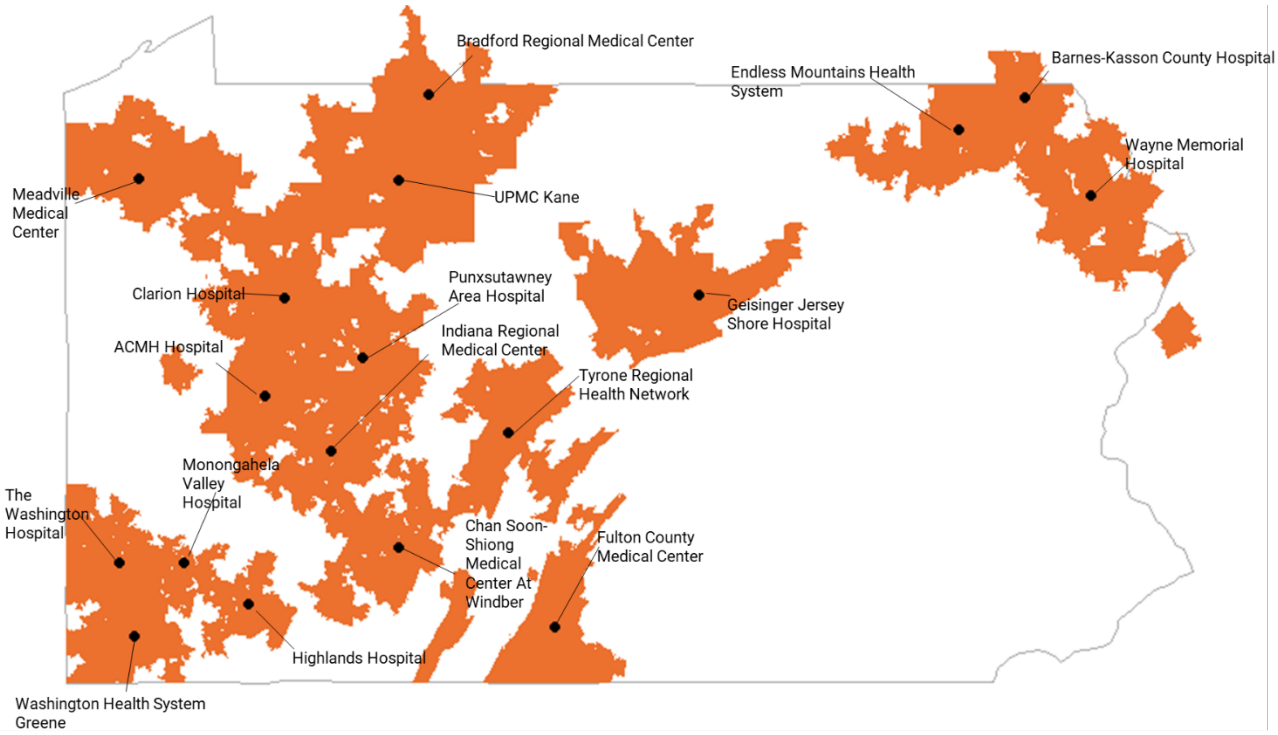
In addition to Medicare fee-for-service (FFS), five commercial payers participate in the model. Participating payers may include individual and employer/group products, Medicaid managed care plans and/or Medicare Advantage plans in the model. Medicaid is also participating in the model, however, nearly all the Commonwealth's Medicaid patients are enrolled in commercial managed care plans.

Hospital Characteristics. The 18 participating hospitals in PY 3 (2021) continued to represent a varied group based on affiliation, reimbursement method, size and financial status; however, the participation rate continued to be higher among independent hospitals than system-affiliated hospitals.

Hospital Market Areas. Exhibit ES.1 depicts the market area of each of the 18 hospitals participating in the model in PY 3 (2021). In some cases, participating hospitals are geographically close to one another, leading to contiguous and/or overlapping market areas. The market areas for northern hospitals (Barnes-Kasson, Endless Mountains, and Wayne Memorial) also include ZIP codes in New York.

[a] FORHP's definition includes all non-metro counties, all metro census tracts with Rural-Urban Commuting Area (RUCA) codes 4-10, and large area metro census tracts of at least 400 square miles in areas with population density of 35 or less per square mile with RUCA codes 2-3.

Exhibit ES.1. Market Areas for Participating Hospitals



SOURCE: Medicare FFS Claims (C Y2013-CY 2017)

Role of Implementation Partners and Payers. Through an analysis of qualitative interviews and model documents, we saw an evolution of the relationship between hospital and payer participants and implementation partners. The Rural Health Redesign Center (RHRC), an independent entity responsible for administering the model, expanded its role and the level of support offered to participating hospitals and commercial payers. The RHRC integrated lessons learned from previous evaluation findings and participant feedback to improve the model experience for payers and hospitals. They continue to build trusting relationships and are committed to addressing hospital and payer concerns. While commercial payers continue to express their commitment to the model, they perceive model participation to benefit hospitals more than payers.

Market Context – Care Utilization and Financial Performance

The descriptive results in this report provide market context for the subsequent case studies. We present information at the hospital market level on health care spending for the Medicare FFS population and care utilization for the Medicare FFS and Medicaid and CHIP populations. We also assess the financial performance of participating and eligible non-participating hospitals. Finally, we describe participating hospitals' overall experience with global budget implementation.

Trends in Consumption of Care. Prior to and during model implementation, overall spending on and utilization of global budget-covered services declined among the Medicare FFS and Medicaid/CHIP

populations in market areas served by participating hospitals as well as across rural areas in the Commonwealth more broadly. Breaking it down further, utilization of inpatient hospital services declined, while utilization of outpatient hospital services increased. Emergency department (ED) visits remained steady or declined. Evidence of these three trends predated model implementation and continued during PYs 1-3.

Hospital Financial Health. Following the introduction of the model, participating hospitals initially experienced improvements in financial sustainability metrics, including total and operating margins and days cash on hand. Figures for PY 3 (2021) do not yet reflect upcoming global budget reconciliation and may be subject to changes as a result, particularly with the complexity of accounting for COVID-19 payments as part of reconciliation. It is not clear the trend will continue towards improved financial sustainability. Participating PPS hospitals had slower growth in costs than eligible non-participating hospitals, and CAHs saw consistent growth in costs over time, regardless of participation status. As noted in our second evaluation report, the global budget provided stable cash flow, but in PY 3 (2021) some hospitals experienced lower biweekly payments due to adjustments and overpayments in previous years.

Impact of the Pandemic. The COVID-19 pandemic impacted the utilization of global budget-covered services, resulting in a sharp decline in 2020, followed by a small, but incomplete recovery in 2021. Many hospital services such as elective surgeries were shuttered in 2020 and likely contributed to these revenue declines. Federal financial support offered during the pandemic, such as the Provider Relief Funds, provided a backstop to participating hospitals over and above the global budget payments, but proportionally more funds went to CAHs than to PPS hospitals. As a result, participating CAHs reported declining debt burden during the pandemic, while participating PPS hospitals saw their debt burden grow.

Transformation Activities and Quality of Care

Participating hospitals outline their approach to care delivery redesign in annual transformation plans. Hospitals tailor these plans to meet the health needs of the communities they serve and incorporate goals aimed to improve health outcomes and reduce costs and potentially avoidable utilization (PAU). Through our review of the hospital transformation plans, we identified 25 distinct transformation goals across four high-level transformation categories:

- **Reducing ED Utilization through Care Management:** Hospitals focused their transformation plans on improving care management for patients with chronic illnesses such as congestive heart failure, chronic obstructive pulmonary disease, and diabetes.
- **Improving Access to Care:** Hospitals proposed strategies to improve access to primary care, wellness care, emergency care, and specialty care.
- **Improving Behavioral Health and Substance Use Disorder (SUD)/Opioid Use Disorder (OUD) Care**: Hospitals sought to improve behavioral health and SUD/OUD care through outreach program implementation, service development and expansion, and training/education.
- **Improving Operational Efficiency:** Hospitals planned to improve operational efficiency by redesigning facility space, centralizing functions, and improving ED staffing.

Our review of hospital transformation plans and claims data suggest that participating hospitals demonstrated interest in addressing current and anticipated health needs of their patients and community while also advancing the community health and institutional goals identified prior to the model.

Recruitment and Participation of System-affiliated Hospitals

We examined recruitment and decision-making of system-affiliated hospitals and payers in integrated models to better understand barriers and facilitators that might contribute to the lower rate of PARHM participation among system-affiliated hospitals as compared to independent hospitals.

Model Participation. Model participation among eligible system-affiliated hospitals is four times lower than that of independent hospitals. Most participating system-affiliated hospitals made the decision to participate in the model when they were independent hospitals (before acquisition).

Perceptions of Model Design. Some eligible non-participating, system-affiliated hospitals noted that the model is more suitable for independent, rural, and financially vulnerable facilities. Several commercial payers also expressed a belief that responsibility for financial stability for hospitals merged during the model performance period should fall on the health systems that acquired those facilities. Several health system leaders reported that smaller multi-hospital systems may be more motivated to participate than hospitals affiliated with larger systems because it allows smaller systems to engage in population health efforts without bankrupting their system.

Motivations for Health System Participation and Non-Participation. Some centralized systems chose not to participate in the model, especially if some of their hospitals did not meet eligibility guidelines, because they would have to employ different strategies based on model eligibility. Health systems leaders said they leveraged their regional networks in payer negotiations to get higher reimbursement rates for their rural hospitals, reducing their need for a financial safety net such as that offered by global budgets. Large health systems can integrate services vertically across the care continuum, which can help reduce the vulnerability of rural hospitals within their network and consequently their willingness to participate in value-based care models such as PARHM.

Concerns about Lack of Alignment in Value-based Care Initiatives. Some system-owned hospitals chose not to participate because they thought the model did not align with other CMS or commercial value-based care programs. Some commercial payers expressed concerns that the model could conflict with larger value-based care initiatives that they already have in place with health systems in their networks. Payers were anxious about the administrative burden of reconciling the model within the scope of their existing value-based care programs, potential for replication, and the challenges it could create.

Engagement and Coordination with Community Organizations and Providers

Hospital transformation activities often included coordination and engagement efforts with community-based organizations, community health care providers and social service providers. This case study describes the hospitals' community engagement strategies to improve care coordination and address social

determinants of health (SDOH) needs as well as implementation challenges with engaging community partners in these activities.

Hospital Focus Area. Transformation plans helped hospitals prioritize and focus on a set of goals for their community engagement activities. These plans increased motivation for participating hospitals to advance existing strategies and implement new strategies to address community needs. For example, four participating hospitals are building and expanding local partnerships to improve care coordination, intervention and referral processes for mental health and SUD care. Three participating hospitals are working with community partners to implement community paramedicine and remote patient monitoring programs to reduce PAU and ensure individuals receive the appropriate level of care at home. In response to rising food insecurity, three hospitals developed programs to increase access to nutritious foods in their communities.

Community Engagement Strategies. Increased focus on community engagement helped participating hospitals to identify challenges and opportunities to better support the social needs of their communities. Hospitals used several approaches to enhance hospital-community partnerships and facilitate community engagement activities, particularly hiring dedicated staff to support care coordination and working with community coalitions to leverage resources**.** Four hospitals participate in cross-sector community coalitions to leverage community resources. Three hospitals hired and/or devoted a portion of a full-time equivalent staff person to supporting coordination and engagement with community partners. Hospitals found that community engagement was most effective and sustainable when there is a dedicated hospital staff member, either full-time or part-time, to facilitate community partnerships.

Implementation Challenges. Despite investment in community-focused initiatives, hospitals faced implementation barriers that hindered their ability to fully address identified needs. Staff highlighted funding constraints as a primary barrier to achieving their transformation goals. Hospitals also noted that due to workforce shortages, resources were directed towards recruiting, hiring and training new staff at the expense of care coordination services and activities to address SDOHs. In addition, PARHM funding flows directly to hospitals and not to community partners. Given community partners are struggling with similar challenges (e.g., workforce, financial stability), the lack of financial incentives for community partners limits how much they can engage with hospital participants.

Exploring Service Line Changes

In this case study, we describe how service line changes have unfolded under the model. We also examine how, and through what design features, the model influences rural hospital decision-making about service line additions, expansions and closures.

Model Design. The model aims to provide rural hospitals with an opportunity to refine or “rightsize” service line offerings in response to community needs. In some cases, this means supporting rural hospitals to maintain or add service lines needed by their communities. In other cases, rural hospitals may downsize or close service lines that other hospitals provide within a reasonable travel distance to prioritize resources for other services. PARHM components that are designed to support service line changes include transformation plans and associated technical assistance. In addition, the global budget methodology accommodates

planned service line changes and unplanned volume shifts as part of reconciliation and prospective changes. Model participants and payers and the Innovation Center recognize that the service line changes are burdensome under the payment system because the process requires justification, financial impact estimates, validation, and categorization for any changes.

Hospital Service Line Planning. PARHM participation influenced hospital service line planning, but external factors (including health system affiliation) were the main drivers of service line decision-making. Many changes to service lines were driven by hospital staff departures and additions, such as a new specialist moving to the community, rather than a planned approach.

Financial Incentives. Participating hospitals did not associate the global budget methodology with decisions to make planned service line reductions or closures. Future models should align financial incentives and design features to support rural hospitals' transformation planning. While not the intention, H\hospitals assume that the global budget methodology discouraged planned service line closures, which requires that revenue associated with the service line be removed.

Conclusion

The three case studies presented in this report reveal a more comprehensive picture of the factors that influence model participation, implementation approaches, outcomes, and potential unintended consequences.

In subsequent evaluation reports, we will continue to explore and examine the local context that influence model implementation by presenting additional case studies. Future case studies include an assessment of implementation experiences related to global budgets and reconciliation, overlap of value-based care models, strategies implemented to address behavioral health needs, and overall model sustainability.

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 improve the financial health 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 provides rural hospitals with predictable cash flow to foster investment in population health.

Model Design and Components

PARHM includes financial and delivery system transformation components designed to align incentives across payers for participating hospitals to achieve the model aims. Global budgets are designed to enable hospitals to invest in population health and prevention activities beyond the acute care setting.[2] Hospital transformation plans support aligning 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 & Medicaid Innovation (Innovation Center) developed a methodology for calculating a prospective global budget for each participating hospital's performance year. Each hospital's 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, monthly) over the course of the year.[5] Centers for Medicare & Medicaid Services (CMS) tested the fixed biweekly global budget payment methodology for services provided to Medicare fee-for-service (FFS) patients. Following each performance year, Medicare completes a reconciliation process. Critical access hospital (CAH) payments continued to be reconciled to cost-based reimbursement for Medicare FFS patients. Rural prospective payment system (PPS) hospital payments are not reconciled back to Medicare FFS claims or costs but rather adjusted based on several factors, including unplanned volume shifts, payer mix shifts and planned changes to service lines.
2. **Virtual Global Budget Payment:** Payers continue to pay FFS claims for care provided to enrollees and conduct monthly reconciliations to the monthly global budget amount or carry any overages forward to subsequent months.[5] 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.

The prospective global budget amount is based on historical net patient revenue for inpatient and outpatient hospital services for each payer. For commercial payers and Medicare FFS, net patient revenue comprises the coverage amount paid for hospital services provided. Global budgets are adjusted each 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 lines changes, unplanned shifts in patient volume). For CAHs, the proposed Medicare FFS portion of the global budget is adjusted based on the previous year's cost report. **Exhibit 1.1** provides an overview of the hospital services included and excluded from net patient revenue (global budget).[5]

Exhibit 1.1. Included and Excluded Hospital Services in the Global Budget

Included Services	Excluded Services

▪ Inpatient hospital services
▪ Outpatient hospital services
  ▪ Emergency department
  ▪ Laboratory
  ▪ Imaging
  ▪ Evaluation and management services
  ▪ Same day surgery
  ▪ Ambulance
  ▪ Other outpatient services
▪ CAH swing bed services
	▪ Professional services (inpatient and outpatient)
	▪ Clinic services, including those provided by rural health clinics, community mental health clinics and federally qualified health centers
	▪ 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

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: CMS. PARHM Detail Business Requirements. Published June 30, 2022.

The first annual reconciliation for PY 1 (2019) was completed for the five Cohort 1 hospitals in PY 2 (2020). Building on the lessons learned from the first reconciliation, the Authority Board approved a 90-day settlement period between participant payers and hospitals. For Medicare, any amounts due to or from the hospital are prospectively accounted for in the following year's budget. In addition, the Authority Board approved a virtual methodology enhancement that adds a threshold calculation to the monthly statement process to protect against overpayments until final reconciliation of the performance year.

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. During PY 3 (2021), three participating hospitals also participated in accountable care organizations (ACOs). Two of the three hospitals received shared savings from ACO participation. [11]No adjustments for duplicative payments were made to the hospitals' global budgets to date.

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 & 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 PY 3-6 (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.[b]

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 PY 2-6 (2020-2024), the Commonwealth is to ensure that the global budget accounts for at least 90% of each participating hospital's eligible net patient revenue.

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

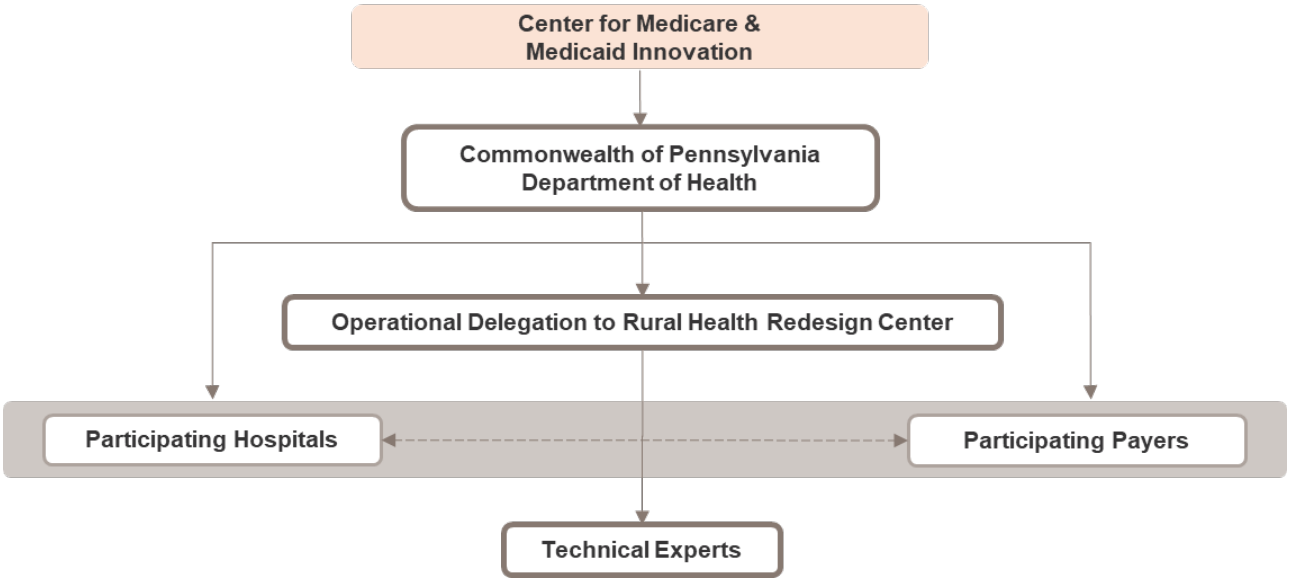
[b] The initial agreement with CMS required the Commonwealth to recruit 30 rural hospitals to participate by the third performance year of the model. In response to COVID-19 disruptions, CMMI provided the Commonwealth with one additional year to recruit rural hospitals.

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.[6] 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 State Accountability and Oversight: Key Model Implementation Partners

Exhibit 1.2 illustrates the accountability and oversight structure for the 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 with flexibility to modify Medicare payment mechanisms to launch and accommodate the model. The Commonwealth is accountable to meet Innovation Center goals, notably cost savings.[3] The Commonwealth, in collaboration with the independent Pennsylvania Rural Health Redesign Center, 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 1.2. PARHM Accountability



Center for Medicare & 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.[7]

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 establishment of the RHRC in PY 2 (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.[8]

The Authority and Rural Health Redesign Center Organization, known collectively as the Rural Health Redesign Center (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, collects and maintains data from participating payers and hospitals, monitors transformation plan implementations efforts quarterly, and provides an annual assessment of each participating hospital's compliance with the hospital transformation plan and global budget targets.

RHRC Technical Experts. The RHRC engaged external technical experts to support model activities (**Exhibit 1.3**).

Exhibit 1.3. RHRC Engaged Two External Technical Experts to Support the Model

Technical Expert (Role)	Activities
Mathematica (Medicare global budget preparation)	▪ Prepared Medicare global budgets for Innovation Center review ▪ Worked with commercial payers to determine data submission guidelines, process the data and send the results back to commercial payers and hospitals ▪ Developed adjustments to the global budgets ▪ Interacted with the Innovation Center to work through model technical updates
Rural Health Value (hospital transformation plan development)	**Technical Expert (Role)** ▪ Supported the systematic process for hospital transformation plan development, ▪ Assisted new participant hospitals with transformation plan development ▪ Provided training to RHRC staff to support current participant hospitals with transformation plan updates **NOTE:** These activities were transitioned to RHRC staff in 2022.

Participating Hospitals

Hospitals eligible to participate in PARHM included all CAHs and all acute care 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 PY 1 (2019) and made up Cohort 1. Eight more hospitals joined for PY 2 (2020), forming Cohort 2. An additional five hospitals joined the model as Cohort 3 for PY 3 (2021), as shown in **Exhibit 1.4**. No additional hospitals joined the model beyond Cohort 3.

Exhibit 1.4. Participating Hospitals

Hospital	County	Ownership	Hospital Type	Located in FORHP-designated Rural Area	PY 1 (2019)[1]	PY 2 (2020)[2]	PY 3 (2021)[3]
Cohort 1							
Barnes-Kasson County Hospital	Susquehanna	Independent	CAH	Yes	✓	✓	✓
Endless Mountains Health Systems	Susquehanna	Independent	CAH	Yes	✓	✓	✓
Geisinger Jersey Shore	Lycoming	System	CAH	No	✓	✓	✓
UPMC Kane	McKean	System	PPS	Yes	✓	✓	✓
Wayne Memorial Hospital	Wayne	Independent	PPS	Yes	✓	✓	✓
Cohort 2							
Armstrong County Memorial Hospital	Armstrong	Independent	PPS	Yes		✓	✓
Chan Soon-Shiong Medical Center at Windber	Somerset	Independent	PPS	Yes		✓	✓
Fulton County Medical Center	Fulton	Independent	CAH	Yes		✓	✓
Penn Highlands Mon Valley (formerly Monongahela Valley Hospital)	Washington	System	PPS	No		✓	✓
Punxsutawney Area Hospital	Jefferson	Independent	PPS	Yes		✓	✓
Penn Highlands Tyrone (formerly Tyrone Hospital)	Blair	System	CAH	No		✓	✓
Washington Health System Greene	Greene	System	PPS	Yes		✓	✓
Washington Health System Washington Hospital	Washington	System	PPS	No		✓	✓
Cohort 3							
Clarion Hospital	Clarion	Independent	PPS	Yes			✓
Highlands Hospital	Fayette	System	PPS	No			✓
Indiana Regional Medical Center	Indiana	Independent	PPS	Yes			✓

Hospital	County	Ownership	Hospital Type	Located in FORHP-designated Rural Area	PY 1 (2019)[1]	PY 2 (2020)[2]	PY 3 (2021)[3]
Cohort 1							
Meadville Medical Center	Crawford	Independent	PPS	Yes			✓
Bradford Regional Medical Center	McKean	System	PPS	Yes			✓

NOTES: Hospital Type indicates whether the hospital is an acute care hospital reimbursed under the prospective payment system (PPS) or a critical access hospital (CAH) that receives cost-based reimbursement. Ownership status is current as of December 2022. Tyrone Hospital was acquired by Penn Highlands in November 2020. Monongahela Valley Hospital was acquired by Penn Highlands in October 2021. Highlands Hospital was acquired by Penn Highlands in April 2022.

Participating Payers

The Commonwealth engaged three types of primary payers to participate in the model: Medicare, Medicaid and commercial payers. 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.

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 of the Commonwealth's Medicaid patients are enrolled in HealthChoices or Community HealthChoices Program managed care plans for physical and behavioral health services.[c] 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 (**Exhibit 1.5)** 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

[c] Behavioral health services are provided through Behavioral HealthChoices managed care plans.

insured. Participating commercial payers calculate hospital global budgets, provide data for payment and reconciliation, and share performance on statewide quality measures with the Commonwealth.

Exhibit 1.5. Commercial Payer Participation by Model Performance Year

Health Plan	Products Included			Participation Years		
	Medicare Advantage	Medicaid MCO	Commercial‡	PY 1 (2019)	PY 2 (2020)	PY 3 (2021)
Geisinger Health Plan	✓	✓	✓	✓	✓	✓
Highmark Blue Cross Blue Shield	✓	Via affiliate, Highmark Wholecare	✓	✓	✓	✓
UPMC Health Plan	✓	✓	✓	✓	✓	✓
Highmark Wholecare (formerly Gateway)	✓	✓	N/A	✓	✓	✓
Aetna	✓	✓	✓		✓	✓

NOTES: ‡The types of insurance products included in the commercial product line vary by payer (for example, inclusion of employer self-funded products). MCO = managed care organization.

1.3 Refinements to the Model

COVID-19 Exogenous Factor Request

When the COVID-19 pandemic began during PY 2 (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 PY 2 (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 ensure global budgets address increased costs associated with the pandemic period. The Innovation Center approved the request to reconcile both PY 2 (2020) and PY 3 (2021) global budgets together following the completion of PY 3 (2021). Additional items included in the request were still under consideration by the Innovation Center, which if approved would be implemented in PY 5 (2023), including any adjustments to global budgets.

Telehealth Expansion Waiver

Not all participating hospitals met the Medicare geographic requirement as an originating site for telehealth services prior to the public health emergency (PHE). In response to the COVID-19 pandemic, CMS temporarily

waived the geographic location requirement and expanded flexibility for telehealth services nationwide.[9] Hospitals participating in the model used this opportunity to invest in the infrastructure for telehealth. They were able to expand telehealth services during the PHE to increase access to needed services. To support continued use of telehealth after the COVID-19 PHE, and to provide services that align with hospital transformation plans, the Innovation Center in 2021 waived the geographic requirement for facility originating sites and allowed telehealth services to be provided at the patient's place of residence. Participating hospitals may apply for this waiver.[10]

Waiver Requests to the Commonwealth[11]

The RHRC identified opportunities to support model goals by waiving certain requirements or prerequisites. The RHRC submitted the following waiver requests to the Commonwealth:

- To allow nurse practitioners to cover EDs at participating hospitals that have telehealth connectivity to tertiary centers and appropriate transfer agreements with emergency medical services providers. Federal regulations allow CAHs to cover EDs with nurse practitioners, however, Commonwealth regulations currently prohibit such staffing arrangements within Pennsylvania. One participating hospital applied for this waiver and received approval to start in January 2022.
- To allow changes to hospital bed licensing structure to align inpatient care with community needs. Two PPS hospitals intended to reduce their licensed beds to 10 to maintain some inpatient care while increasing focus on outpatient and ED services.
- To allow flexibility for repurposing of hospital space and accommodating physician services within hospital facilities. Two hospitals are exploring this waiver and one hospital received approval to use their hospital space for physician services.

Commonwealth HealthChoices Program Rebid Process

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.[12] DHS planned to move forward with the selected applicants in September 2022. The RHRC will not onboard two new payers for PY 5 (2023).[11,d]

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. For this evaluation, we use a mixed-methods approach involving both primary and

[d] 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.

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 the implementation context, implementation experience, facilitators of implementation and 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 PY 3 (2021)], which makes most comparisons to eligible non-participating hospitals or national or statewide benchmarks infeasible.

As part of the evaluation process, we assess 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 include 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.

Research Questions

The research questions addressed in this report were developed by the Innovation Center and refined in collaboration with the evaluation team (**Exhibit 1.6)**. 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 1.6. Evaluation Research Questions (RQ)

Implementation Experience and Effectiveness
■ RQ1: What are participating hospitals' experiences implementing their hospital transformation plans?
■ RQ2: What factors do participating hospitals cite as barriers or facilitators to operating under the model?
■ RQ3: What are patients' experiences in the model?
■ RQ4: What are the opinions of the model from payer participants and important model implementation partners (for example, RHRC and technical experts)?
■ RQ5: What are the reasons that some rural hospitals choose to participate, not to participate or defer participation until later performance years?
■ RQ6: Did the health care system and state health agencies improve the population health of rural Commonwealth residents? If so, how did the health care system and state health agencies collaborate to improve the population health of rural Commonwealth residents?
Quantitative Assessments
■ RQ7: How has Medicare spending and service line utilization changed for participating hospitals?
■ RQ8: What are the trends in financial performance of the Cohort 1, Cohort 2 and Cohort 3 hospital participants during the baseline period?
Scalability and Replicability
■ RQ9: What are the implications of the model results for other potential rural area-based models?

Evaluation Methods

Over the course of our evaluation, we will use an embedded, multiphase mixed-methods design, using both primary and secondary data to analyze activities, outcomes and relationships.[13] The evaluation combines qualitative and quantitative analyses that consider participating and non-participating hospitals, their community partners, and the broader context in which they operate to address rural community health needs.

We also 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 "why" hospitals chose (or did not choose) to participate in the model, "how" the model is being implemented and received on the ground, and "what" barriers and facilitators impact implementation.[14] We used a multiple case or a comparative design, in which we selected a subset of hospitals as "cases" for each research aim. While the case studies inform the overarching research questions (**Exhibit 1.6**), each case study has specific objectives (**Exhibit 1.7**).

For each case study, we use a mixed-methods approach to analyze and triangulate data from model documents; interviews with model participants, non-participants and implementation partners; and when feasible/appropriate, quantitative sources (model document data includes hospital transformation plans, RHRC progress reports and global budget documents). 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 and second 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); and
- leadership from a sample of non-participating hospital systems.

We also interviewed Medicare patients who received services from some of the participating hospitals. (See **Appendix A** for additional details.)

We systematically reviewed and coded documents, interview transcripts and observational field notes. Using Dedoose®, a web application for managing, analyzing, and presenting qualitative and mixed-methods data, we conducted a thematic analysis of primary and secondary data.[15] Employing both inductive and deductive methods, our cross-site analysis identified themes, patterns and divergence across participating hospitals.[16]

For the quantitative component in this report, we conducted a descriptive analysis of financial performance and Medicare FFS spending and utilization during the baseline period (2013–2018), PY 1 (2019), PY 2 (2020) and PY 3 (2021) for the Cohort 1, Cohort 2 and Cohort 3 hospitals. We used Medicare cost reports for the

financial performance measures and Medicare FFS claims for the spending and utilization measures (described in **Chapter 3;** see **Appendix C** for additional details).

Qualitative and quantitative data were analyzed together to understand model participation (**Chapter 2**), hospital transformation activities and quality of care (**Chapter 4**) and key findings from the mixed-methods analysis (**Chapters 5, 6 and 7**).

Overview of This Report

Our first evaluation report focused on the implementation experience of participating hospitals (Cohort 1) in PY 1 (2019) and of participating payers in PY 1 (2019) and PY 2 (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 PY 2 (2020).

In our third evaluation report, we include a descriptive assessment of financial performance, spending and utilization, and access and quality of care outcomes for Cohorts 1–3 hospital participants during years 2016 (baseline) to 2021 (PY 3). This includes presenting experiences and perspectives of participating hospitals, payers and model implementation partners on global budget implementation, and document review findings on hospital transformation activities. The results of the quantitative assessment 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 1.7. Case Study Objectives

Case Study	Objectives	Cases	Research Questions (RQ)
Recruitment and Participation of System-affiliated Hospitals	Examine system-affiliated hospitals' motivations for participation and non-participation in PARHM	A subset of participating and non-participating system-affiliated hospitals	RQ5 and RQ9
Engagement and Coordination with Community Organizations and Providers	Identify how participating rural hospitals are transforming care through coordination and engagement with primary care providers, community providers, and social service organizations Examine barriers and facilitators to implementation	A subset of participating hospitals engaging in transformation activities with community organizations and providers	RQ1, RQ2, RQ3 and RQ 9
Exploring Service Line Changes	Describe how service line changes have unfolded under the model and the associated influence of model design features on rural hospital decision-making about service line additions, expansions and contractions	A subset of participating hospitals with planned service line changes and no planned service line changes in PY 1–PY 3 (2019–2021)	RQ1, RQ7, and RQ9

NOTE: See Exhibit 1.6 for the list of research questions.

Chapter 2: Model Participation

Key Takeaways

Hospital Characteristics and Market Areas

- Five additional hospitals joined the model in PY 3 (2021) as Cohort 3, bringing the total to 18 participating hospitals. This meets the modified scale targets in the amended Innovation Center-Commonwealth agreement.
- The 18 participating hospitals in PY 3 (2021) continued to represent a varied group based on affiliation, reimbursement method, size and financial status; however, the participation rate continued to be higher among independent hospitals than system-affiliated hospitals.

Role of Implementation Partners and Payers

- The role of the RHRC and the level of support of the RHRC team continues to expand over the course of the model.
- The RHRC is integrating lessons learned from evaluation findings and participant feedback in support of the model.
- The RHRC is committed to addressing hospital and payer concerns and continues building trusting relationships.
- Payers express commitment to the model but view the model as benefiting hospitals more than payers.

In this chapter, we discuss key features of participating hospitals, the markets they serve and how these features impact the decision to participate in the model. We use model documents (for example, hospital transformation plans, RHRC progress reports and global budget documents) and secondary data sources (for example, Medicare cost reports, Pennsylvania Health Care Cost Containment Council Financial Reports) to describe baseline characteristics of participating hospitals and their market areas and compare them to eligible non-participating hospitals.

We also describe the evolution of the relationship between hospital and payer participants and implementation partners. This analysis is based on interviews with implementation partners, commercial payers, and a sample of Cohort 2 and 3 hospitals. We supplemented primary data collection with document review, including RHRC presentations, and quarterly and annual reports.

2.1 Model Eligibility and Scope

As described in **Chapter 1.2**, the model is open to all CAHs, and acute care hospitals located in rural Pennsylvania counties. The model uses the Center for Rural Pennsylvania's definition of rural counties; rural counties are counties with a population density less than the average population density in the Commonwealth (284 persons per square mile).[4] This definition allows inclusion of some more densely populated areas that do not meet other federal rural definitions, including that of the Federal Office of Rural Health Policy (FORHP).[e] Thirteen of the 18 participating hospitals are in areas designated as rural by FORHP; five participating hospitals (Geisinger Jersey Shore, Penn Highlands Tyrone, Washington Hospital, Penn Highlands Mon Valley, Highlands Hospital) are not located in rural areas based on FORHP rural designations.

The modified hospital participation scale targets were met in PY 3 (2021). Eighteen hospitals signed participation agreements for PY 3 (2021), which includes the five Cohort 1 hospitals that were recruited to participate in PY 1 (2019) and the eight Cohort 2 hospitals that were recruited to participate in PY 2 (2020). Five additional hospitals were recruited in 2020 for PY 3 (2021) participation (Cohort 3). The Innovation Center extended the model recruitment period by a year through PY 3 (2021), with the goal of recruiting a total of 30 hospitals for PY 4 (2022). Despite the Commonwealth's continued efforts to recruit hospitals, no additional hospitals were recruited, and the Innovation Center amended the State Agreement to lower the participation requirement from 30 hospitals to 18 hospitals for PY 4–PY 6 (2022–2024). Recruitment for PARHM has concluded, and the Commonwealth estimates that the model covers approximately 125,000 Medicare patients based on 2021 average inpatient and outpatient utilization.[11]

Through PY 3 (2021), a broad range of hospitals chose to participate in the model, but the participation rate continues to be higher among independent rural hospitals than for system-affiliated rural hospitals. As of PY 3 (2021), 18 of the 65 eligible hospitals (28%) participated in the model: five CAHs and thirteen PPS

[e] FORHP's definition includes all non-metro counties, all metro census tracts with Rural-Urban Commuting Area (RUCA) codes 4-10, and large area metro census tracts of at least 400 square miles in areas with population density of 35 or less per square mile with RUCA codes 2-3.

hospitals. Eleven of 15 eligible independent hospitals (80%) and seven of 50 eligible system-affiliated hospitals (12%) participate in the model.[f]

Exhibit 2.1 provides an overview of the number of Pennsylvania rural hospitals by model participation status and across hospital types. Participating hospitals vary across hospital type and reimbursement method; however, the participation rate among PPS hospitals is lower compared to CAHs. An important factor in terms of model participation for CAHs is their choice of two reimbursement methods. Method I CAHs receive "standard" reimbursement, while Method II CAHs receive "inclusive" reimbursement, which includes payment for outpatient professional services.[g] The incentives under Method I may align more closely with the participating CAHs' financial structure as outpatient professional services are excluded from the global budget.

Exhibit 2.1. Distribution of Eligible Rural Hospitals by Model Participation Status and Type

	Participating Hospitals (N=18)		Eligible Non-Participating Hospitals (N=48)		Total
	System	Independent	System	Independent	
Method I CAH	0	2	3	0	5
Method II CAH	1	2	5	1	9
PPS	6	7	35	3	51
Total	**7**	**11**	43	4	65

SOURCE: Medicare Cost Reports (FY 2014–2019); Pennsylvania Rural Health Model documentation

NOTES: Numbers reflect participation status and eligibility in PY 3 (2021). Tyrone Hospital, an independent Cohort 2 Method II CAH was acquired by Penn Highlands in November 2020, Monongahela Valley Hospital (now Penn Highlands Mon Valley) was acquired by Penn Highlands in 2021, and Highlands Hospital (now Penn Highlands Connellsville) was acquired by Penn Highlands Healthcare in 2022.

[f] Among Cohort 1 hospitals, Geisinger Jersey Shore and UPMC Kane decided to join the Model before they were acquired by Geisinger and UPMC, respectively. Among Cohort 2 hospitals, Tyrone was acquired by Penn Highlands in 2020, after the hospital joined the Model. In 2021, the number of eligible independent hospitals was reduced to 14 as Monongahela Valley was acquired by Penn Highlands. In 2022, Highlands Hospital, now Penn Highlands Connellsville was acquired by Penn Highlands Healthcare.

[g] A CAH may elect to be paid under one of two methods. In the standard payment method (Method I) outpatient professional services are billed to the Medicare Part B carrier. Under the optional payment method (Method II), the CAH receives cost-based payment for facility services plus 115% of fee schedule payment for outpatient professional services billed to and reimbursed by the Medicare Administrative Contractor (MAC). Eligible medical professionals affiliated with CAHs can elect the optional payment method (Method II), and the CAH bills on behalf of these professionals for the services they provide in hospital outpatient settings. This includes CAH physicians who reassign outpatient billing for services to the CAH, as often occurs for pathology, radiology, emergency department, outpatient surgery and outpatient clinic services. This payment does not include services provided at a rural health clinic and only applies to CAH outpatient services.

Characteristics of Participating Hospitals

The small number of participating hospitals, coupled with important differences in hospital type and affiliation, limits the external generalizability of the findings in this report. Overall, the hospitals participating in the model are a diverse group based on affiliation, type, size and financial status (**Exhibit 2.2**). Model hospitals have key differences that shape our interpretation and discussion of findings. However, the small number of participants (18 hospitals) restricts the external validity of the conclusions contained herein.

Overall baseline financial year data (FY 2013–2018) shows Cohort 2 and Cohort 3 hospitals were in a better financial position (based on days cash on hand and net patient revenue) prior to joining the model as compared to Cohort 1 hospitals. Cohort 1 hospitals had lower total margins across all baseline years (FY 2013–FY 2018) and, on average, had greater uncompensated care compared to other participating hospitals. For a more detailed assessment of financial performance, see Chapter 3 in this report.

Exhibit 2.2. Participating Hospitals by Hospital Type, Size and Financial Status, PY 3 (2021)

Cohort and Hospital	Affiliation	Type	Beds	NPR (Millions)[†]	Medicare NPR Share	Medicaid NPR Share	Percent of Uncompensated Care	Days Cash on Hand^
Cohort 1								
Barnes-Kasson	Independent	CAH	25	$18.50	43%	19%	5.1%	247
Endless Mountains	Independent	CAH	25	$20.41	52%	10%	4.4%	11
Geisinger Jersey Shore	System	CAH	25	$29.92	44%	18%	2.8%	N/A[§]
UPMC Kane	System	PPS	31	$17.94	54%	12%	2.2%	N/A[§]
Wayne Memorial	Independent	PPS	87	$101.48	42%	8%	3.9%	334
Cohort 2								
Armstrong County Memorial	Independent	PPS	147	$96.26	48%	10%	1.2%	41.2
Chan Soon-Shiong Medical Center	Independent	PPS	54	$34.31	54%	11%	1.5%	40
Fulton County Medical Center	Independent	CAH	21	$45.54	29%	13%	3.5%	180
Monongahela Valley	System[α]	PPS	200	$111.26	53%	12%	1.6%	132
Punxsutawney Area Hospital	Independent	PPS	49	$35.39	47%	14%	1.3%	194
Tyrone Hospital	System[β]	CAH	25	$23.73	42%	8%	1.7%	72
Washington	System	PPS	160	$225.53	46%	16%	4.2%	286
Washington Greene	System	PPS	12	$16.82	45%	23%	7.6%	162
Cohort 3								
Bradford	System	PPS	10	$47.98	49%	14%	1.5%	N/A[§]
Clarion	System	PPS	67	$52.69	55%	7%	1.8%	37
Highlands	System[α]	PPS	61	$21.56	37%	31%	3.8%	14
Indiana	Independent	PPS	166	$154.58	47%	9%	1.8%	245
Meadville	System	PPS	200	$242.23	46%	5%	1.9%	133

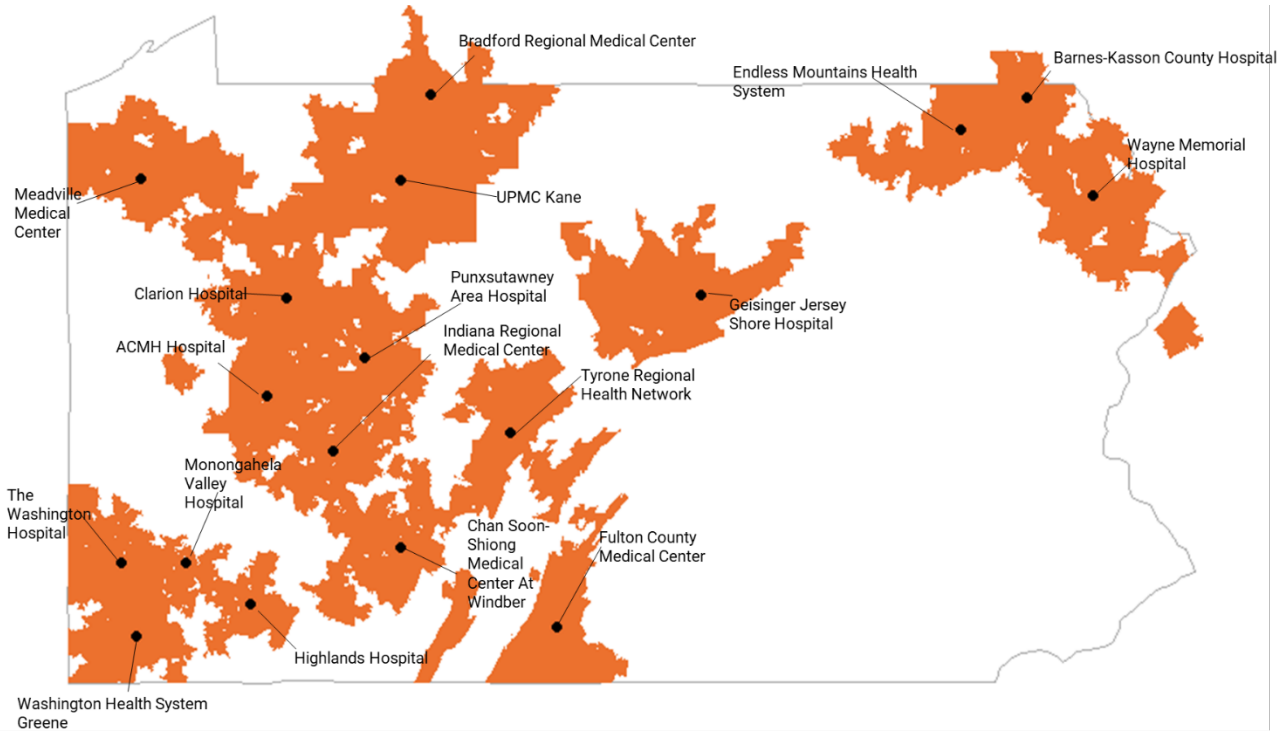
SOURCES: PARHM Cohorts 1, 2 and 3 hospital transformation plans (hospital affiliation, type, beds, NPR, days cash on hand); PHC4 Financial Analysis 2019
NOTES: [†]NPR is net patient revenue; 2020/2019 data submitted as a part of PY 2/PY 3 updates to the hospital transformation plans. Medicare NPR share includes FFS and Medicare Advantage (MA) patients. [§] Cash is held at the system level. ^CY 2020 Q4 data submitted as a part of PY 3 (2021) updates to the hospital transformation plans. [α]Monongahela Valley Hospital and Highlands Hospital were acquired by Penn Highlands in 2021. [β]Tyrone Hospital was acquired by Penn Highlands in November 2020.

Characteristics of Participating Hospital Market Areas

To describe the geographic areas served by PARHM hospitals and explore potential factors that may influence the decision to participate in the model, we identified market areas for each participating hospital. The market areas described here include ZIP codes that account for at least 0.75% of a hospital's total Medicare revenue, as well as any ZIP codes where a hospital ranks in the top two providers by Medicare FFS revenue. **Appendix A** contains a detailed description of the hospital market area definition and how this differs from the service areas defined by the model.

In some cases, participating hospitals are geographically close to one another, leading to contiguous and/or overlapping market areas. **Exhibit 2.3** depicts the market area of each of the 18 hospitals participating in the model in PY 3 (2021). The market areas for some of the northern hospitals also include ZIP codes in New York.

Exhibit 2.3. Market Areas for Participating Hospitals



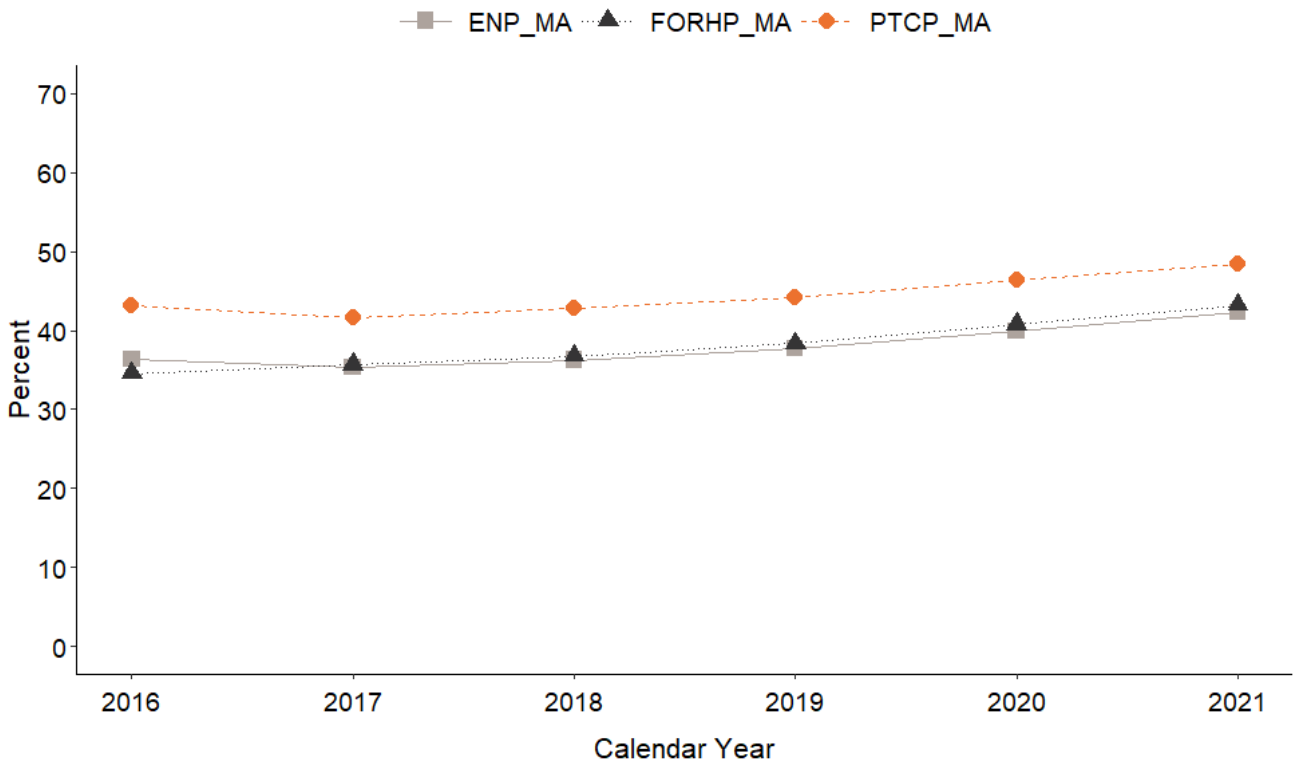
SOURCE: Medicare FFS Claims (C Y2013-CY 2017)

Medicare Population

Between 2016 and 2021, the share of Medicare patients enrolled in FFS declined by approximately 10 percentage points across participating and eligible non-participating hospital market areas and across all FORHP-designated rural areas in Pennsylvania. For the analysis, we compared the percentage of Medicare FFS patients in participating and eligible non-participating hospital market areas to a benchmark of all FORHP-designated rural areas in Pennsylvania. **Exhibit 2.4** shows the growing Medicare Advantage (MA) penetration in these markets. Between 2016 and 2021, the share of Medicare patients enrolled in FFS declined by

approximately 10 percentage points across both sets of market areas and all FORHP-designated rural areas in Pennsylvania. As detailed in **Chapter 3,** our Medicare analysis only tracks spending and utilization in FFS claims, therefore, our analyses capture trends for a progressively smaller share of Medicare patients each year.

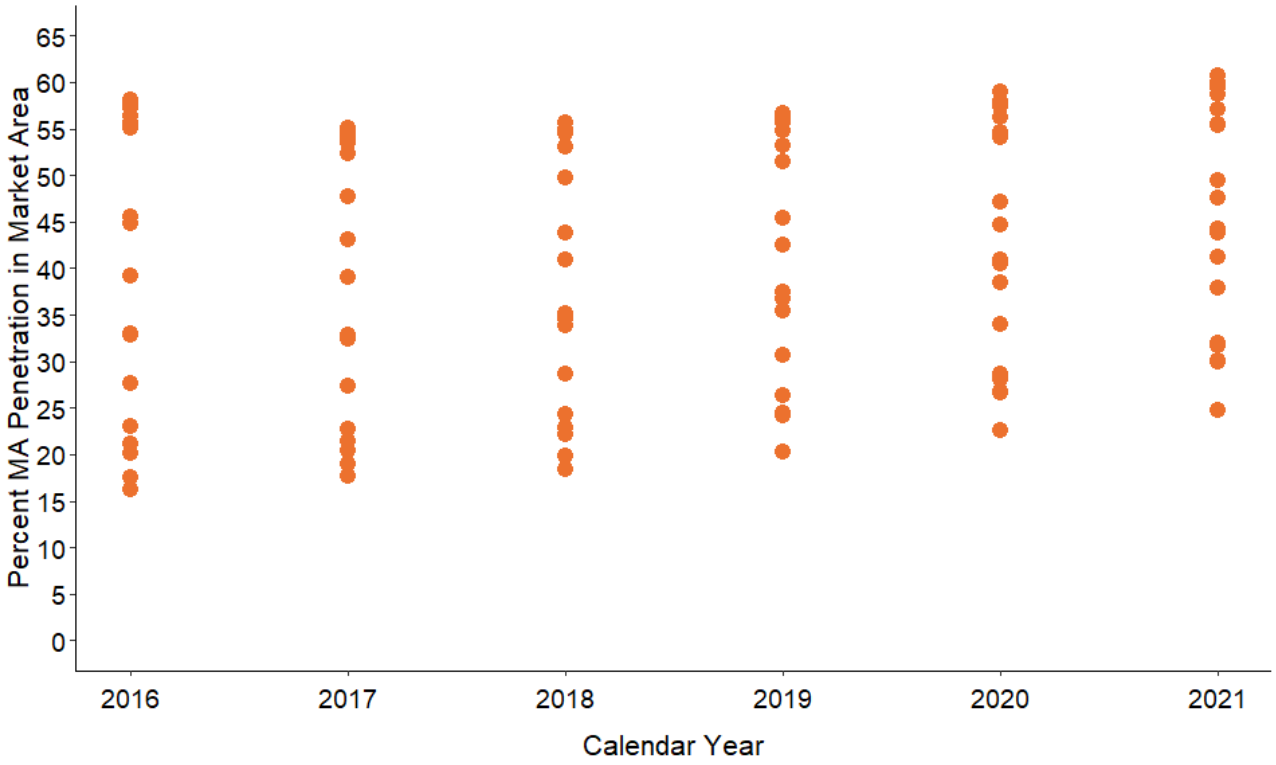
Exhibit 2.4. Medicare Advantage Penetration Increased in PARHM and Eligible Non-Participating Market Areas and FORHP-Designated Rural Areas in Pennsylvania



SOURCE: Medicare Master Beneficiary Summary Files (CY 2016–CY 2021)
NOTE: MA patients: those with 11+ months of MA coverage in the year.
ACRONYMS: ENP_MA = Medicare Advantage in eligible non-participating hospital market areas (never participated in the model); PTCP_MA = Medicare Advantage in participating hospital market areas (has ever participated in the model); FORHP_MA = Medicare Advantage in Federal Office of Rural Health Policy Designated Rural Area.

Likewise, MA penetration is not homogeneous across each of the 18 participating hospitals' market areas. As shown in **Exhibit 2.5,** there is substantial variability in MA penetration across the 18 participating hospitals' market areas every year. Since we are capturing a smaller share of the overall Medicare population in recent years, their spending and utilization patterns may not be representative of all Medicare patients in those market areas.

Exhibit 2.5. Medicare Advantage Penetration Increased in the 18 PARHM Hospital Market Areas, 2016–2021



SOURCE: Medicare Master Beneficiary Summary Files (CY 2016–CY 2021)
NOTES: MA patients: those with 11+ months of MA coverage in the year. Each dot represents a market area for a participating hospital. Certain ZIP Codes may be present in one or more participating market areas.

Overall, Medicare FFS patients living in the communities served by the participating hospitals are more likely to be White, Non-Hispanic compared to patients living in eligible non-participating market areas. Participating market areas have more patients who are eligible for both Medicaid and Medicare (dually eligible) and enrolled in Medicare Advantage compared to Medicare patients served by eligible non-participating hospitals **(Exhibit 2.6).**

Exhibit 2.6. Medicare Patients in Participating Hospital Market Areas are more likely to be Dually Eligible and Enrolled in Medicare Advantage

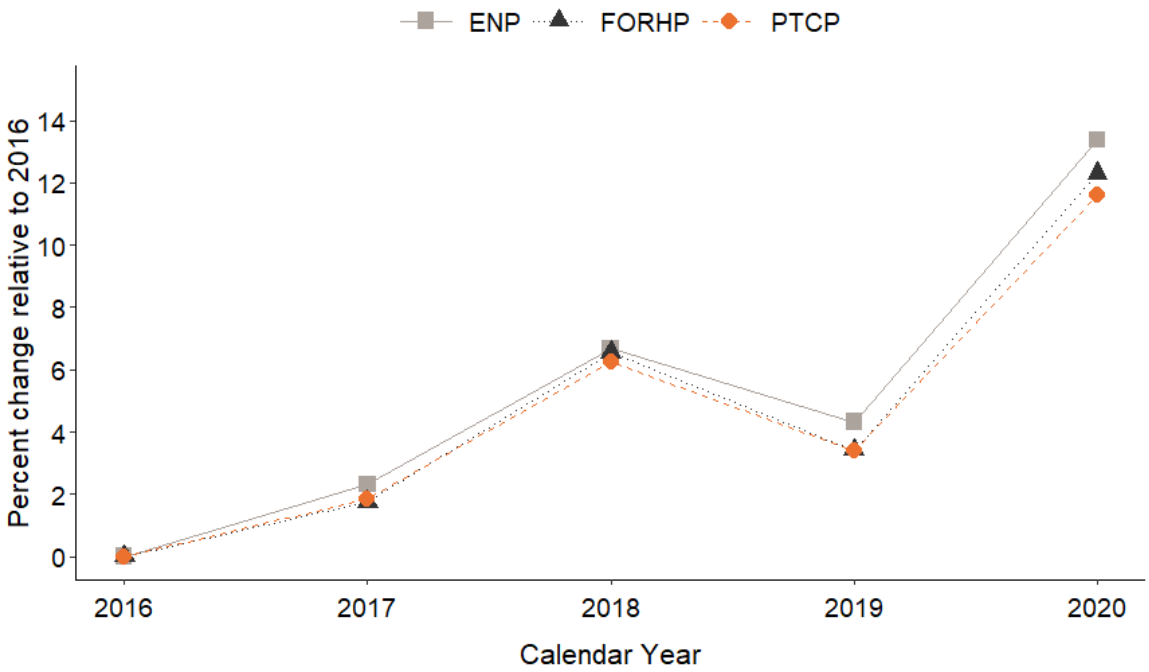
Demographic Characteristics	Participating Hospital Market Areas	Eligible Non-Participating Hospital Market Areas
Female, %	53	54
Population above 75 years old, %	37	38
Dually Eligible, %	20	17
Disability Coverage, %	16	24
Medicare Advantage, %	49	39
White	96	93
Black, Non-Hispanic, %	2	2
Hispanic, %	1	2
Asian, Non-Hispanic, %	0	1

SOURCE: Medicare Master Beneficiary Summary Files (CY 2016-CY 2021)

Medicaid and CHIP Populations

We also captured both managed care plan and FFS utilization for the Medicaid and CHIP population. This population changes from month to month as individuals fall in and out of eligibility. The Medicaid and CHIP population grew substantially in 2020, driven by the continuous eligibility requirement in the Families First Coronavirus Response Act which stated that current Medicaid recipients must be considered eligible through the end of month in which the COVID-19 PHE ends **(Exhibit 2.7**)**.** Demographically, the Medicaid and CHIP population is very similar from year to year with respect to age and sex. However, it has become more diverse with an increase in Black and Hispanic populations over time. Medicaid spending and utilization trends should be interpreted in the context of these variations in the underlying population over time.

Exhibit 2.7. Medicaid and CHIP Enrollment Increased across PARHM and Eligible Non-Participating Market Areas and all FORHP-Designated Rural Areas in Pennsylvania



SOURCE: TAF Demographic and Eligibility Files (CY 2016-CY 2020)
NOTES: Limited to patients with 11+ months coverage in the year.
ACRONYMS: ENP = Eligible Non-Participating hospital market areas (never participated in the model); PTCP = Participating hospital market areas (has ever participated in the model); FORHP = Federal Office of Rural Health Policy designated rural areas within Pennsylvania (benchmark).

Overall, Medicaid patients in the communities served by the participating hospitals are more likely to be White and Non-Hispanic compared to Medicaid patients served by eligible non-participating hospitals **(Exhibit 2.8).**

Exhibit 2.8. Medicaid Patients in Participating Hospital Market Areas are More Likely to Be Enrolled in Managed Care

Demographic Characteristics	Participating Hospital Market Areas	Eligible Non-participating Hospital Market Areas
Female, %	54	54
Population above 65, %	10	8
Dually Eligible, %	15	15
Managed Care Enrollment, %	91	87
Black, Non-Hispanic, %	6	7
Hispanic, %	2	8
Asian, Non-Hispanic, %	0	1
White, Non-Hispanic, %	88	76

SOURCE: TAF Demographic and Eligibility Files (CY 2016-CY 2020)

2.2 Evolution of Relationships between Model Hospital and Payer Participants and Implementation Partners

The role of the RHRC and the level of support of the RHRC team continues to expand over the course of the model. Innovation Center funding to the Commonwealth was reduced in PY 2 (2020) due to the lower-than-expected number of participating hospitals and was not increased for the additional recruitment for PY 3 (2021). To ensure they use limited resources strategically, the RHRC based decisions on feedback from hospital and commercial payers. For example, in PY 3 (2021), because hospitals had limited capacity to analyze data provided by the Innovation Center, RHRC recruited additional data analysis staff and executed business associate agreements with hospitals to analyze this data on their behalf. The RHRC continues to look for opportunities to reduce the data requirements of the global budget and address hospital and payer concerns about burden and transparency.

In PY 3 (2021), the RHRC continued to provide education on global budgets, regulatory waivers, SDOH issues and grant writing. In addition, the RHRC took over hospital transformation planning and monitoring from Rural Health Value, hiring three new coaches to support these efforts. During meetings with hospital staff, the coaches fill out hospital transformation plan Excel worksheets that help the hospitals translate their ideas into goals and action steps. One hospital noted that the technical assistance helped them develop their transformation plan, as they did not have adequate experience or resources for this:

> *I'll tell you, the first year we had to put that transformation together, just working in the Excel spreadsheet they sent was another challenge. This year the coaches are filling it out. They're helping*

us actually do it. That's a big help… they're really just typing it in as we talk and then sending it for our review. It's been a big help this year, so yes. That's greatly appreciated.

The RHRC has integrated lessons learned from evaluation findings and participant feedback to support the ongoing implementation of the model. In PY 2 (2020), all commercial payers were frustrated by frequent changes in reporting templates, expectations and processes related to the budget methodology. All payers noted efforts in PY 3 (2021) to stabilize reporting requirements (that is, fewer changes) and to offer more reasonable and clearer timelines.

In the first two years of the model, commercial payers also voiced concerns about lacking a *"sight line"* into hospitals' progress and accountability on transformation goals. To address this concern, the RHRC shared the hospitals' transformation plans during RHRC board meetings, which includes payer representatives. Payer-provider meetings in PY 3 (2021) also focused on hospital transformation activities. While payers acknowledged they are receiving more information on transformation activities compared to previous years, they noted they still do not have enough data to show a reduction in PAU and make a case for continued participation to their leadership. They also acknowledge that they could seek more information on transformation activities directly from hospitals but lack the bandwidth to do so because of the level of effort required for participation in model activities. Some commercial payers reiterated statements made in PY 2 (2020) about wanting a larger role in shaping transformation plans. Specifically, they mentioned wanting to have input earlier in the process rather than receiving plans for review after six months of development.

In PY 2 (2020), participating hospitals noted issues accessing and using population health data to improve care coordination and assist with efforts to improve care for high utilizers. While the Innovation Center provides hospitals with patient-level data, hospitals noted they had limited capacity to process and analyze the data. Most hospitals had also not seen the quarterly dashboard that the Innovation Center provided for participating hospitals. For those who had seen it, they did not find the dashboard helpful as they have limited resources to process all the information. In 2022 the RHRC began producing various monthly reports for each participant hospital that signed a Business Associate Agreement identifying PAU opportunities within the community. As of PY 3 (2021), access to timely, actionable data was still limited or not accessible for hospital participants and they continued to express challenges similar to those cited in prior evaluation reports.

To improve communication and data sharing between hospital and commercial payers, the RHRC Board of Directors approved a payer/provider communication protocol to provide a consistent communication process for participating payers and hospitals to discuss issues of concern. As part of this protocol, payers are encouraged to meet quarterly with hospitals one-on-one. One payer, who was able to do this routinely, had positive feedback. Some payers who have agreements with many participating hospitals said they did not have the bandwidth to meet individually with hospitals. Hospitals also noted wanting additional meetings with the RHRC to discuss transformation activities. For PY 3 (2021), the RHRC increased touchpoints, meeting with hospitals quarterly. The RHRC uses these meetings to review hospital transformation plan progress with each hospital. One participating hospital appreciated the additional meetings and noted the hospital transformation plan update was streamlined because the RHRC was already aware of hospital-specific issues.

The RHRC is committed to addressing hospital and payer concerns and continues to build trusting relationships. Participating hospitals continue to speak positively about the support from the RHRC team and

continued technical assistance from implementation partners on hospital transformation plan development and global budget implementation. As one hospital noted:

> *I know that whenever I've had questions or really needed some assistance [with] where we were with our transformation plan or whatnot between all the members of the [RHRC] team they really have just been helpful…[they] really tried to help steer if we maybe didn't have the action piece of the step or whatnot, even though we knew what the action piece was, but for the documentation as well. I would say from a support standpoint and from an oversight and facilitation standpoint, I think it has been very strong.*

Most commercial payers reported having good relationships with the RHRC team and feeling heard even if the RHRC does not always make decisions in their favor (for example, the decision to include larger suburban hospitals in the model). Payers also appreciated the support on global budget implementation from the RHRC team.

After pausing in-person meetings for two years due to the pandemic, the RHRC hosted an in-person Payer-Provider summit in May 2022; all participating hospitals and payers attended. The summit provided hospitals and payers an opportunity to share lessons learned and focused on issues such as hospital transformation success stories, social determinants of health (SDOH) inventory assessments, grant submissions and data strategy. Breakout sessions were also held during the summit to discuss what is working well within the model and what community issues need to be addressed. Participating hospitals and commercial payers spoke positively about the summit and appreciated the opportunity to meet in-person to hear about some of the hospitals' transformation initiatives. A survey conducted post-summit also showed mainly positive reactions to the presentations and the breakout group discussions.[17] During the summit, the RHRC provided a presentation on implementing paramedicine programs and out of the 21 survey respondents, 19 responded that the presentation altered their view on how a paramedicine program such as mobile integrated health program can support the model goals.[17]

While payers continue to express commitment to the model, they feel the model benefits hospitals more than payers. Payers acknowledge that the model is helping participating hospitals financially but are concerned that the financial support of the hospitals is at the expense of the payers. In addition, payers noted that certain value-driven features of the program have not been implemented as expected, such as financial incentives for hospitals to reduce potentially avoidable utilization and improve quality within a true global budget. The RHRC's decision to include larger suburban hospitals in the program heightened these concerns.

> *The Pennsylvania program allowed anybody in who qualified without any question of whether or not access is truly necessary, and who can be the arbiter of that? Who's going to determine that this rural hospital is indeed rural, and this one isn't, or this rural hospital, while it serves a small, rural community is 15 minutes away from a perfectly fine hospital that can meet its current customers' needs? No one's making the hard choice to say, "Okay, we really need something here, and we really want to pay for access here."*

Chapter 3: Market Context – Care Utilization and Financial Performance

Key Takeaways

Trends in Consumption of Care

- Spending on and utilization of global budget-covered services declined among the Medicare FFS and Medicaid/CHIP populations across rural areas in the Commonwealth in the lead up to and during the implementation of the model.
- Utilization of inpatient hospital services declined while utilization of outpatient hospital services increased. This trend began before model implementation and persisted during the model's implementation period.
- Utilization of emergency department visits remained steady or declined. This trend preceded model implementation and continued during model implementation.
- Utilization of preventive services, specifically Initial Preventive Physical Examinations (IPPE) and Annual Wellness Visits (AWV) among the Medicare FFS population grew from 2016-2021.

Hospital Financial Health

- Participating hospitals experienced improvements in metrics of financial sustainability, including total and operating margins and days cash on hand, following the introduction of the model.
- Participating PPS hospitals had slower growth in costs than eligible non-participating hospitals. CAHs saw consistent growth in costs over time, regardless of participation status.
- Participating hospitals had larger and growing debt burdens relative to eligible non-participating hospitals.

Impact of the Pandemic

- Utilization of global budget-covered services declined sharply in 2020 and experienced incomplete recovery to pre-pandemic levels in 2021.
- Provider Relief Funds and other financial support offered a backstop to participating hospitals.
- Participating CAHs saw declining debt burden during the pandemic. Participating PPS hospitals saw growth in debt burden.

This chapter presents information on health care spending and care utilization in the markets served by hospitals participating in the model. This chapter also describes participating hospitals' financial performance and their experience with implementing the global budget. This information provides context for the case studies presented in subsequent chapters.

Because analyses in this chapter are descriptive, they provide insights and perspective into the environments in which participating hospitals operate, why hospitals may have joined the model, and how the model's structure and incentives may impact hospitals. We examine both the state of hospitals and their markets in the years leading up to and during model implementation.

3.1 Methods

The descriptive analysis included three major components. The first component is population-level analyses of spending, utilization and quality outcomes for the Medicare FFS, Medicaid and CHIP populations living in ZIP codes within the market areas for participating hospitals and eligible non-participating hospitals (defined below). These metrics were compared to all rural ZIP codes across the Commonwealth, as designated by FORHP. This broader geographic area only partially overlaps with the market areas of participating and eligible non-participating hospitals. The second component includes a hospital-level analysis of financial performance of participating and eligible non-participating hospitals. Finally, we provide a summary of qualitative key informant interviews.

Note that, for all analyses, hospitals that have ever been part of the model are considered "participating hospitals" for all years, even those prior to model implementation or to the hospital joining the model. "Eligible non-participants" are those eligible for the model but who have never joined it.

Data Sources

The population-level analyses of spending, utilization and quality outcomes explored data from Medicare FFS claims and Medicaid/CHIP claims and encounter records accessed via the CMS Chronic Conditions Warehouse Virtual Research Data Center (CCW VRDC). We used files from the Medicare FFS claims and master beneficiary summary files (MBSF) (2016–2021) and T-MSIS Analytic Files (TAFs) (2016–2020). TAFs are research-optimized data sets that include data on Medicaid and CHIP enrollment, demographics, service utilization and payments. The Medicare cost reports for fiscal years 2013–2020 served as the data source for the financial performance measures. Interviews with commercial payers, implementation partners and a sample of participating hospital leadership informed the summary of global budget implementation experience.

Population Level Analyses

In these analyses, we examined trends in claims-based health care utilization and quality outcomes in populations living in the hospitals' market areas. This reflects the model's stated intent to transform care in the wider community, not only for the patients receiving care at participating hospitals. The results of these analyses provide context for the utilization of residents in those market areas.

For each participating and eligible non-participating hospital, we defined a corresponding market area as all ZIP codes:

- From which the hospital derives at least 0.75% of its Medicare FFS revenue and
- In which the hospital is among the top two hospitals in the ZIP code's Medicare FFS market share beginning in 2014 and ending in 2018.[h]

This definition is intended to capture the majority of the ZIP codes the hospital serves. We also considered a second, narrower definition of market area, comprising the minimum set of ZIP codes to account for 50% of the hospital's Medicare FFS revenue. By examining and comparing trends across the broader and narrower definitions of market areas, we aimed to capture wide, sweeping trends that may only peripherally impact the participating or eligible non-participating hospital, as well as more targeted trends occurring in the core of the hospital markets. We also consider the individuals living in FORHP-designated rural ZIP codes across the Commonwealth to provide a further point of comparison. **Appendix A** contains a detailed description of the hospital market area definitions.

Hospital Level Analyses

The hospital-level analyses of financial performance aim to gauge the financial health of hospitals selecting to join or not join the model in the pre-intervention period, how these measures of financial performance evolved after model implementation and what they may indicate for the sustainability of hospital finances under the model. The sample for this assessment includes the five Cohort 1, eight Cohort 2 and five Cohort 3 participating hospitals. In most exhibits, trends for participating hospitals are shown alongside those of eligible non-participating hospitals (comprising 37 PPS hospitals and 10 CAHs located throughout the Commonwealth; details provided in **Exhibit 1.3** and throughout **Chapters 1 and 2**). While these comparisons of trends between participating and eligible non-participating hospitals may provide insight into hospitals' decision-making processes around model participation, they do not allow for assessing the impact of the model. Specifically, any differences in financial performance observed between participating and eligible non-participating hospitals may be due to the model and/or any one or a combination of exogenous factors that impact both financial performance and the decision to join the model or other factors that are distinct to participating or non-participating hospitals.

Measures

Exhibit 3.1 presents the measure domains and specific measures included in the descriptive assessment and the associated data sources.[i] **Appendix Exhibit A.5** presents the specifications and data sources that were used to construct each of the financial performance measures. Due to the lack of reliable payment information in the TAFs, only utilization outcomes were tracked for the Medicaid & CHIP population. Additionally, we note that 2020 TAFs were preliminary, and there may be further changes as the data are

[h] This definition for market areas differs slightly from the one used by the RHRC to administer the model. We consider only Medicare spending rather than that of all payers. We also examine five years' worth of revenue from one. Finally, we account for a slightly smaller share of revenue, ~60% rather than 75%, the hospital earned for the payers considered. Additional details on the market area definition we used for our evaluation can be found in **Appendix A** of this evaluation report.

[i] This report only includes a descriptive assessment of trends for the financial performance and Medicare FFS/Medicaid spending and utilization measure domains. The assessment of quality-of-care outcomes is examined in the following chapters in this report while population health and access outcomes for the population served by the Model participants will be included in future reports.

finalized by CMS. **Appendix Exhibit A.6** presents additional details on claims-based measure specifications. All results, both those presented in exhibits in this chapter as well as supplementary quantitative results, appear in tables in **Appendix C**.

Exhibit 3.1. Measure Domains, Measures and Data Sources

Domain: Medicare Fee-for-Service (FFS) & Medicaid Spending and Utilization

Sub-Domain	Measures	Data Sources
Medicare FFS Reimbursement	■ Medicare FFS Payment for all Medicare-eligible services ■ Interim Medicare FFS Payment for Global Budget-Covered Services ■ Interim Medicare FFS Payment for all Hospital Inpatient Services ■ Interim Medicare FFS Payment for all Hospital Outpatient Services	Medicare Parts A and B Claims (CY 2016-CY 2021)

Medicare FFS Utilization	■ Part A services
	  ■ Inpatient Admission Rate
	  ■ Inpatient length of stay (LOS)
	■ Part B services
	  ■ Emergency Department (ED) Utilization
	  ■ Observation Stay Utilization
	  ■ Ambulance Utilization
	  ■ Evaluation and Monitoring (E&M) Utilization
	  ■ Initial Preventive Physical Examination (IPPE) / Annual Wellness Visit (AWV) Utilization
		Medicare Parts A and B Claims (CY 2016–CY 2021)

Medicaid Utilization	■ Inpatient Admission Rate ■ Inpatient LOS ■ ED Utilization ■ Observation Stay Utilization ■ E&M Utilization	Medicaid (TAF) Claims (CY 2016–CY 2020)

Domain: Financial Performance

Sub-Domain	Measures	Data Sources
Profitability	■ Total Margin ■ Operating Margin	Medicare Cost Reports (FY 2013–FY 2020)
Capital Structure	■ Long-Term Debt to Capitalization	
Cost Structure	■ Total Costs for Hospital-Based Services ■ Salaries to Net Patient Revenue ■ Total Costs for Hospital-Based Services	
Liquidity	■ Days Cash on Hand	

Domain: Medicare FFS & Medicaid Quality of Care*

Sub-Domain	Measures	Data Sources
Medicare FFS Quality	■ Hospital-wide All-cause Readmission Rate ■ PQI-90 Admission Rate	Medicare Parts A and B Claims (CY 2016–CY 2021)
Medicaid Quality	■ Hospital-wide All-cause Readmission Rate ■ Use of Pharmacotherapy for Opioid Use Disorder ■ Risk of Continued Opioid Use ■ Follow-up after ED Visit for Alcohol or Other Substance Use Disorders	Medicaid (TAF) Claims (CY 2016–CY 2020)

NOTES: The data in Medicare cost reports are reported on a fiscal year (FY) basis; the definition of fiscal year varies by hospital.
*Quality measures are presented in Chapter 4.

Subgroups for Descriptive Analysis

We examined trends both across the entire group of participating hospitals as well as within subgroups defined by hospital reimbursement methodology (inpatient and outpatient PPS vs. cost-based CAH reimbursement), by hospital affiliation with a multi-hospital health system, and by participating hospital transformation areas of focus as identified in their hospital transformation plans. Examples of these areas include substance use disorder (SUD) care, conditions such as congestive heart failure (CHF) or diabetes, or care for patients with complex needs more generally. Additionally, we assessed trends in the share of health care spending and utilization occurring outside the market areas (bypass). For participating hospitals affiliated with a system, we looked at trends in the share of hospital spending and care that occurred in hospitals affiliated with the same system, but not participating in the model (both eligible and non-eligible).

Key Limitations

The results of the analyses below — including differences in trends over time between market areas for participating and eligible non-participating hospitals — cannot be attributed solely to the model. As this is a descriptive assessment, rather than an impact assessment, we observe the trends in outcomes of interest, without isolating the impact of the model on those outcomes.

Since the COVID-19 pandemic coincided with PY 2 (2020) and PY 3 (2021) of the model, the change in health care utilization trends during this period should be interpreted in the context of the pandemic and its impacts on health systems. The PHE-related funding provided to hospitals during this time also had major impacts on financial performance measures. The decision to participate in the model is also correlated with certain hospital characteristics that may lead to differences in outcomes between the set of participating and the set of eligible non-participating hospitals.

The small number of hospital types and cohorts also limits our ability to draw conclusions about observed trends, particularly when presenting results by subgroup. There are three CAHs and two PPS hospitals in Cohort 1, two CAHs and six PPS hospitals in Cohort 2, and five PPS hospitals in Cohort 3. These small groups of hospitals are, in some ways, quite heterogeneous, which can result in noisy trends in outcomes. Unless otherwise noted, the results shown in **Section 3.3** reflect outcomes where there was a clear trend without a substantial outlier or divergence within the group. Individual outliers that drive trends are indicated in the exhibit notes.

Our analysis of Medicare utilization and spending trends were limited to FFS patients. The share of Medicare patients enrolled in FFS declined consistently over the analytical period, from an average of 52% in 2016 to 42% in 2021 in participating market areas, and an average of 59% in 2016 to 48% in 2021 in eligible non-participating market areas (**Exhibit 2.4**). Insofar as health care spending and utilization may differ between Medicare FFS and Medicare Advantage (MA) patients, our analyses capture trends for a progressively smaller share of Medicare patients each year. Similarly, we identified hospital market areas based solely on Medicare FFS revenues, which may not be representative of all patient revenues.

Hospital mergers and acquisitions also complicate the interpretation of our analyses as some hospital ownership changed from independent to system-owned during the analysis period. During the period from 2016-2018, two of the five Cohort 1 hospitals were acquired by health systems that operate in the Commonwealth. The UPMC health system acquired Kane Community Hospital in 2016, and the Geisinger health system acquired Jersey Shore Hospital in 2017; these acquisitions are clearly visible in the trends of certain financial metrics for these facilities such as total and operating margins and days cash on hand. While no Cohort 2 hospitals were acquired during the period from 2016-2018, the Washington Hospital and Washington Health System: Greene, were part of a health system during the baseline period, while other Cohort 2 participants were not. Tyrone Hospital and Monongahela Valley Hospital were independently operated during the period from 2016-2018 but acquired by the Penn Highlands System in 2020 and 2021, respectively, after they began participating the model. Among the Cohort 3 hospitals, Highlands Hospital was acquired by Penn Highlands in April 2022. In our analyses, we considered hospitals to be system-affiliated if they were ever part of a system, regardless of date of acquisition.

Differences between the measures in our domains should also be noted. While Medicare and Medicaid claims and encounter data are analyzed based on calendar year, hospitals may report their financial data on the Medicare cost reports for their respective fiscal years, which does not necessarily align with calendar year. Among the participating and eligible non-participating hospitals all but two have a fiscal year beginning in July. The remaining two, both participating in the model, have a fiscal year aligned with calendar year.

Additionally, while a hospital's financial performance measures derived from Medicare cost reports reflect facility wide costs and revenues, measures based solely on claims reflect spending and utilization for the Medicare FFS or Medicaid population. MA encounter data, commercial claims, and the spending of those not covered by any insurance carrier were not examined. Due to differences in MA penetration in different hospital market areas as well as the increase in MA uptake, the Medicare FFS population may not be a consistent share of a facility's patient, or even Medicare, population. Information on the payer breakdown of participating and eligible non-participating hospitals is reported by the Pennsylvania Healthcare Cost Containment Council based on discharge data.

Some data quality issues in claims and cost reports posed a barrier to analysis for some participating hospitals and eligible non-participants. Foremost among these is the lack of reliable payment data in the TAFs, which prevented examination of interim reimbursement for Medicaid patients. Other issues included missing data. Seven eligible non-participating hospitals and one participating hospital are missing at least one year of cost report data between 2013 and 2020. Additionally, certain data points were extreme outliers, such as total margin for a given year reaching >150% in 2017 while hovering near zero for all other years. Rather than attempting to develop imputation methods to correct for these issues, which would have been challenging

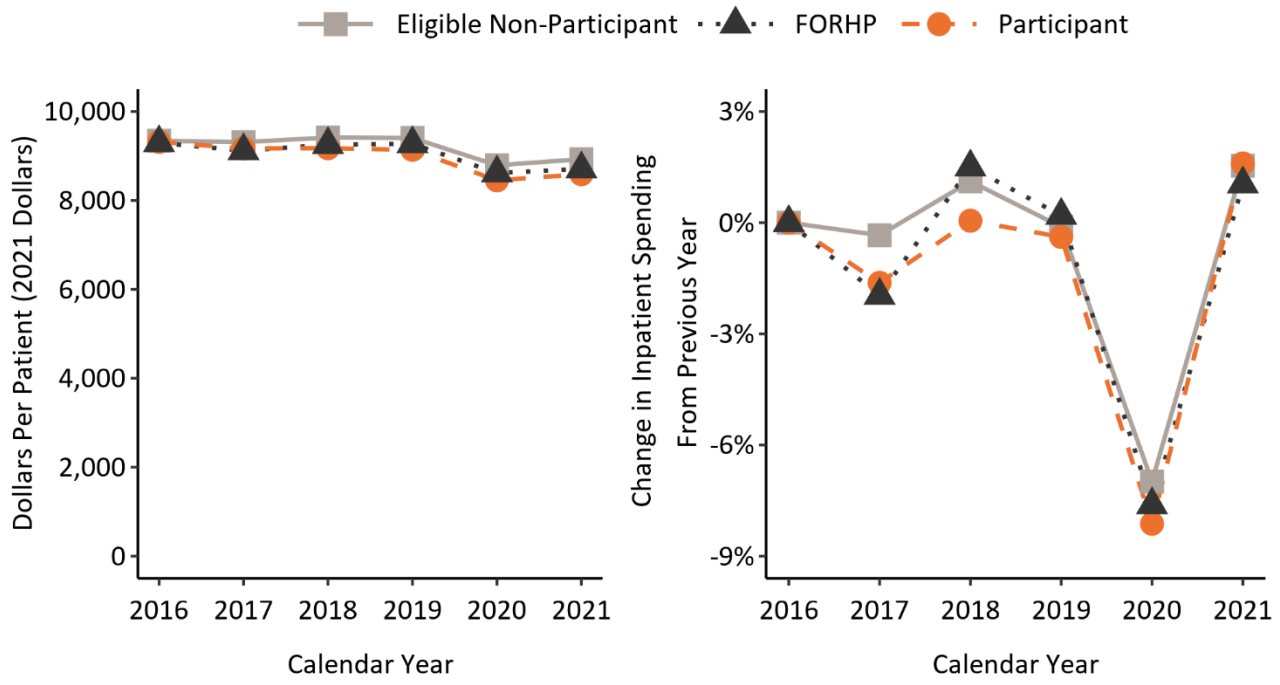
given the limited number of data points available, we excluded hospitals with anomalous and missing data. This missing data may diminish the representativeness of the results.

3.2 Descriptive Assessment of Medicare FFS Reimbursement, Medicare FFS and Medicaid Utilization (Population Level Analyses)

Before examining descriptive trends in spending and utilization outcomes based on Medicare FFS, Medicaid and CHIP claims, we first provide contextual information about the Medicare and Medicaid populations in the market areas of participating hospitals, eligible non-participating hospitals and FORHP-designated rural areas across the state. As noted previously, our analyses are limited to Medicare FFS patients, which comprised a low and declining share of the Medicare population over the observed period **(Exhibit 2.4).** Because our analyses are limited to the population with at least 11 months of coverage in a given calendar year, findings may not generalize to newly eligible patients or those with shorter periods of coverage. The Medicaid and CHIP population also grew substantially in 2020, driven by the continuous eligibility requirement in the Families First Coronavirus Response Act which stated that current Medicaid recipients must be considered eligible through the end of month in which the COVID-19 PHE ends (**Exhibit 2.6**). Medicaid utilization trends should be interpreted in the context of these variations in the underlying populations over time. While figures presenting per enrollee measures will not be dramatically altered simply due to the Medicaid population growing, changes in the underlying characteristics of the population due to changes in eligibility may complicate comparisons over time.

Exhibit 3.2 shows that overall trends in total Medicare spending are similar among patients living in participating and eligible non-participating market areas. Echoing the trends seen at the hospital level in prior years' evaluation reports, participating hospitals' market areas see lower per patient spending relative to those of eligible non-participating hospitals as well as within FORHP-designated rural areas in the Commonwealth. This difference is marginally magnified when examining the narrower market areas where the hospitals play a more dominant role.

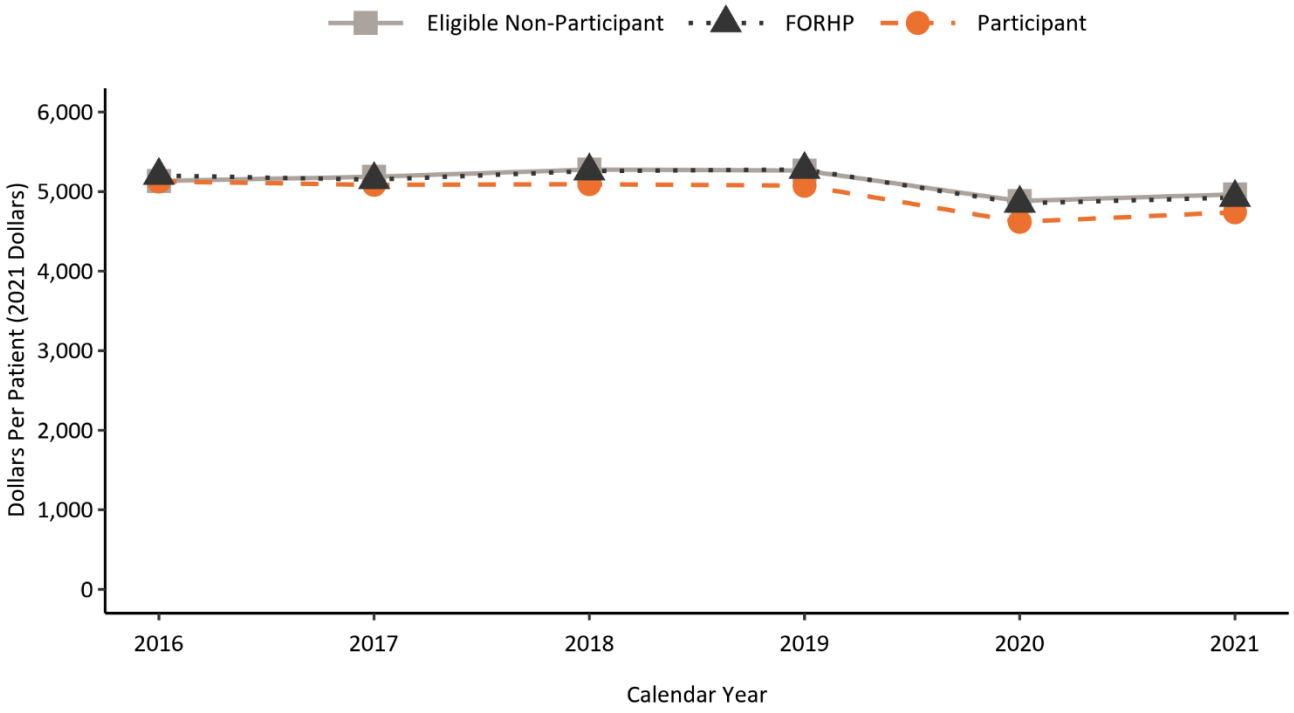
Exhibit 3.2. Total Medicare Spending per FFS Patient Living in Rural Areas of Pennsylvania Has Declined Since 2019



SOURCE: Medicare FFS Claims (CY 2016–CY 2021)
NOTES: Limited to patients with 11+ months coverage in the year. See Appendix Exhibit C.2 for underlying data informing the exhibit.
DEFINITIONS: Eligible Non-Participant = Eligible Non-participating Hospital Market Areas (never participated in the model), FORHP = Rural areas as defined by the Federal Office of Rural Health Policy within Pennsylvania (benchmark), Participant = Participating Hospital Market Areas (has ever participated in the model).

As shown in **Exhibit 3.3,** trends are similar when limited to services covered by the global budget (inpatient and outpatient care as well as swing beds within CAHs, see **Exhibit 1.1**). A gap is also beginning to emerge between the market areas of eligible non-participants and FORHP-designated rural areas across Pennsylvania. Given that the model benchmarks savings against trends in spending per patient in rural areas nationally, the increasing costs in these eligible non-participating markets relative to other rural areas may have discouraged model participation. As described in prior evaluation reports, low and declining revenues may encourage participation for an eligible hospital. These data demonstrate that lower and declining spending occurred broadly for patients in the market areas of participating hospitals, regardless of where the care was delivered.

Exhibit 3.3. Medicare Spending on Global Budget-Covered Services per FFS Patient Living in Rural Areas of Pennsylvania Has Declined Since 2019



SOURCE: Medicare FFS Claims (CY 2016–CY 2021)
NOTES: Limited to patients with 11+ months coverage in the year. See Appendix Exhibit C.3 for underlying data informing the exhibit.
DEFINITIONS: Eligible Non-Participant = Eligible Non-participating Hospital Market Areas (never participated in the model), FORHP = Rural areas as defined by the Federal Office of Rural Health Policy within Pennsylvania (benchmark), Participant = Participating Hospital Market Areas (has ever participated in the model).

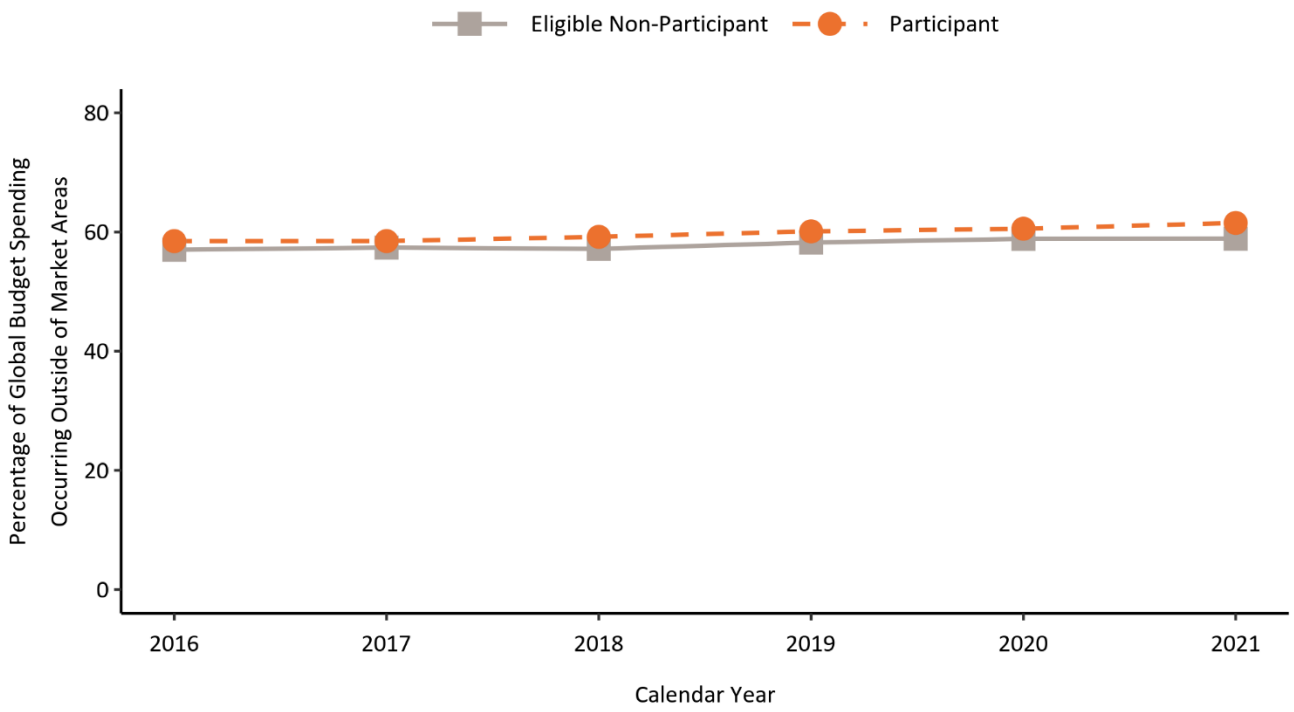
We also note a decline in both total and global budget-covered service revenues in 2020 (**Exhibit 3.2** and **Exhibit 3.3**), followed by a small, but incomplete recovery in 2021. Many hospital services such as elective surgeries were shuttered in 2020 and likely contributed to these revenue declines. Likewise, many of these mitigation efforts were lifted by 2021, likely contributing to the recovery in revenue seen that year. Spending growth remains lower than expected relative to pre-pandemic trends, likely creating substantial difficulties for non-participating hospitals as they plan their operating budgets for the coming years. The financial predictability provided to participating hospitals by the biweekly global budget payments intended to deal

with this issue may be undercut by the degree of unpredictability in the trends in interim revenues and its potential consequent effect on future years' global budgets and through the reconciliation process.

Differences in levels and trends in total payments and global budget-covered interim payments, that is, what the hospital would have been paid under FFS, were greater between participating and eligible non-participating CAH market areas than between participating and eligible non-participating PPS hospital market areas (see **Appendix C**). Specifically, participating PPS hospital market areas had lower levels and steeper declines in per patient payments than those of their eligible non-participating PPS counterparts. Conversely, per patient payments in market areas of CAHs were similar in levels and trends over time, regardless of participation. Declining spending on global budget-covered services within the market areas served by the participating PPS hospitals may be a contributing factor toward their decision to join the model. To the extent that this decline is reflected in hospital revenues, smoothing that decline by joining the model may be attractive.

The average share of spending on global budget-covered services incurred outside of hospitals' market area, that is, the share of spending on hospital services delivered at a hospital outside the local area (bypass rate), was slightly higher for participating hospitals than for non-participating hospitals and increased marginally over the observed period, as depicted in **Exhibit 3.4** (**Appendix Exhibit C.27).** Over half of the spending on hospital services among patients living in participating market areas occurs at providers not located within the market. The degree with which patients bypass local providers and seek care elsewhere puts a ceiling on the impact the hospitals participating in the model may have on care utilization in their markets. For a system with one hospital in the model, this provides an incentive to redirect care to its hospitals outside the model, which are still being paid on a FFS basis. The resultant impact on the participating hospital's global budget will only be seen in future adjustments. When considering the narrow market areas, in which the hospital is more likely to be the sole provider of hospital services, the share of care bypassing the participating hospitals for their system affiliates was substantially higher than when considering the broader market areas. This shifting of care to non-participating system affiliates may undercut the impact of the model on overall spending. The non-participating hospitals within the health system continue to operate under a FFS structure and will seek to provide as many services as possible, while the impact on the participating hospital's global budget is deferred until the adjustment and reconciliation processes are applied to account for the shift in volume from the participating hospital to system affiliates.

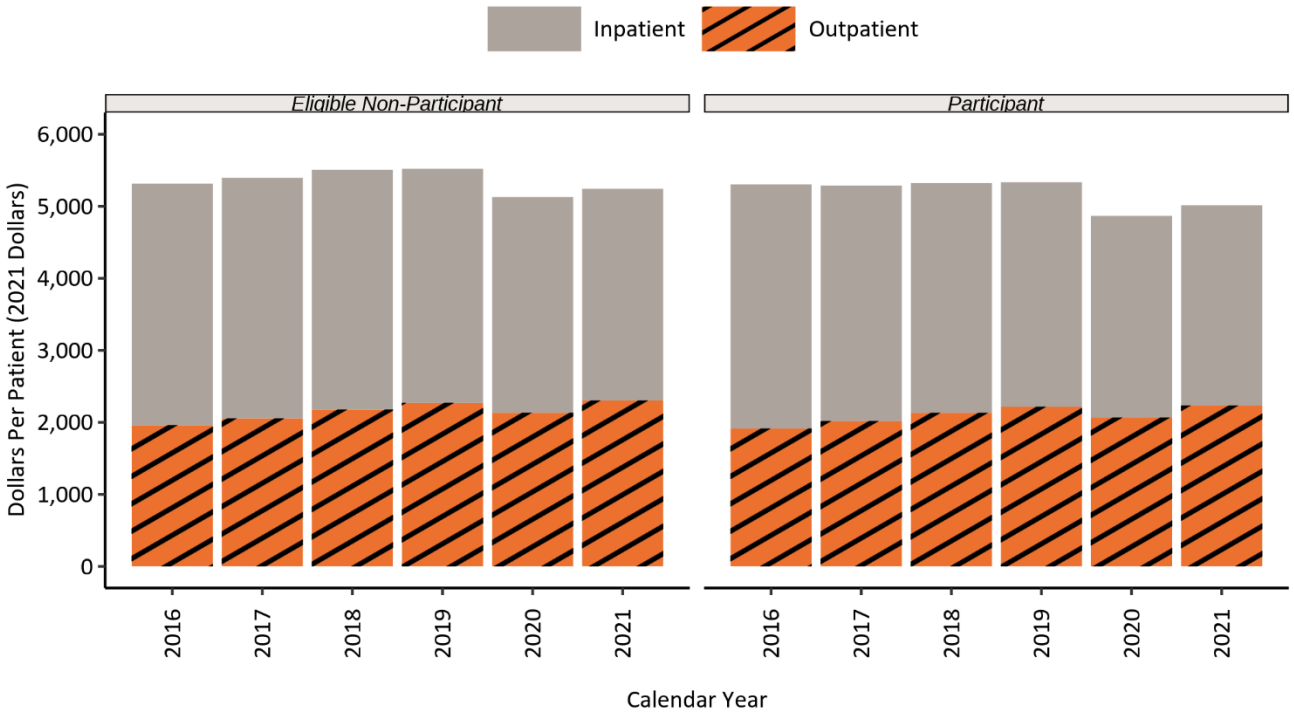
Exhibit 3.4. Medicare Global Budget Bypass Spending was Slightly Higher for Participating Hospitals Than for Non-Participating Hospitals



We have commented in past reports on the declining trend in Medicare FFS payments for inpatient services. These trends, shown in **Exhibit 3.5**, are as evident at the market area level as they were at the hospital level. The pandemic's downward impact on payments for inpatient services in 2020, and the lack of full recovery in 2021, is also visible.

Unlike inpatient services, Medicare FFS payments for outpatient services increased consistently between 2016 and 2019, before exhibiting a temporary decline in 2020. However, by 2021, levels recovered similar to those observed in 2019. These trends are consistent with the broader shift from inpatient to outpatient services observed across the nation. This shift was likely accelerated in 2020 by the pandemic in these markets.

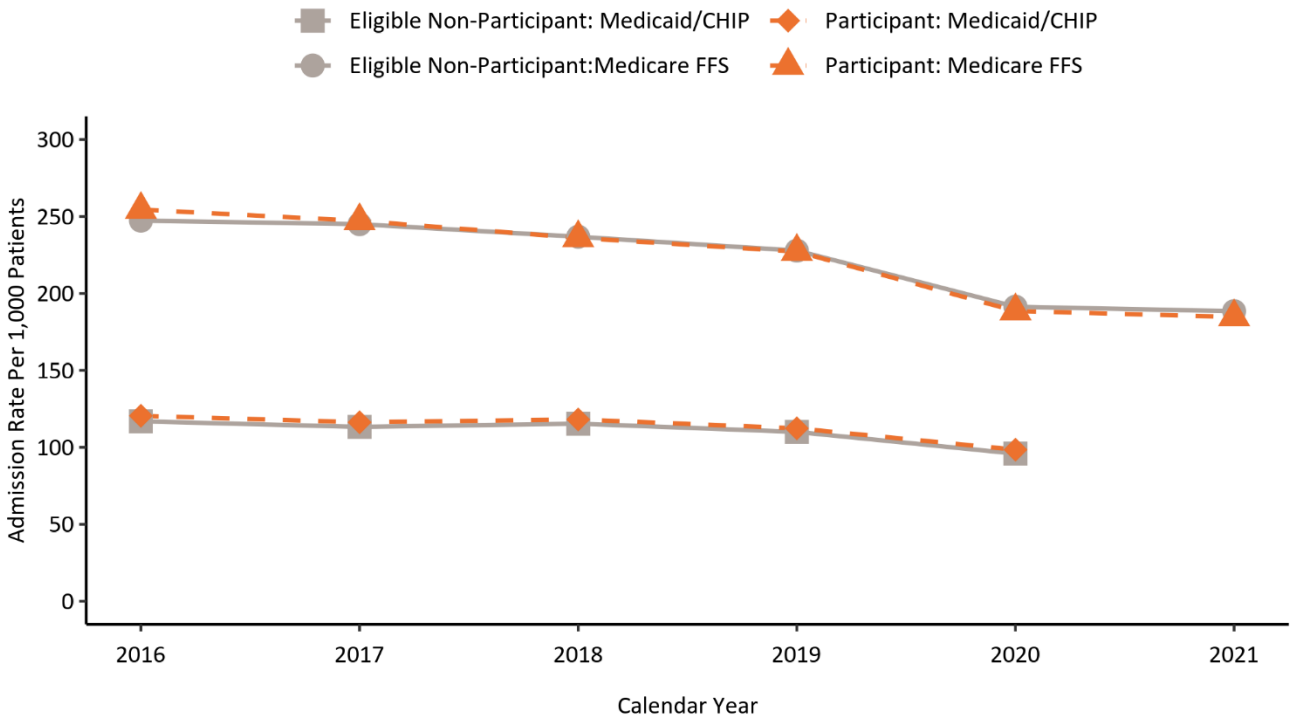
Exhibit 3.5. Global Budget-Covered Interim FFS Payments for Medicare FFS Inpatient Services Declined Between 2016 and 2021 in Participating and Eligible Non-Participating Hospitals' Market Areas



SOURCE: Medicare FFS Claims (CY 2016–CY 2021)
NOTE: Limited to patients with 11+ months coverage in the year. See Appendix Exhibit C.4 for underlying data informing the exhibit.
DEFINITIONS: Eligible Non-Participant = Eligible Non-participating Hospital Market Areas (never participated in the model), Participant = Participating Hospital Market Areas (has ever participated in the model).

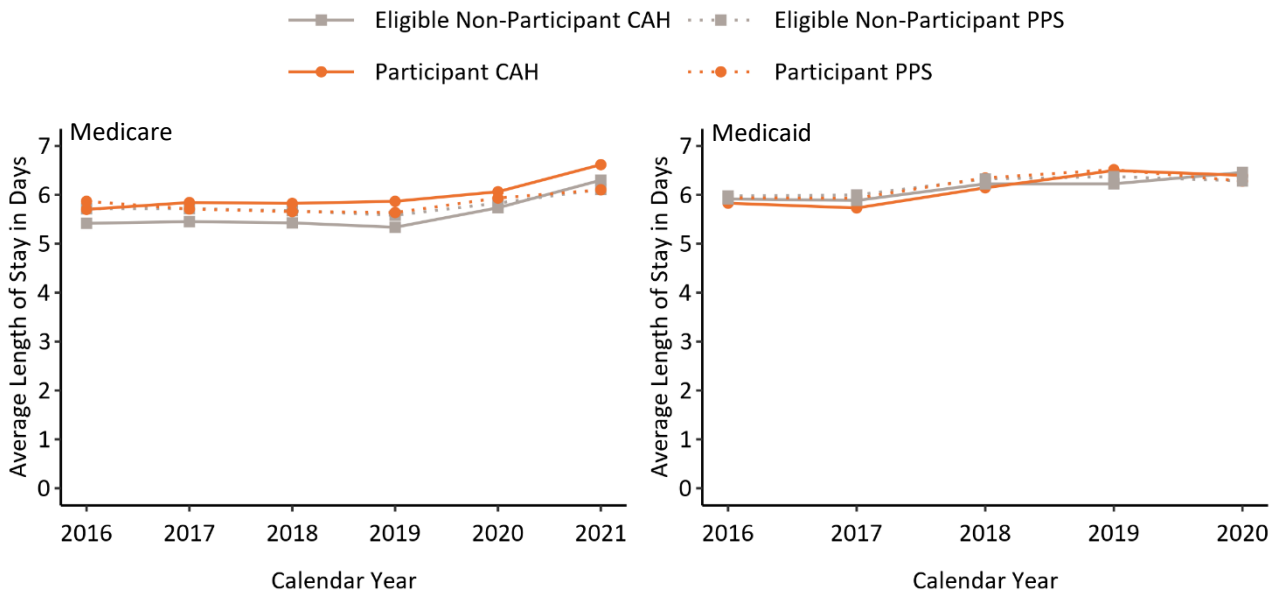
Turning to utilization, we can see the declining inpatient revenue reflected in lower admission rates in **Exhibit 3.6**. However, as shown in **Exhibit 3.7**, declines in inpatient utilization in 2020 and 2021 coincided with increases in the average length of stay. This may reflect increasing case complexity, the avoidance of more routine, short stays due to pandemic restrictions (for example, planned surgeries), and/or a lack of available post-acute care beds to which to discharge patients.

Exhibit 3.6. Inpatient Admissions per 1,000 Patients in Participating and Eligible Non-Participating Hospitals' Market Areas—Medicare FFS and Medicaid/CHIP



SOURCE: Medicare FFS Claims (CY 2016–CY 2021) & TAFs (CY 2016–2020)
NOTE: Limited to patients with 11+ months coverage in the year. See Appendix Exhibit C.5 for underlying data informing the exhibit.
DEFINITIONS: Eligible Non-Participant = Eligible Non-participating Hospital Market Areas (never participated in the model, Medicaid/CHIP population, Medicare FFS population respectively), Participant = Participating Hospital Market Areas: (has ever participated in the model, Medicaid/CHIP population, Medicare FFS population respectively).

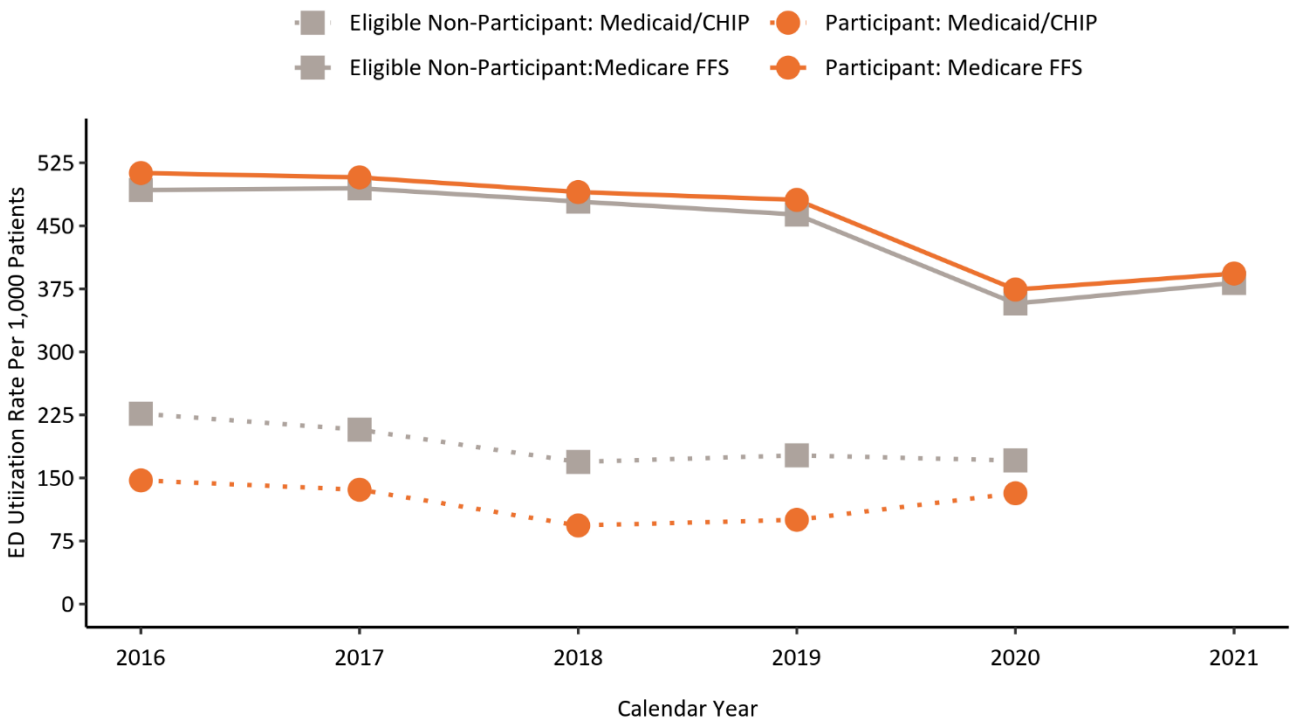
Exhibit 3.7. Average Length of Stay among Medicare FFS Patients and Medicaid Enrollees from Participating and Eligible Non-Participating Hospitals' Market Areas Has Steadily Increased Since 2018–19



SOURCE: Medicare FFS Claims (CY 2016—CY 2021) & TAFs (CY 2016—2020)
NOTES: Limited to patients with 11+ months coverage in the year. Includes all inpatient stays for Medicare patients and Medicaid enrollees from the market areas, regardless of where the stay occurred. See Appendix Exhibit C.6 for underlying data informing the exhibit.
DEFINTIONS: ENP_CAH = Eligible Non-Participating Critical Access Hospital Market Areas (never participated in the model), ENP_PPS = Eligible Non-Participating Prospective Payment System Hospital Market Areas (never participated in the model), PTCP_CAH = Participating Critical Access Hospital Market Areas (has ever participated in the model), PTCP_PPS = Participating Prospective Payment System Hospital Market Areas (has ever participated in the model). "_P99" suffix for Medicaid population denotes inclusion of data up to the 99th percentile. Outliers comprised of very long stays dominated the trend when included.

Utilization of ED services, shown in **Exhibit 3.8**, is a key focus area for most of the hospitals participating in the model. Medicare FFS ED utilization in market areas associated with both participating and eligible non-participating hospitals declined slowly in the years leading up to the start of the model followed by a sharp decline in 2020 before a brief recovery in 2021. While trends between the groups are similar, Medicare FFS patients living in participating market areas had consistently higher ED utilization relative to those living in eligible non-participating hospital market areas. This difference was reversed when observing the narrower market areas, though utilization converged between the groups during the pandemic in both narrow or broad market areas.

Exhibit 3.8. Emergency Department Utilization Among the Medicare FFS and Medicaid/CHIP Population In Participating and Eligible Non-Participating Market Areas Has Declined Since 2016



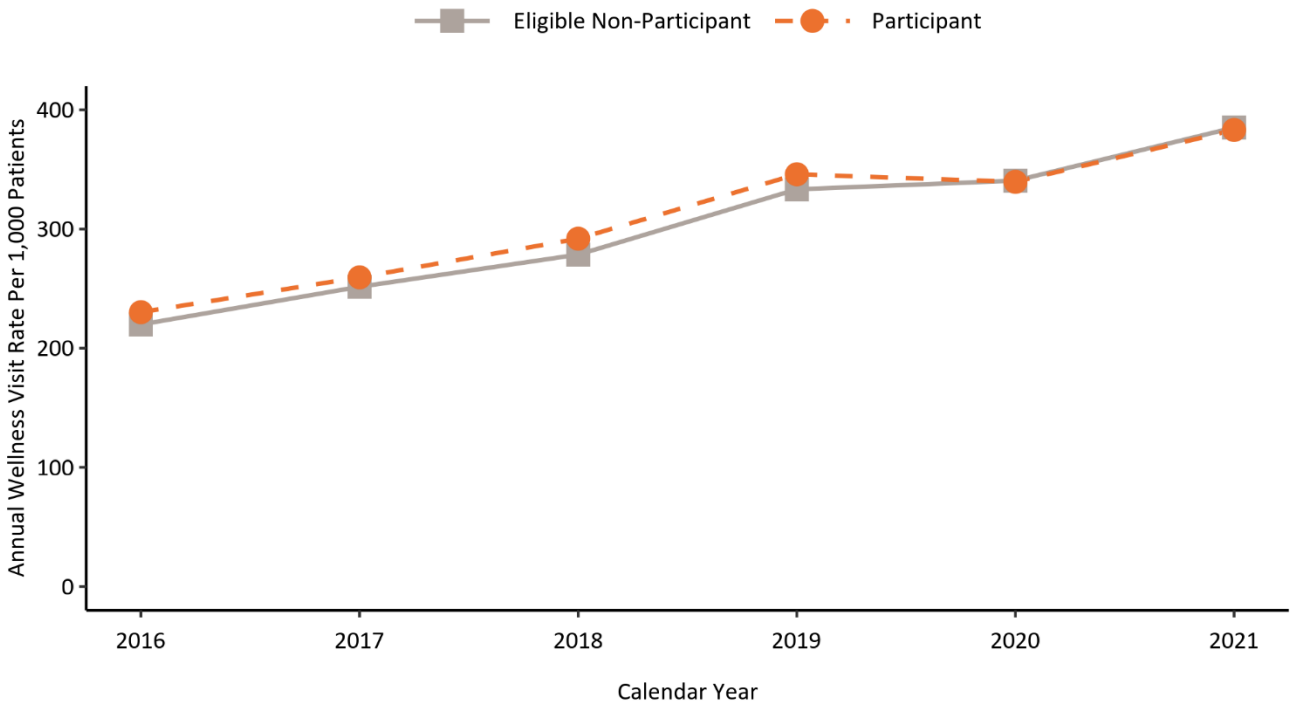
SOURCE: Medicare FFS Claims (CY 2016–CY 2021) & TAFs (CY 2016–2020)
NOTES: Limited to patients with 11+ months coverage in the year. See Appendix Exhibit C.7 for underlying data informing the exhibit.
DEFINITIONS: Eligible Non-Participant = Eligible Non-participating Hospital Market Areas (never participated in the model, Medicaid/CHIP population, Medicare FFS population, respectively), Participant = Participating Hospital Market Areas (has ever participated in the model, Medicaid/CHIP population, Medicare FFS population respectively).

ED utilization among the Medicaid population also declined in the market areas of participating and eligible non-participating hospitals in the early years of the evaluation. However, beginning in 2019 and, for the participating hospitals' market areas, continuing into 2020, there was an increasing trend in ED utilization. Unlike in the Medicare FFS population, which had similar rates of ED utilization in participating and non-participating market areas, ED utilization among the Medicaid/CHIP population was substantially higher in non-participating market areas than in participating market areas. The trends in 2020 and 2021 likely reflect differences in care delivery around the pandemic. Rates of observation stays and ambulance services, both

closely related to ED visits, also decreased sharply in 2020 and 2021 among Medicare FFS patients in the market areas of participating hospitals and eligible non-participants (see **Appendix C**).

The utilization of preventive services, specifically Initial Preventive Physical Examinations (IPPE) and Annual Wellness Visits (AWV), shown in **Exhibit 3.9**, among the Medicare FFS population grew steadily over the period, with the exception of a plateau in 2020 (likely due to changes in care-seeking patterns during the pandemic). The market areas associated with PPS hospitals, both participating and not, have seen very strong growth in the utilization of preventive services. However, utilization of these services was lowest among patients residing in participating CAH market areas (see **Appendix C**). Under the narrower market area definition, participants saw substantially lower utilization of these preventive services leading up to the model, with the gap closing during the model implementation period.

Exhibit 3.9. Medicare FFS Initial Preventive Physical Examination and Annual Wellness Visit Utilization



SOURCE: Medicare FFS Claims (CY 2016–CY 2021)
NOTES: Limited to patients with 11+ months coverage in the year See Appendix Exhibit C.8 for underlying data informing the exhibit.
DEFINITIONS: Eligible Non-Participant = Eligible Non-participating Hospital Market Areas (never participated in the model), Participant = Participating Hospital Market Areas (has ever participated in the model).

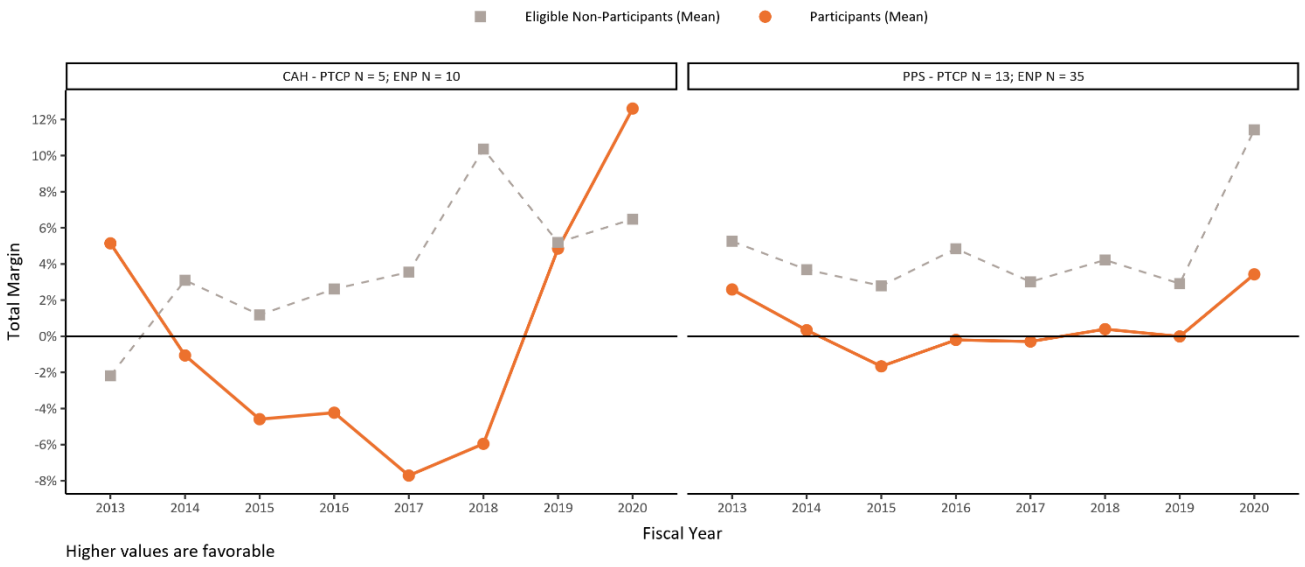
3.3 Descriptive Assessment of Financial Performance in the Baseline Period (Hospital Level Analyses)

In this section, we descriptively assess the financial performance of participating and eligible non-participating hospitals. The results provide context for understanding the participating hospitals' financial motivations and change in financial performance during the performance years. We present key descriptive

results for select financial performance measures that span the following domains: 1) profitability, 2) liquidity, 3) capital structure, 4) cost structure, and 5) revenue structure. This analysis includes all hospitals that participated in the model, including those that joined in PY 1 (2019), PY 2 (2020), and PY 3 (2021). We stratified the analysis based on hospital type (CAH and PPS) to account for differences in the global budget methodology and resulting incentives. The financial performance of the participating hospitals during the performance years was likely affected by the COVID-19 pandemic, the temporary Provider Relief Fund payments and model incentives. This descriptive analysis of trends in hospital financial performance does not disentangle the effects of each of these contributing factors during the performance years.

The total margin is a measure of profitability that accounts for all revenue sources, including non-patient services revenue. Participating hospitals, especially CAHs, experienced low and declining total margin relative to their non-participating peers in the lead up to the model (**Exhibit 3.10**). In fiscal years (FY) 2019 and 2020, which includes most of PY 1 (2019) and PY 2 (2020), the profitability of participating CAHs improved substantially. It should be noted that, due to the delays in the timing of the budget reconciliation process, these margins may reflect overpayment under the model that will be corrected following reconciliation. The profitability of participating PPS hospitals also improved during the performance years but to a lesser extent. These changes coincide with the pandemic as well (FY 2019 overlaps with the early parts of CY 2020). Eligible non-participants also saw substantial improvements in margins in FY 2020. The temporary Provider Relief Fund (PRF) payments may have increased the profitability of the hospitals in the short term. During FY 2019–2020, the temporary PRF payments accounted for over 17% ($60M of $350M) of the participating hospitals' total revenue. During this period, the temporary PRF payments accounted for 12% ($300M of $2.4B) of the eligible non-participating hospitals' total revenue.

Exhibit 3.10. Profitability of Participating Hospitals Improved During the Performance Years

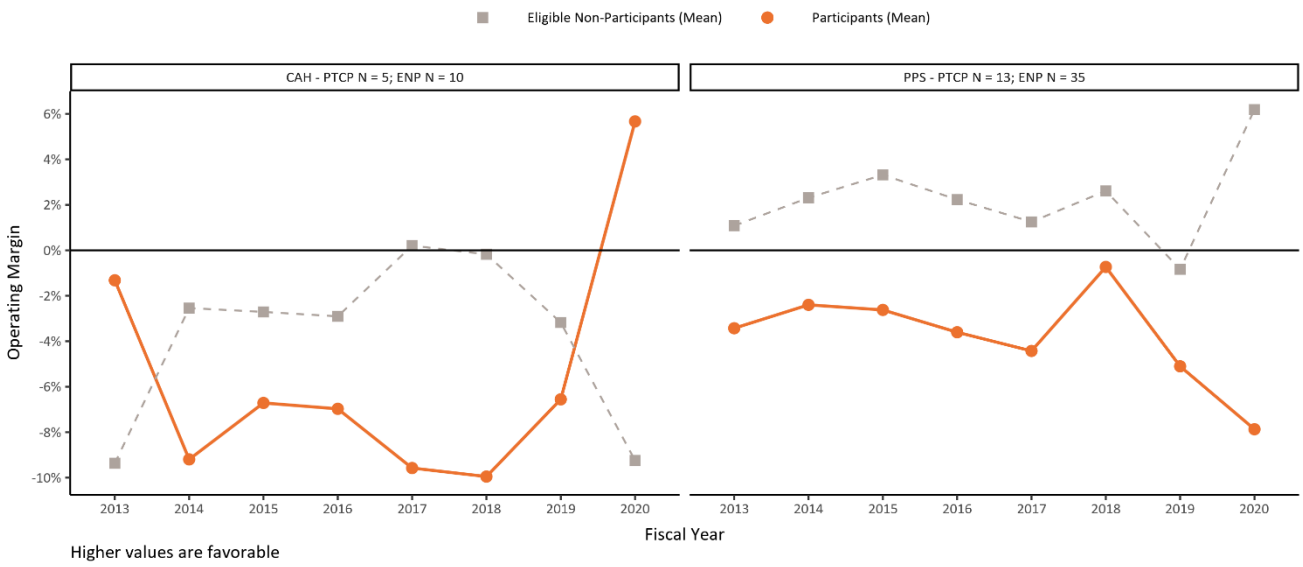


SOURCE: Medicare Cost Reports (FY 2013–FY 2020)
NOTE: Two non-participating hospitals, Conemaugh Nason Medical Center and Guthrie Robert Packer Hospital, reported extreme outliers for total margin in their cost reports and were excluded from this figure.
ACRONYMS: PTCP = participating hospital market areas (has ever participated in the model), ENP = eligible non-participating hospital market areas (never participated in the model).

Operating margin is a measure of profitability that excludes non-patient services revenue. During the baseline period (FY 2013–2018), revenue from patient services was not sufficient for participating and eligible non-participating CAH to offset costs (that is, the operating margin was negative) (**Exhibit 3.11**). During the performance years (FY 2019–2020), the operating margin increased substantially for the participating CAHs. Though, again, these values may not hold into the future once reconciliation occurs.

For PPS hospitals, operating margins during the baseline period (FY 2013–2018) were negative for participating hospitals but not for eligible non-participants. In contrast with the experience of participating CAHs, participating PPS hospitals saw a substantial decline in their operating margin during FY 2020. The operating margin for eligible non-participating PPS hospitals remained relatively unchanged during the period of analysis (2018–2020). Changes in volume, intensity or cost of providing care could have contributed to the changes in operating margins.

Exhibit 3.11. Increases in Non-Patient Services Revenue Contributed to the Improvement in the Profitability of Participating and Eligible Non-Participating Hospitals



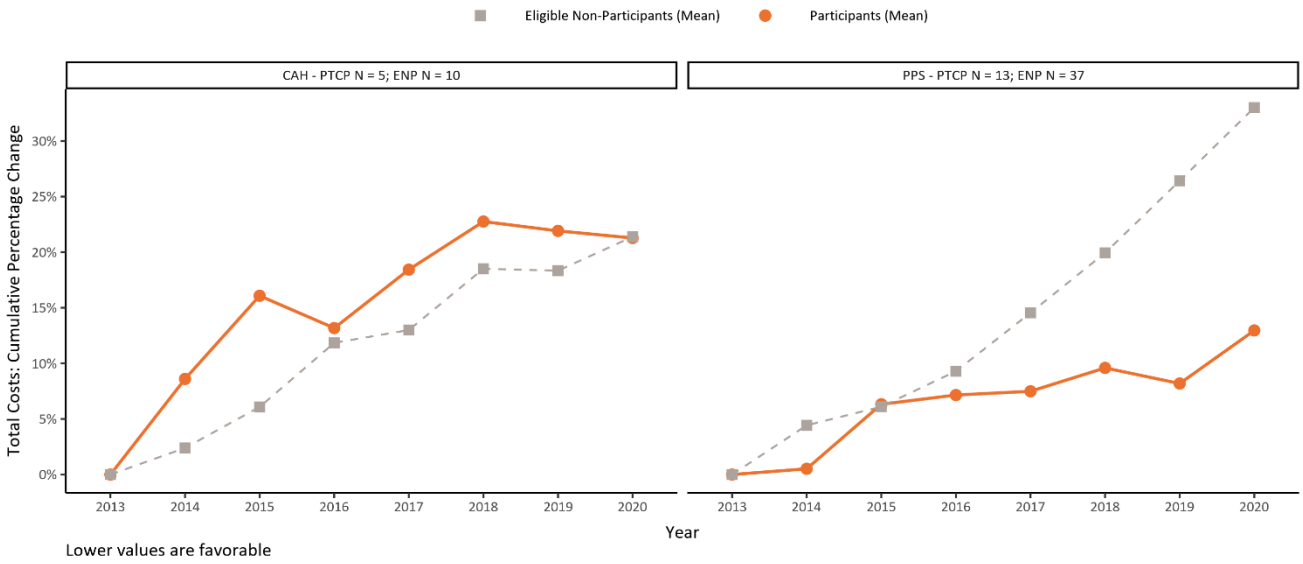
SOURCE: Medicare Cost Reports (FY 2013–FY 2020)

NOTE: Two non-participating hospitals, Conemaugh Nason Medical Center and Guthrie Robert Packer Hospital, reported extreme outliers for operating margin in their cost reports and were excluded from this figure.

ACRONYMS: PTCP = participating hospital market areas (has ever participated in the model), ENP = eligible non-participating hospital market areas (never participated in the model).

Participating and eligible non-participating CAHs experienced similar trends of increasing total costs during the baseline period (**Exhibit 3.12**). In contrast, participating PPS hospitals experienced a more gradual increase in total costs during the baseline period than eligible non-participating PPS hospitals. In part, this was driven by one participating PPS hospital with a 30% decline in costs from 2013-2020. However, even without this hospital, the remaining participants saw an increase of costs of 19%, still substantially lower than eligible non-participants. Eligible non-participants had wide dispersion in cost growth, with some seeing costs nearly double while several see declining costs. The increasing trend in total costs and the decline in patient care volume among model participants during the baseline period, especially in the inpatient setting, may partially explain substantially lower margins among participating CAHs and the relatively flat trend in total margin among participating PPS hospitals. This decline in inpatient utilization was a major motivator for participation in the model as high and rising fixed costs paired with declining utilization and revenues present a clear path to financial distress.

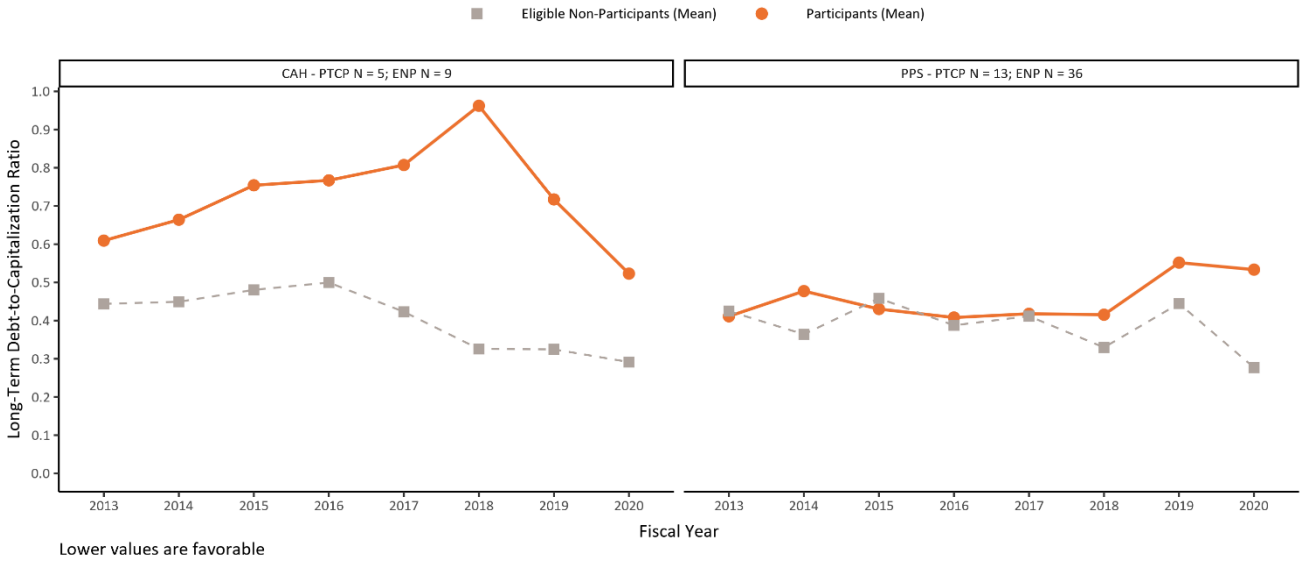
Exhibit 3.12. The Trend in Total Costs for Participating Hospitals Relative to Eligible Non-Participating Hospitals May Have Contributed to the Trend in Profitability



SOURCE: Medicare Cost Reports (FY 2013—FY 2020)
ACRONYMS: PTCP = participating hospital market areas (has ever participated in the model), ENP = eligible non-participating hospital market areas (never participated in the model).

To assess whether financial leverage and risk of insolvency contributed to the increase in costs at participating hospitals, we analyzed trends in long-term debt to capitalization ratio — a measure of a hospital's total debt relative to assets — for participating and eligible non-participating hospitals (**Exhibit 3.13**). Participating hospitals, particularly CAHs, were more financially leveraged than eligible non-participating hospitals during the baseline period. The financial leverage and risk of insolvency worsened for the participating hospitals during the period of analysis. An increased risk of insolvency among participating hospitals may have led to higher costs of borrowing money to cover shortfalls. The temporary increase in assets, likely resulting from PRF payments, may have contributed to a decrease in financial leverage during FY 2020.

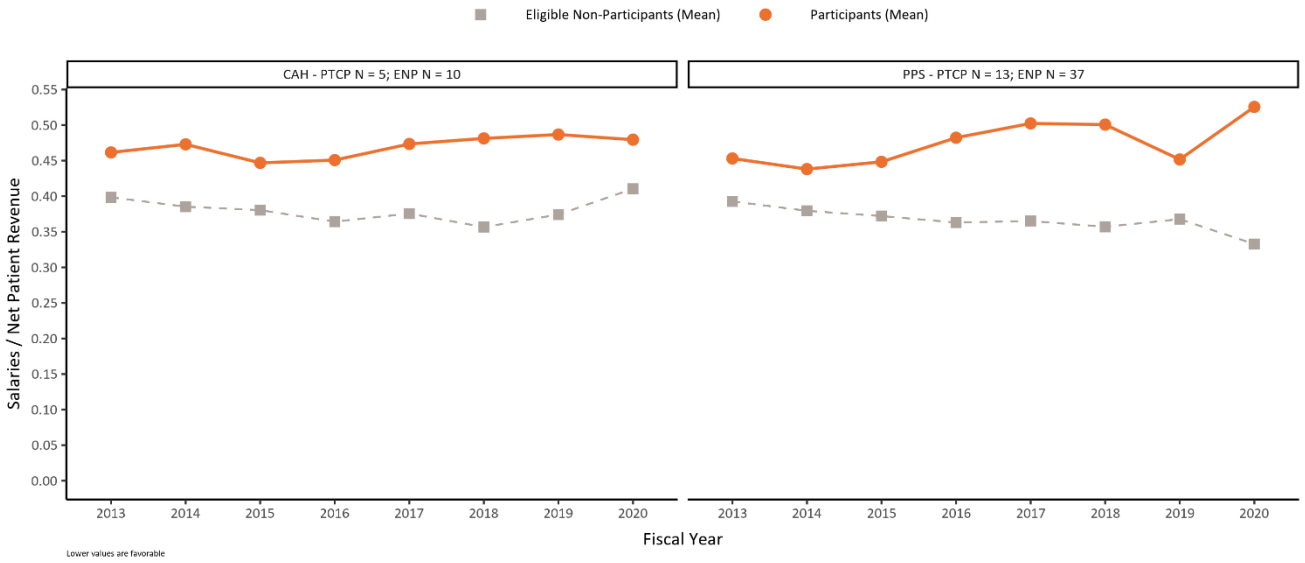
Exhibit 3.13. Participating Hospitals Were More Financially Leveraged Than the Eligible Non-Participating Hospitals



SOURCE: Medicare Cost Reports (FY 2013–FY 2020)
NOTE: Two non-participating hospitals, Saint Luke's Lehighton Campus and Bucktail Medical Center, reported missing or anomalous data for LTDC in their cost reports and were excluded from this figure.
ACRONYMS: PTCP = participating hospital market areas (has ever participated in the model), ENP = eligible non-participating hospital market areas (never participated in the model).

To assess whether staffing costs contributed to the change in total costs, we analyzed the trend in salary-to-net patient revenues for participating and eligible non-participating hospitals. Staffing costs as a proportion of net patient revenue was higher and increasing for participating hospitals compared to non-participating hospitals (**Exhibit 3.14**). Declining revenue combined with a slight increase in staffing costs during the period of analysis contributed to the trend in the salary-to-net patient revenue measure.

Exhibit 3.14. Participating Hospitals Had Higher Staffing Costs When Compared to the Eligible Non-Participating Hospitals



SOURCE: Medicare Cost Reports (FY 2013—FY 2020)
ACRONYMS: PTCP = participating hospital market areas (has ever participated in the model), ENP = eligible non-participating hospital market areas (never participated in the model).

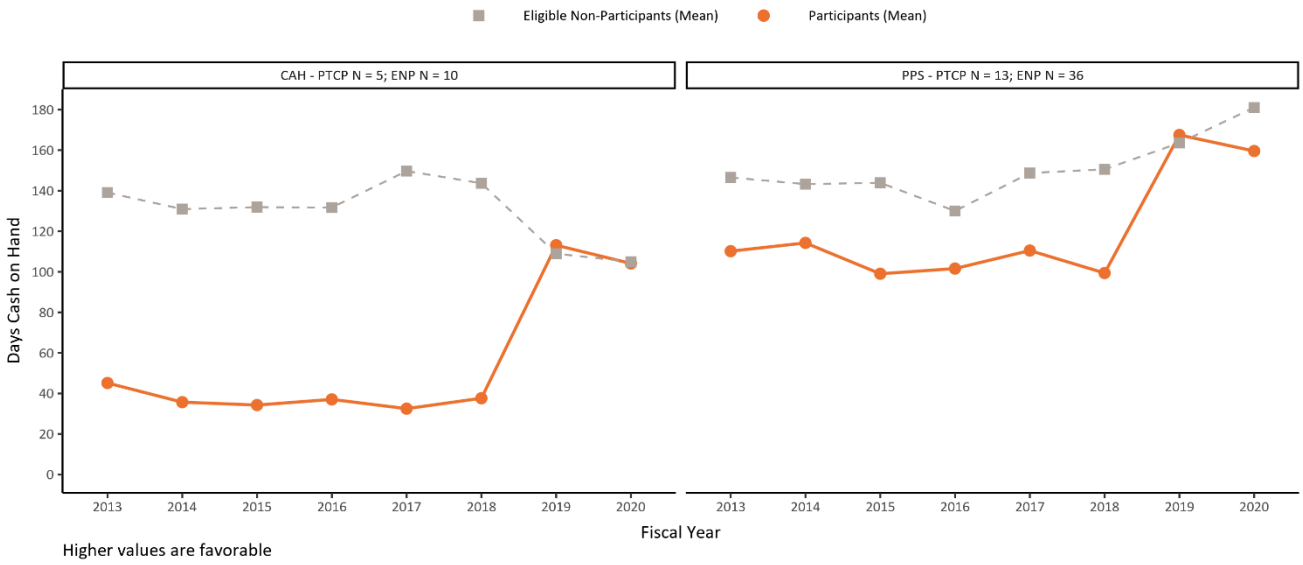
To assess whether financial liquidity motivated model participation and whether the fixed, biweekly global budget payments improved cash flow for model participants, we analyzed trends in the "days cash on hand" measure (**Exhibit 3.15**). Participating hospitals, especially CAHs, had low financial liquidity when compared to eligible non-participating hospitals. Liquidity among participating hospitals improved substantially during the performance years (FY 2019–2020). A combination of the fixed, biweekly global budget payments as well as the temporary PRF payments may have contributed to this outcome.

Improved short-term cash flow within one year may not yield long-term financial stability across several years. During PY 2 (2020) and PY 3 (2021), corrections to prior year global budget payment amounts, year-over-year adjustments to the global budget, and changes to Medicare's sequestration amount resulted in a 2.2% increase in revenue relative to the prospective global budget in PY 2 (2020) and 1.7% increase in revenue relative to the prospective global in PY 3 (2021). Overall adjustments to the prospective global budget ranged between -20% and +5% between PY 1 (2019) and PY 2 (2020).[j] Downward adjustments made to correct past global budgets may present financial risk to hospitals as their cashflow in the coming years

[j] "6/10/2022 Technical Direction Letter received from the Innovation Center."

remains, to an extent, unpredictable. Uncertainty about the impact of federal COVID funding on future global budgets compound the risk faced by the hospitals. This risk may have deterred participating hospitals from investing in care transformation activities in favor of setting cash aside to hedge.

Exhibit 3.15. The Financial Liquidity of Participating Hospitals Improved Substantially During the Performance Years



SOURCE: Medicare Cost Reports (FY 2013–FY 2020)
NOTE: One non-participating hospital, Penn Highlands Huntingdon, reported extreme outliers for days cash on hand in their cost reports and were excluded from this figure.
ACRONYMS: PTCP = participating hospital market areas (has ever participated in the model), ENP = eligible non-participating hospital market areas (never participated in the model).

3.4 Global Budget Implementation Experiences

In this section, we describe the experiences and perspectives of participating hospitals, payers and model implementation partners with global budget implementation. The analysis in this section is based on interviews with implementation partners, payers and a sample of Cohort 2 and 3 hospitals. We conducted interviews virtually from July to September 2022. We supplemented primary data collection with document review, including RHRC presentations, and quarterly and annual reports.

The global budget provided stable cash flow, but some hospitals experienced lower biweekly payments in PY 3 (2021) due to adjustments and overpayments in previous years. The RHRC and the Innovation Center decided to delay PY 2 (2020) reconciliation by one year, planning to reconcile both PY 2 (2020) and PY 3 (2021) at the end of 2022 to include an assessment of COVID-19 impact. During interviews conducted in 2021, implementation partners, participating hospitals and participating payers commented on concerns about the reconciliation of global budgets following the COVID-19 PHE. At the time of interviews in 2022, the reconciliation process for PY 2 (2020) and PY 3 (2021) was incomplete.

Hospital leaders commented that they appreciated the predictable cash flow in PY 3 (2021). They also noted that the long timeline for reconciliation is challenging. Hospital leaders recognized why the reconciliation process took more than a year to complete, but still noted that the timeline complicated financial planning.

Similar to PPS hospitals, CAHs' global budgets are based on historical cost reports, but are also supposed to be rebased annually using the most recently available cost reports.[5] Unlike PPS hospitals, however, CAHs continued to reconcile to cost-based reimbursement, with the reconciliation amount applied to prospective GBs. While CAHs received stable biweekly payments in PY 1 (2019) and PY 2 (2020), after accounting for reconciliation amounts from previous PY global budgets, four of five participating CAHs experienced decreased biweekly payment amounts in their prospective PY 3 (2021) and PY 4 (2022) global budgets. The reason for the decreased biweekly payments was that the initial methodology resulted in overpayments to CAHs that needed be recouped once settled back to cost-based reimbursement.

For these CAHs, the decrease was further exacerbated by a change to the cost report settlement approach under the model. Prior to 2022, the global budget methodology stated that cost report settlement payments would remain outside of the global budget, meaning any overpayments from Medicare for the year could be paid back in a lump sum to Medicare.[5] In 2022, the global budget methodology clarified that settlements would be implemented through global budgets, meaning any overpayments from Medicare would be accounted for in biweekly payment calculations. CAHs with decreasing global budgets that had received overpayments in previous years saw large decreases in biweekly payments. Implementation partners and participating hospitals voiced concerns that the settlement approach undermines the promise of stable cash flow.

The global budget does not provide sufficient incentive to invest, particularly for CAHs. Hospital leaders were cautious to invest in transformation given the reconciliation timeline and uncertainties about prospective adjustments. CAHs continued to reconcile to cost-based reimbursement, as before the model. Investments in transformation were commonly supported by grant funding.

Hospital leaders noted global budgets do not account for hospital expenses, particularly increased health workforce costs and rising inflation. Cohort 2 and 3 hospital leaders continued to voice concerns about the global budget keeping pace with increasing costs and inflation. Like previous years, hospital leaders expressed concerns about costs exceeding annual increases in payer contracts. While the global budgets were designed to stabilize net patient revenue, unexpected costs of staffing, inflation, and increases in other facility expenses resulted in financial pressure and uncertainty among participating hospitals.

Hospitals adapted well to global budget monitoring and financial planning. Overall, hospitals have acclimated to the global budget process and have developed processes and tools for monitoring and financial planning. However, hospital leaders noted some payers have distinct and narrow product lines in the global budget, making monitoring and reconciliation difficult. Hospitals also had to take additional time to understand the data received and identify product lines within the global budget. Hospital leaders and implementation partners commented on the increasing shift from Medicare FFS to MA in Pennsylvania. Implementation partners recognized there will be a time lag in how these shifts affect global budgets.

Commercial payers remain committed to the model and appreciate increased transparency. Commercial payers provided input to the global budget methodology and implementation through participation in the

RHRC board. They were comfortable with the decision to defer 2020 and 2021 reconciliation. Commercial payers expressed some frustration with the initial presentation of the COVID-19 adjustments. They described proposals as “one sided” from a hospital perspective. Ultimately, however, commercial payers felt as though their perspectives were heard and were satisfied with the proposed adjustment. The final COVID-19 adjustment had not been released at the time of interviews.

As in previous years, commercial payers noted the global payment method is complex, especially the unplanned volume shift and service line change adjustments. Most payers noted that they have been able improve reporting processes and the timelines are more reasonable.

Chapter 4: Transformation Activities and Quality of Care

Key Takeaways

Reducing ED Utilization Through Care Management

- Hospitals focused their transformation plans on improving care management for patients with chronic illnesses such as congestive heart failure chronic obstructive pulmonary disease and diabetes.

Improving Access to Care

- Hospitals proposed strategies to improve access to primary care, wellness care, emergency care and specialty care.

Improving Behavioral Health and Substance Use Disorder and Opioid Use Disorder Care

- Hospitals sought to improve behavioral health and substance use disorder and opioid use disorder care through program implementation, service development and expansion, and training/education.

Improving Operational Efficiency

- Hospitals planned to improve operational efficiency by redesigning facility space, centralizing functions and improving emergency department staffing.

Participating hospitals develop annual transformation plans outlining their approach to care delivery redesign under the model. These plans are tailored to meet the health needs of the communities they serve and incorporate institutional goals that aim to improve health outcomes and reduce costs and potentially avoidable utilization (PAU). The following section describes proposed transformation goals and related action steps for PY 3 (2021). The hospital transformation plans do not include information on initiation or completion of any action step or goal.

4.1 Methods

The PY 3 (2021) hospital transformation plans included three key pieces of information: 1) high-level transformation category (for example, access), 2) transformation goal(s) within the respective high-level category (for example, improve access to primary care services), and 3) necessary action step(s) hospitals would take to achieve each transformation goal (for example, engage community providers). The hospital transformation plans as written included eight high-level transformation categories: substance use, behavioral health, access, operational efficiency, care management, ED utilization, geriatric care and "other." Due to the high degree of overlap among the goals and proposed action steps within these categories, we collapsed and combined several goals. **Appendix A** includes our coding process for the document review.

After reviewing the intersection of hospital goals, we identified 25 distinct transformation goals across four high-level transformation categories (**Exhibit 4.1**). All hospitals developed goals related to several of the final set of categories. Using the final coded data, we identified the goals and respective activities all 18 hospitals planned to engage in for transformation under the model.

Exhibit 4.1. Most Hospitals Developed Transformation Goals Related to Care Management and Emergency Department (ED) Utilization and Behavioral Health and Substance Use Disorder (SUD)

Transformation Category	Number of Hospitals	Number of Transformation Goals
Care Management and ED Utilization	18	11
Behavioral Health and SUD	13	4
Access	9	6
Operational Efficiency	4	4
TOTAL	18	25

To understand context for hospitals' transformation activities, we also examined market area trends in utilization and quality. Utilization metrics include evaluation and monitoring (E&M) services and ED utilization. Quality measures include hospital-wide all-cause 30-day readmissions, follow-up after an ED visit for alcohol or other drug abuse, adherence to pharmacotherapy for OUD, and risk of continued opioid use. In addition, we also report relevant chronic disease burden as tracked by the Medicare MBSF for the Medicare population. More details about the data sources used and the derivation of the measures presented can be found in **Chapter 3.1** and in **Appendix A**.

4.2 Hospital Transformation Plan Findings

In this section, we describe examples of transformation goals and highlight transformation activities planned by hospitals in PY 3 (2021). We also provide context and possible hospital rationale for pursuing specific goals.

Reducing ED Utilization through Care Management

All 18 participating hospitals described transformation efforts focusing on care management and reducing ED utilization. Medicare patients in participating hospital market areas had similar, though marginally higher, ED use in the years prior to the model compared to the market areas for eligible non-participating hospitals (see **Exhibit 4.3**). This finding may reflect a selection effect in which hospitals already focused on moving care out of the ED, or hospitals with persistently high ED utilization, chose to address these issues through their hospital transformation plans. Note that ED utilization has been declining year over year for Medicare patients in both eligible non-participating hospitals and participating hospitals' market areas for the entire period of 2016–2019 (see **Exhibit 3.8**).

Exhibit 4.2. Hospitals Focused Their Transformation Plans on Improving Care Management for Patients with Chronic Illnesses

	Transformation Activity (Hospital Count)												
Transformation Goal	Engage Community Partners or Community	Engage/ Educate Patients	Engage /Educate Staff	Promote Lifestyle Programs	Monitor/ Evaluate Data	Change Service Lines	Expand Workforce	Implement Protocols/ Workflows	Conduct Follow-Up	Hire or Assign Coordination Staff	Allocate Hospital Resources and Staff	Other (Screen/Refer Patients, Registries, Resource Database, Grants, Redesign Space)	Total Number of Hospitals
Track/Address SDOH	18	1	3					18	1		17	2	18
Improve Care Coordination for Patients with Complex Needs	7		5		6	3	3	9	6	7	3	9	9
Improve Care Coordination for Patients with COPD	3	2			3			4	1	3	1	4	6
Improve Care Coordination for Patients with CHF	3	3	1		4	2	2	3	1	1	3	2	5
Improve Care Coordination for Patients with Diabetes	4	4	2		4			5	2		1	4	5
Implement Wellness Programs*	4	1	1	4	2	1	1		1		1	1	4
Improve Primary Care	2		1		1		1	2		1	1	1	2
Expand Outpatient Programs	2				2	2	1	2	1	1	2	2	2
Improve Chronic Disease Screening	2	1			1			1	1			2	2

NOTES: One hospital also focused on improving community health literacy while another focused on improving care coordination for women's health services. Blank cells indicate no hospital focused on that transformation activity for that goal. *One hospital focused their wellness program on older adults.

ACRONYMS: ACSCs = ambulatory care sensitive conditions; SDOH = social determinants of health; CHF = congestive heart failure; COPD = chronic obstructive pulmonary disease.

Exhibit 4.3. Medicare Patients in Participating Hospitals' Market Areas Have Slightly Higher Emergency Department Utilization Relative to Those in the Market Areas of Eligible Non-Participating Market Areas (2016–2019)

Measure	Participating Hospitals	Eligible Non-Participating Hospitals
Emergency Department Visits per 1,000 Patients	497.93	482.42

SOURCE: Medicare FFS Claims (CY 2016–CY 2019)
NOTE: Limited to patients with 11+ months coverage in the year.

All 18 hospitals identified strategies in their hospital transformation plans to **address SDOH** in their communities. All 18 hospitals proposed engaging with a variety of community-based organizations to create a network of supports and resources for their patients while simultaneously improving their internal workflows to better identify social needs. For example, two hospitals planned to collect patient SDOH data and refer patients to organizations that address non-clinical drivers of poor health. Three hospitals also planned to train their staff on topics related to SDOH. Another hospital proposed implementing regular "huddles" with social workers and care managers to address high ED utilization.

Nine hospitals outlined concrete steps to **improve care coordination for patients with complex needs**. Prior to the model, Medicare patients in the market areas for these nine hospitals had marginally lower total spending per enrollee than in the market areas for complete sets of participating hospitals or for eligible non-participants (see **Exhibit 4.4**). This difference may indicate a pre-existing effort to control costs for patients with complex needs. The model may have provided an opportunity to augment those efforts with additional activities. For example, a few hospitals planned to create an ED registry of patients with complex needs and enroll them in chronic care management programs. Seven hospitals planned to hire or reassign staff to fill care coordination roles. Additionally, six hospitals sought to improve post-discharge referral and follow-up processes to reduce PAU and connect patients in their communities with the continuum of care. Seven hospitals also proposed engagement with community organizations and both external and internal clinical providers. For example, one hospital planned to meet regularly with other care providers in the community (for example, home health agencies, skilled nursing facilities) to inform care management practices, while another hospital proposed holding monthly care team meetings with primary care providers, social workers and other pertinent providers to develop individualized long-term treatment plans for patients with complex needs.

Exhibit 4.4. Spending per Medicare Patient in Market Areas of Eligible Non-Participating Hospitals is Slightly Higher Compared to Participating Hospitals and Participating Hospitals Focused on Care Coordination for Patients with Complex Needs Compared to (2016–2019)

Measure	Participating Hospitals	Participating Hospitals Focused on Care Coordination for Patients with Complex Needs	Eligible Non-Participating Hospitals
Total Medicare FFS Spending per Patient in Market Areas	$9,199	$9,118	$9,368

SOURCE: Medicare FFS Claims (CY 2016–CY 2019)
NOTE: Limited to patients with 11+ months coverage in the year.

Several participating hospitals identified **chronic disease management (for chronic obstructive pulmonary disease (COPD), CHF and/or diabetes)** as population health concerns in their communities, noting that patients with these conditions have higher ED readmission rates. Prior to the model (2016–2018), E&M utilization among the Medicare FFS population was largely equivalent in market areas for participating hospitals focused on chronic disease management. Individuals in these market areas also had marginally lower ED utilization rates relative to those in the market areas of other participating hospitals and eligible non-participating hospitals in rural areas across the state (**Exhibit 4.5**). Lower ED utilization may be indicative of a pre-existing focus on management of these chronic conditions which continued during the evaluation period. To address chronic disease in their communities, six and five hospitals, respectively, specifically planned to **improve care coordination for patients with COPD and CHF.** To address care for patients with COPD, three hospitals planned to collaborate with community partners (for example, local primary care providers, smoking cessation programs) to provide post-acute services and develop COPD-related discharge protocols. Two hospitals planned to standardize COPD care pathways to reduce variability among hospitalist providers, and one identified a need to expand their population health navigation program to improve COPD follow-up care. For patients with CHF, three hospitals planned to provide education on disease management, three hospitals proposed partnering with community organizations (for example, home health agencies) to optimize post-discharge care, and one hospital planned to integrate the Protocol for Responding to and Assessing Patients' Assets, Risks and Experiences (PRAPARE) tool to identify social needs impacting patients with CHF. In line with these goals, two hospitals also proposed **improving their chronic disease screening processes.** For instance, one hospital sought to augment their annual multiphasic blood screening program to include patient education on topics such as disease management and medication management.

Exhibit 4.5. Emergency Department Utilization Among Medicare Patients is Lower in the Market Areas of Participating Hospitals Focused on Care Coordination for Chronic Diseases Compared to Markets of Participating Hospitals as a Whole (2016–2019)

Measure	Participating Hospitals	Participating Hospitals Focused on Care Coordination for Patients with CHF	Participating Hospitals Focused on Care Coordination for Patients with COPD	Participating Hospitals Focused on Care Coordination for Patients with Diabetes	Eligible Non-Participating Hospitals
Emergency Department Visits per 1,000 Patients in Market Areas	497.93	496.21	493.17	466.59	482.42

SOURCE: Medicare FFS Claims (CY 2016–CY 2019)
NOTE: Limited to patients with 11+ months coverage in the year.
ACRONYMS: CHF = congestive heart failure, COPD = chronic obstructive pulmonary disease.

Five hospitals planned to take similar steps to **improve care coordination and education for patients with diabetes.** One hospital sought to implement a diabetes self-management program, while another hospital proposed expanding their population health navigation program to better manage follow-up care for patients

with diabetes. One hospital had plans to pilot an evidence-based diabetic foot ulcer prevention guideline in the inpatient setting. Four hospitals proposed engaging community organizations (for example, public health agencies) to improve diabetes education for patients, formalize referral processes, inform local providers on various diabetes management programs and address the social factors that may exacerbate diabetes-related illness.

Improving Access to Care

Nine hospitals focused their transformation efforts on improving access to care in their communities.

Exhibit 4.6. Hospitals Proposed Strategies to Improve Access to Primary Care, Wellness Care, Emergency Care and Specialty Care

	Transformation Activity (Hospital Count)												
Transformation Goal	**Community Provider Engagement**	**Engage/ Educate Patients**	**Monitor/ Evaluate Data**	**Change Service Lines**	**Redesign Plant Space or Purchase Equipment**	**Expand Workforce**	**Implement Protocols/ Workflows**	**Screen and/or Refer Patients**	**Hire or Assign Care Coordination Staff**	**Hire Vendors/ Contractors**	**Achieve or Maintain Accreditation/ Certification**	**Other (Grants, Waivers, Adjust Budgets, Allocate Hospital Resources and Staff)**	**Total Number of Hospitals**
Improve Access to and/or Redesign Primary Care Services	2		3		2	1	1	2		1	1	1	4
Establish Services to Meet Community Access Needs	2	1	1	2	1	1	1	1				2	3
Improve Access to Wellness Care	2	2			1			2	1				2
Improve Access to Emergency Care	1				1		1				1		1
Improve Access to Specialty or Diagnostic Care					1		1						1
Develop Telehealth Service		1		1	1					1			1

NOTE: Blank cells indicate no hospital focused on that transformation activity for that goal.

Four hospitals identified strategies **to improve access to and redesign primary care services** within their health systems. These hospitals saw lower readmissions among the Medicare FFS population in their market areas and higher utilization of E&M services among both the Medicare FFS and Medicaid populations compared to market areas for other participants prior to model implementation (2016–2019), suggesting a pre-existing focus on these goals among this group of hospitals (**Exhibit 4.7**). Accordingly, as a part of their transformation plans, two of these hospitals focused on advancing community partnerships to improve access to primary care. For example, one hospital planned to participate in and maintain membership in local community boards to assess referral needs and ensure the community and collaborative partners have access to care via traditional methods or telehealth. Similarly, another hospital planned to establish a care network with a consortium of other area hospitals to expand access to care. Two hospitals also had plans to monitor and evaluate data by establishing direct care group meetings, performing a primary care clinical quality gap analysis, assessing the needs of patients through an SDOH tracking tool, and implementing a primary care performance improvement system. Finally, two hospitals planned to improve pathways to primary or alternative care through increasing access to remote primary care provider (PCP) consultations, integrating alternate care options into the ED triage process for common conditions (for example, urinary tract infections), increasing the number of alternate care sites (for example, urgent care clinics) and exploring "hospital at home" programs.

Three hospitals described plans to **establish service lines or programs to meet community needs.** For instance, one hospital proposed collaboration with neighboring hospitals to establish an outpatient infusion center. Another hospital planned to launch a nephrology program with inpatient dialysis service and a full-time nephrologist. The third hospital proposed the establishment of a swing bed program to improve access to care and enhance delivery services.

Two hospitals planned to **implement personalized and preventive programs to increase access to wellness care** through community partnerships. Hospitals had plans to initiate several types of collaborations such as working with:

- local grocery stores and food pantries to increase access to nutritious and affordable food;
- senior centers to provide education around chronic care management;
- local school districts to implement programs for childhood obesity;
- local non-traditional health and wellness-related services to complement integrative and personalized approaches (for example, massage therapy, acupuncture and aromatherapy);
- wellness centers to promote exercise programs.

In addition, one hospital planned to develop a wellness team of lifestyle management consultants and health coaches to improve access to wellness resources and help manage chronic conditions.

Exhibit 4.7. Evaluation and Monitoring Utilization is Greater Among Medicare Patients in the Market Areas of Participating Hospitals Focused on Primary Care Access Than Those in the Markets of Participating Hospitals as a Whole or Eligible Non-Participating Hospitals' Markets (2016–2019)

Measure	Participating Hospitals	Participating Hospitals Focused on Improving Access to and Redesigning Primary Care Services	Eligible Non-Participating Hospitals
Primary and Specialty Evaluation and Monitoring Visits per 1,000 Patients in Market Areas	13,658.00	13,740.69	14,090.93

SOURCE: Medicare FFS Claims (CY 2016–CY 2019)
NOTE: Limited to patients with 11+ months coverage in the year.

One hospital also sought to **develop telehealth services** to improve care access. The hospital planned to implement telehealth visits, consultations, check-ins and telephone-based evaluation. They also planned to implement a telehealth plan in emergency departments, physician practices and nursing homes.

Improving Behavioral Health and SUD/OUD Care

Of the 18 participating hospitals, 13 are focusing their transformation efforts on improving behavioral health and SUD/OUD care in their communities.

Exhibit 4.8. Hospitals Sought to Improve Behavioral Health and SUD/OUD Care through Program Implementation, Service Development and Expansion and Training/Education

	Transformation Activity (Hospital Count)													
Transformation Goal	**Community (Partner or Provider) Engagement**	**Engage/ Educate Staff and/or Patients**	**Promote Lifestyle/ Wellness Programs**	**Monitor and Evaluate Data**	**Change Service Lines**	**Expand Workforce**	**Implement Protocols, Workflows or Resource Databases**	**Conduct Follow-ups or Post-Discharge Activity**	**Develop Patient Registries**	**Screen and/or Refer Patients**	**Hire/Assign Care Coordination Staff**	**Grants and/or Waivers**	**Other (Hiring Contractors, Redesigning Plant Space, Allocating Hospital Resources and Staff)**	**Total Number of Hospitals**
Implement BH or SUD-related Outreach Program	5	2		3	1	2	2	2	2	3	3	1	1	6
Expand MAT or Other SUD/OUD Services	5	4		1	3	2	3	1		2	2	2	2	5
Develop Telepsychiatry or BH Telehealth Service	1	2		3	2		2					1	1	3
Improve SUD Management, Training and Education	2	2	1	2			2			2		1		2

NOTE: Blank cells indicate no hospital focused on that transformation activity for that goal.

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

On the whole, participating and eligible non-participating hospital market areas in this evaluation outperform the National Committee for Quality Assurance's (NCQA) benchmark on the quality measure "reporting post-ED follow-up care for SUD patients." However, the market area performance of five hospitals with plans to **implement a behavioral health or SUD/OUD outreach program** has lagged that of the wider group of participating hospitals (**Exhibit 4.9**)**.** Four of these five hospitals are also located in Health Resources and Services Administration designated Health Professional Shortage Areas (HPSA) for Mental Health. This may explain why all five hospitals indicated plans to partner with local behavioral health organizations, improve access to behavioral health specialists and conduct outreach to patients with identified behavioral health needs to connect them to appropriate community services. To bolster the effectiveness of these programs, three hospitals proposed hiring a social worker to act as a liaison between the hospital's inpatient psychiatric and outpatient primary care services for behavioral health and SUD/OUD patients. In addition to coordinating patient care, hospitals proposed continued formalization and improvement of their post-discharge referral and follow-up processes. One hospital also planned to develop educational resources for public dissemination on pertinent behavioral health topics. Three hospitals also planned to provide education to their own clinical and administrative staff on SUD, care coordination and available behavioral health resources. For instance, one of these hospitals indicated plans to partner with a local academic research organization to provide SUD screening tools to ED staff.

Exhibit 4.9. Rates of Follow-Up Care Are Lower for Medicaid Enrollees in the Market Areas of Participating Hospitals Focused on SUD/OUD Outreach following an Alcohol or Other Drug Abuse (AOD)-related Emergency Department Visit Compared to Those in the Markets of Participating Hospitals as a Whole or Eligible Non-Participating Hospitals' Markets (2016–2019)

Measure	Participating Hospitals	Participating Hospitals Focused on SUD/OUD Outreach	Eligible Non-Participating Hospitals	2020 NCQA Medicaid HMO Benchmark
Percent of Emergency Department Visits for AOD With Follow-up Care Within 30 Days in Market Areas	28.2%	24.7%	26.9%	20.2%

SOURCE: TAFs (CY 2016–CY 2019)
NOTE: Limited to patients with 11+ months coverage in the year.

Overall, both participating and eligible non-participating hospital market areas lag the NCQA benchmark for adherence to pharmacotherapy for opioid use (POD) and risk of continued opioid use (COU). Five participating hospitals, three of which are in Health Resources and Services Administration designated Mental Health HPSAs, plan to **expand medication-assisted treatment (MAT) and other SUD/OUD services.** Prior to the model (2017–2019), market areas for this subgroup reported lower POD (**Exhibit 4.10**) and higher COU aggregate rates (**Exhibit 4.11**) compared to market areas for eligible non-participants and all participants. This indicates that opioid overprescribing and support for MAT adherence were areas of particular need for in these hospital market areas prior to joining the model and may point to their reasoning for choosing expanding MAT as an area of focus.

Exhibit 4.10. Rates of Adherence to Pharmacotherapy are Lower Among Medicaid Enrollees in the Market Areas of Participating Hospitals Focused on MAT Compared to Markets of All Participating Hospitals or Eligible Non-Participating Hospitals' Markets (2016–2019)

Measure	Participating Hospitals	Participating Hospitals Focused on Expanding MAT	Eligible Non-Participating Hospitals	2020 NCQA Medicaid HMO Benchmark
Percent of Episodes of Pharmacotherapy for OUD With 180 Days of Adherence in Market Area	26.2%	19.0%	26.5%	30.4%

SOURCE: TAFs (CY 2016–CY 2019)
NOTE: Limited to patients with 11+ months coverage in the year.
ACRONYM: MAT = medication-assisted treatment.

Exhibit 4.11. Rates of Opioid Overprescribing Are Higher Among Medicaid Enrollees in the Market Areas of Participating Hospitals Focused on MAT Than in the Markets of All Participating Hospitals or Eligible Non-Participating Hospitals' Markets (2016-2019)

Measure	Participating Hospitals	Participating Hospitals Focused on Expanding MAT	Eligible Non-Participating Hospitals	2020 NCQA Medicaid HMO Benchmark
Percent of Patients with >31 Days of Prescribed Opioids in a 62 Day Period in Market Area	5.1%	5.7%	4.6%	4.1%

SOURCE: TAFs (CY 2016–CY 2019)
NOTE: Limited to patients with 11+ months coverage in the year.
ACRONYM: MAT = medication-assisted treatment.

All five hospitals planning behavioral health or SUD/OUD outreach programs proposed various forms of engagement with community organizations and providers to accomplish this goal. For instance, hospitals had plans to collaborate with local providers participating in MAT programs to offer MAT in primary care settings, implement doula services for pregnant MAT patients (in partnership with religious and civil organizations) and improve transportation for SUD patients with assistance from surrounding counties.

Four hospitals indicated extensive plans to provide education to internal clinical staff and local PCPs. For example, one hospital planned to implement MAT training programs for PCPs in partnership with a rural MAT organization while another hoped to work closely with PCPs and specialists on alternative pain management prescriptions. Internally, hospitals planned to support providers pursuing training required for a DATA 2000 waiver for MAT. They also supported training other staff on Screening, Brief Intervention and Referral to Treatment (SBIRT) and anti-stigma care. Additionally, three hospitals planned to expand or implement SUD-related service lines. For instance, one hospital planned to introduce MAT and provide additional pain management services (for example, acupuncture) while another hospital outlined a detailed plan to implement a detox unit through grant funding. To sustain these services, two hospitals proposed recruiting additional providers to administer MAT, another two proposed hiring care managers for patients with chronic pain and one planned to implement a patient navigator specifically for SUD patients.

Three hospitals indicated plans to **develop a telepsychiatry or behavioral health telehealth service**. Two of these hospitals also wanted to contract with external providers for telepsychiatry and develop staff training on using telehealth equipment while the third hospital is relying on grants to support implementation costs.

Two hospitals planned to employ several strategies to **improve SUD management, training, and education** at their facilities**.** Both hospitals proposed partnering with community organizations (including a county government agency) to increase referral to treatment, broaden community involvement and prevention efforts, and provide harm reduction education. Additionally, both hospitals hoped to increase the readiness of their clinical staff to provide robust behavioral health care to their patients through training and education on motivational interviewing, trauma informed care, SUD recognition and MAT. Both hospitals maintained a particular focus in their transformation plans on improving maternal OUD and mental health outcomes through partnership with an organization concentrated on perinatal health. As part of this effort, the hospitals planned to implement screening and referral protocols for prenatal patients at high risk for SUD/OUD.

Improving Operational Efficiency

Of the 18 participating hospitals, four focused their transformation efforts on operational efficiency.

Exhibit 4.12. Hospitals Planned to Increase Operational Efficiency by Redesigning Facility Space, Centralizing Functions and Improving Emergency Department (ED) Staffing

	Transformation Activity (Hospital Count)										
Transformation Goal	**Engage/ Educate Staff**	**Monitor and Evaluate Data**	**Assess Service Lines**	**Purchase Equipment**	**Expand Workforce**	**Implement Protocols or Workflows**	**Allocate Hospital Resources and Staff**	**Waivers**	**Centralize Activities with Health System**	**Adjust Budgets**	**Total Number of Hospitals**
Repurpose or Redesign Facility Space		2		2	1		1	1			3
Centralize Internal Infectious Control and Dietary Policies									1		1
Improve ED Patient Triage or ED Staffing	1	1		1			1				1
Review Budgets and Service Lines		1	1				1			1	2

NOTE: Blank cells indicate no hospital focused on that transformation activity for that goal.

Three hospitals planned to **repurpose or redesign facility space** to improve operational efficiency. For example, one hospital outlined plans to renovate and relocate their primary and specialty clinics to the hospital's main campus and provide all outpatient services in the same setting. Another hospital planned to hire an architecture firm to redesign their primary care offices as part of an effort to upgrade their space. Additionally, one hospital planned to enhance care operations and quality of post-acute inpatient services by addressing needs for equipment at their rehabilitation gym as well as a bariatric patient room and combined acute inpatient rehabilitation and swing bed services in one area.

One hospital planned to **improve ED patient triage and ED staffing** by applying for and receiving a waiver from the Commonwealth to employ Advanced Practice Providers (APP) with direct oversight from physicians using telehealth. This change requires careful examination of staff credentials, revisions to medical staff bylaws to include non-physician clinicians and the credentialing of remote board-certified emergency physicians trained in telehealth. The hospital also had plans to update ED policies and procedures to reflect the staffing pattern changes.

4.3 Discussion/Conclusion

Document review (especially review of hospital transformation plans) and claims data suggest that participating hospitals demonstrated interest in addressing current and anticipated health needs of their patients at both individual and community levels while also advancing their pre-existing community health and institutional goals. As the Innovation Center and states test advanced payment models for rural hospitals, they should consider how models, such as PARHM, can be leveraged to promote existing priorities and provide hospitals with incentives and resources to address barriers and accelerate transformation. As every rural hospital faces its own unique challenges, centering the needs of the communities these hospitals serve when considering model design is of paramount importance.

Chapter 5: Recruitment and Participation of System-affiliated Hospitals

Key Takeaways

Model Participation

- PARHM participation among eligible system-affiliated hospitals is four times lower than that of independent hospitals.
- Most participating system-affiliated hospitals made the decision to participate in the model when they were independent hospitals (before acquisition).

Perceptions of Model Design

- Some eligible non-participating system-affiliated hospitals believe that the model is designed for independent, rural and financially vulnerable facilities.
- Several commercial payers thought that systems that acquire hospitals should assume responsibility for the hospital's financial viability rather than the payer community.
- Several system leaders reported that smaller multi-hospital systems may be more motivated to participate in the model because it allows them to engage in population health efforts without reducing their revenue.

Motivations for Health System Participation and Non-Participation

- Some health systems with centralized decision-making structures were less inclined to participate in the model if only a few of their hospitals were deemed eligible to participate.
- Health systems leaders said they leveraged their regional networks in payer negotiations to get higher reimbursement rates for their rural hospitals, reducing their need for a financial safety net.
- Large health systems can integrate services vertically across the care continuum, which can help reduce the vulnerability of rural hospitals within their network.

Concerns about Overlap in Value-based Care Initiatives

- Some system-owned hospitals chose not to participate in the model because they thought the model did not align with other value-based care programs in which they take part, including both CMS and MCO programs.
- Some commercial payers expressed concerns that the model could conflict with larger value-based care initiatives that they already have in place with health systems in their networks.

The U.S. hospital industry has made substantial organizational changes in the past two decades. Extensive horizontal and vertical consolidation have made multi-hospital health systems a dominant presence nationwide and increased their importance within the health care delivery system.[18] The percentage of U.S. hospitals affiliated with a health system rose from 53% in 2001 to 60% in 2011, and 72% in 2018.[19] The financial and operational challenges faced during COVID-19 may also have prompted health care organizations to consider consolidation as a way to survive in the new market landscape.[20]

Rural hospitals have been a common target for mergers and acquisitions in the past two decades, with more than 380 rural hospital mergers recorded between 2005 and 2016.[21] Primary reasons for rural hospital mergers include financial distress due to low patient volumes, workforce shortages and a lack of access to capital.[22] Limited technological expertise and funding to implement electronic health record requirements may have also accelerated consolidation.[23] Financially vulnerable rural hospitals were more likely to affiliate with a system compared to their higher-performing counterparts.[24] While there is some evidence to indicate that health systems may be better positioned to invest in health IT and participate in VBC models, system affiliation may increase prices for services and result in more service line and hospital closures in rural areas. [25–29]

System-level consolidation has often involved cross-market affiliations with large multi-state health systems acquiring smaller, local systems.[19] This pattern of consolidation could complicate local and national efforts to implement payment and delivery system reforms and regulate anticompetitive behavior among provider organizations.[30]

Commercial market dynamics can alter the effectiveness of existing CMS programs by influencing providers' decisions to participate in such models.[31] For instance, competition to capture a significant share of the scope and scale of the patient care market within a geographic area affects a provider's overall business strategy and may impact the decision to participate in VBC models. One of the motivations for consolidation is to increase market share, which may increase health system revenue and fuel competition.[32,33] However, health systems that have more leverage with commercial providers may increase prices for services and disproportionately impact access for rural communities. Health systems may also be more selective than independent hospitals about VBC participation to ensure they retain control over strategic decisions involving the addition or removal of service lines.[k]

In Pennsylvania, providers are not regulated under Certificate of Need laws and can make decisions around service line expansions and capital expenditures based on FFS volume and commercial market competition.[11] Therefore, participating PARHM hospitals within larger systems may have conflicting goals under a global budget versus non-participants within the system. This tension may temper the effectiveness of value-based care models.

Large health systems also have the ability to negotiate higher commercial payment rates by offering differentiated services or by leveraging cross-market power.[31] Systems can leverage cross-market power when they affiliate with an entity that does not compete for the same patients due to geographic location or services offered. Health systems frequently employ all-or-nothing clauses which require an insurer to

[k] As noted in Chapter 6, hospitals need approval from the Innovation Center to add a service line in PARHM. For Medicare FFS, if hospitals open a new service line that is deemed non-essential, their reimbursement for utilization is dependent on other hospitals losing market share (market shift adjustment).

contract with all entities of a given provider system, which allows them to provide their rural hospitals with high reimbursement rates. Additionally, their cross-market presence allows them to use the scope and scale of their market to negotiate higher reimbursement rates in newer markets.[34] The ability of large health systems to command higher prices through such practices could dampen their enthusiasm for global budget models among system-affiliated rural hospitals. This case study focuses on the influence of market dynamics, particularly system affiliations (mergers and acquisitions) on hospital participation in PARHM.

Integrated health systems can keep patients within their network by referring patients to providers within their systems and by encouraging patients to use the health system for all their health care needs.[35] As a result, system affiliations could change patterns of care, steering rural residents to leave their local communities to seek services in larger system-affiliated settings.[36] This market dynamic can conflict with the goals of a global budget model to maintain access to local health care services in rural communities.

With over 3,483 community hospitals nationwide associated with health systems (as of 2020), the move from a FFS to VBC requires the support and participation of health systems.[37] The Innovation Center's recent strategy refresh to define a VBC strategy includes efforts to align, grow and advance equity by increasing the participation of Medicare and Medicaid providers in VBC models.[38] Further research is needed to examine whether, when, and to what extent health systems may choose to participate in VBC models. Health system participation — or non-participation — in VBC models may have a disproportionate impact on health care disparities and access to care in rural communities.

Case Study Objectives

In this case study, to better understand barriers and facilitators that might contribute to the lower rate of PARHM participation among system-affiliated hospitals (as compared to independent hospitals), we examine the differences in recruitment and decision-making of system-affiliated hospitals and payers in integrated models. Based on these findings, we identify the implications for other potential models based in rural areas and identify strategies that may encourage participation of more system-affiliated hospitals in VBC models.

5.1 Methods

We conducted key informant interviews with participating and non-participating system-affiliated hospitals to better understand the decision-making process around participation in PARHM, including who made the final decision to participate and how that decision was reached. We interviewed representatives from eligible and participating hospitals acquired during or close to the time when the hospital had the option to join the model as well as leaders from the health care systems that acquired those hospitals.

The team conducted a descriptive analysis of participating and eligible non-participating system-affiliated hospitals and their associated systems and market areas. To do this, we used the following secondary data from the Agency for Healthcare Research and Quality (AHRQ) 2018 Compendium of the U.S. Health Systems and the 2019 American Hospital Association (AHA) Annual Survey. We also used model documents and press releases to acquire additional information regarding recent health system affiliations.

A key limitation of this analysis is the small number of participants (18 participating hospitals and five participating systems), which makes most comparisons to eligible non-participating hospitals or national or statewide benchmarks infeasible. The small number of participating hospitals and variations in hospital type and affiliation may limit the external generalizability of findings to other rural communities. However, a multiple case design provides in-depth analysis of motivational factors across participating and non-participating hospitals and examines distinct characteristics common among health systems in rural communities.

Defining Multi-hospital Systems

This case study uses the 2018 American Hospital Association (AHA) definition of a multi-hospital system: "A multi-hospital system is two or more hospitals owned, leased, sponsored, or contract managed by a central organization." A multi-hospital system is characterized by the horizontal integration of facilities that primarily provide acute care services and often features common asset ownership and shared organizational missions but may also maintain separate hospital boards and executives.[39,40]

Some multi-hospital systems in Pennsylvania administer their own insurance plans and operate as payers in the state. Three participating payers (UPMC, Geisinger, and Highmark) have hospitals eligible to participate in PARHM. The incentives of such payer-providers may differ slightly from a multi-hospital system because payer-providers can potentially offset any losses from lower utilization through their insurance product.

Participation in PARHM is limited to acute care hospitals and CAHs, and does not include physician practices, rural health clinics or other non-acute health care organizations.[41] Therefore our analyses focus on hospitals that have merged or expanded through horizontal integration (that is, when organizations acquire or integrate with other organizations that provide the same or similar services). Diversified single, independent hospitals that own or lease non-hospital pre-acute or post-acute health care organizations were not considered systems for the purpose of this case study.

5.2 Consolidation of Hospital Systems in Pennsylvania

To understand the degree of consolidation among hospitals and health systems within the Commonwealth of Pennsylvania, we utilized the AHRQ Compendium of U.S. Health Systems which identifies and enumerates health systems across the U.S. by building on existing datasets.[42] The Compendium defines health systems to include at least one hospital and at least one group of physicians providing comprehensive care that relate to each other and the hospital through common ownership or joint management. Though this definition is different from the multi-hospital system definition given above, it provides us with a better understanding of consolidation within the Commonwealth.[I]

In 2016, Pennsylvania had 34 health systems, accounting for 61% of all hospitals within the Commonwealth. By 2018, there was further consolidation, reducing the number of systems in Pennsylvania to 32. As seen in

[I] A common way to measure concentration within a market is to calculate a Herfindahl-Hirschman Index (HHI), where a higher HHI value signifies a more highly concentrated market. In 2020, 125 metros of the 186 studied (67%) had hospital markets that were highly or very highly concentrated. However, HHI calculations are typically based on metropolitan areas, and rural areas are not adequately factored into HHI measures.

Exhibit 5.1, approximately 9 out of 10 acute care hospitals in the Commonwealth are affiliated with a health system.

Exhibit 5.1. Hospitals in Pennsylvania Experienced Greater Consolidation on Average Compared to the Rest of the Country

System-level Measures	United States	Pennsylvania
Percentage of system-affiliated hospitals	58%	63%
Percentage of system-affiliated acute care hospitals	72%	88%

SOURCE: Compendium of U.S. Health Systems, 2018, Agency for Healthcare Research and Quality, updated January 2021.

Eight of the 32 systems in Pennsylvania cross state boundaries, and four of these systems have hospitals that are eligible to participate in the model.[43] **Exhibit 5.2** below provides an overview of the characteristics of the health systems in Pennsylvania compared to health systems across the U.S. Systems in Pennsylvania were more likely to be multi-state systems (systems with hospitals in two or more states). They were also more likely to offer an insurance product.[43]

Exhibit 5.2. On Average, Pennsylvania Health Systems are Larger and More Likely to Offer an Insurance Product or MA Plan Compared to Health Systems in Other Parts of the Country

System-level Measures	United States	Pennsylvania
Mean number of hospitals per system	6.10	9.31
Mean number of discharges per system	46,664.48	51,179.31
Mean number of multi-state systems	1.22	1.28
Mean number of systems that offer an insurance product	0.34	0.43
Mean number of systems that offer a Medicare Advantage plan	0.19	0.33

SOURCE: Compendium of U.S. Health Systems, 2018, Agency for Healthcare Research and Quality, updated January 2021.

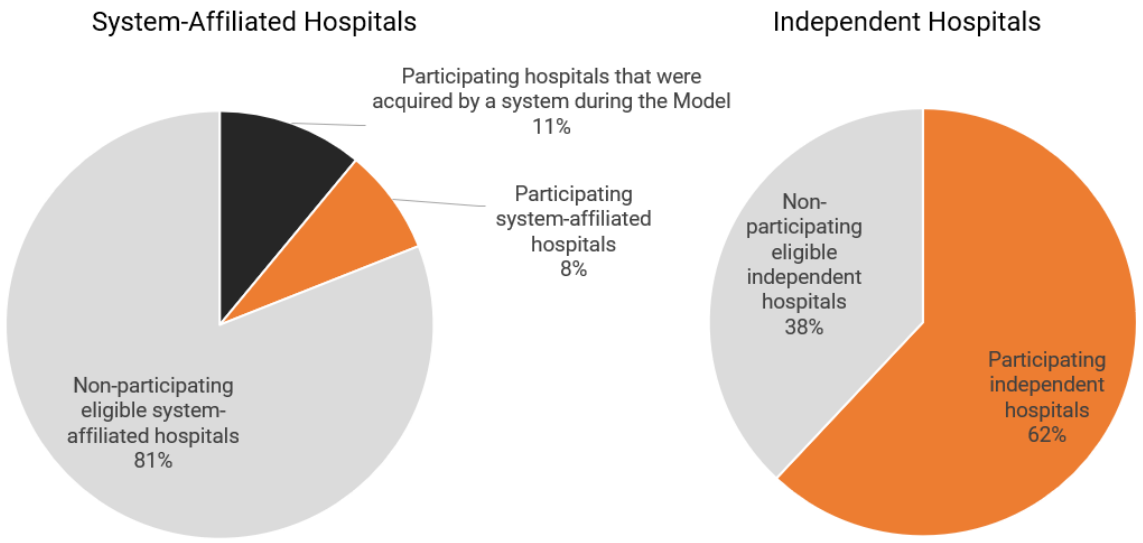
Emerging studies have revealed the potential for anticompetitive effects in cross-market hospital mergers.[m] [44]Health systems may also opt into regionally based systems for greater competitive advantage. One recent study developed a definition of cross-market systems based on commuting zones and state boundaries, recognizing that cross-market hospital systems can leverage their larger, flagship hospitals across markets in contract negotiations with insurers.[34]

[m] A cross-market hospital merger occurs when the merging hospitals do not compete for the same patients due to location or services offered.

5.3 Overview of Model Participation Among System-Affiliated Hospitals

When PARHM was designed in 2015, fewer than one-third of eligible hospitals (18 of 67; 27%) were part of multi-hospital systems and most hospitals (49 hospitals; 73%) were independent. Of the 67 eligible hospitals, 32 predominantly independent hospitals were operating at a risk of closure (that is, with a negative margin), which could have resulted in approximately 9,700 lost jobs and a significant decrease in access to health services.[2] However, by 2022, 36 of the 49 eligible independent hospitals (73 %) were acquired by health systems, leaving only 13 eligible independent hospitals.[n] Most of the participating system-affiliated hospitals (6 of the 10) made the decision to participate in the model when they were independent hospitals and were subsequently acquired (**Exhibit 5.3**).

Exhibit 5.3. A Majority of the Hospitals that Chose to Participate in the Model were Independent Hospitals.



SOURCE: PARHM documents
NOTE: 52 System-affiliated hospitals and 13 independent hospitals are currently eligible to participate in the model. Of the participating system-affiliated hospitals, the majority (6 of the 10) made the decision to participate in the model when they were independent hospitals.

Only three eligible multi-hospital systems chose to participate in the model.[o] Two of these three systems had only two hospitals in their networks. One system chose to enroll only one of its hospitals in the model, but another system enrolled both hospitals in the model when it became aware of its eligibility.[p]

Model implementation partners and commercial payers identified the changing health care landscape — particularly decreasing numbers of independent hospitals and increasing mergers and acquisitions in rural areas of Pennsylvania — as a significant impediment to hospital recruitment for PARHM (**Exhibit 5.4**). As one

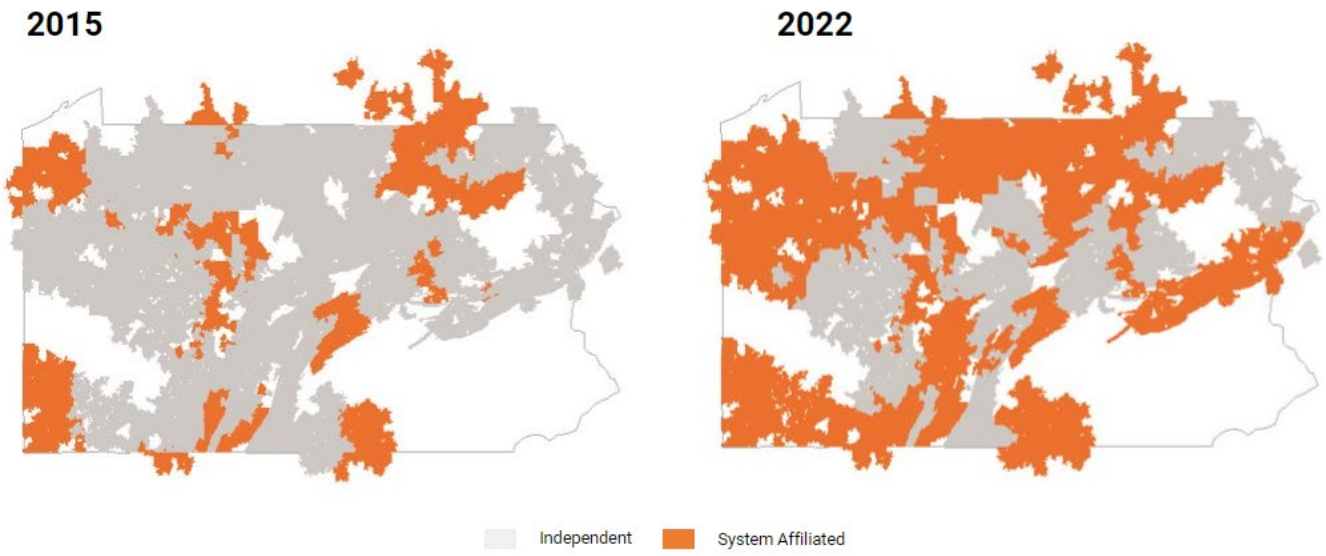
[n] Three hospitals that were eligible to participate in PARHM closed (including one independent hospital).

[o] Washington Health System has two hospitals participating in PARHM.

[p] Please see Annual Reports 1 and 2 for a discussion regarding the PARHM eligibility criteria.

commercial payer noted: "[All] the hospitals that are left are owned by either the national providers or large delivery systems within Pennsylvania already."

Exhibit 5.4. The Market Areas of Eligible System-affiliated Hospitals Increased Considerably between 2015 and 2022



SOURCE: Medicare FFS Claims (CY 2014-CY 2019)

5.4 Perceptions of Model Design

This section explores key perceptions of model design and structure and their influence on system participation.

Several system leaders and implementation partners expressed concerns about the lack of clear benefits and incentives of model participation for system-affiliated hospitals. Some commercial payers noted that the decision to include system-affiliated hospitals, especially large suburban hospitals, detracted from the model goals. Implementation partners attributed health systems' non-participation primarily to reluctance to cede financial control in favor of the global budget. Systems that chose not to participate in the model reported that their rural hospitals did not need the safety net offered by the global budget and consequently had more to gain financially in the current FFS environment with favorable payment rates from commercial payers.

Eligible non-participating multi-hospital systems believe that the model is designed for independent, rural and financially vulnerable hospitals. Several system leaders characterized the model as a program created for independent rural hospitals and did not see a role for system-affiliated hospitals within its current framework. System-affiliated hospital leaders also noted that they did not need the cash flow stability that the global budget provided. One non-participating system leader noted:

> *We looked at the model, recognizing that if we were an entity that, let's say, that was not unduly well-heeled financially, or small and vulnerable — there probably would have been a certain appeal to*

the model…The model makes a heck of a lot of sense for those, what I'll call 'stand-alone community hospitals' that are still trying to make a go of it on their own.

Commercial payers believed once a hospital was acquired by a larger entity, it should be the responsibility of the larger entity, not the commercial payers, to keep the hospital sustainable.[11] One commercial payer commented:

[I]t's really made for those hospitals that don't have material volumes, ... I think there a couple of hospitals that may have a census of two or three beds filled on average. Those are the ones we feel are really appropriate [for the model], not the larger delivery system and the larger hospitals. So, one of the things [the system] should be doing is evaluating the cost structure, and rightsizing the hospital, and doing all that stuff on their own. And it shouldn't be done on the backs of the local community because they acquired the asset. They should be leading that transformation.

Some participating systems treated the model as an incubator to test innovative methods of care delivery. For these system-owned hospitals, securing waivers to state and federal regulations that allowed for the testing and deployment of innovative practices was a compelling aspect of the model.[11] One system used the opportunity to swiftly deploy innovative care delivery practices in a financially vulnerable rural hospital to keep the hospital financially viable:

The model I think is widely understood by [system] leadership to be an innovation incubator that has allowed us to rapidly implement ideas that allow us to sustain this type of acute care setting in a community that otherwise would not have access to acute care services and as a result, it infuses a certain level of public health and economic development into these communities that is sorely needed. A great and tremendous thing.

Several system leaders reported that smaller multi-hospital systems may be more motivated to participate in the model because it allows them to engage in population health efforts without reducing their revenue. Smaller systems reported that the model provided them with a financial strategy that allowed them to accelerate their population health programs and movement to VBC without bankrupting their system. However, larger hospital systems questioned the model's relevance going forward given the extensive ongoing consolidation and the reduction in independent hospitals and smaller systems:

I would say for the right population of providers it should be effective as a tool if used to its extent. It's going to be a smaller group of either stand-alone facilities to the degree they exist, or those that are three little hospitals tied together, or five little hospitals tied together ...There, again, long term, are there enough hospital systems to — you know, is it the right investment for the state to continue given that, you know, that number continues to diminish.

Larger multi-hospital systems may not find it feasible to invest in changing the culture and administrative networks of some of their hospitals if they do not need the financial safety net provided by the global budget model. As one system leader commented, "The bigger the system is, the harder it is to change the culture."

5.5 Motivations for Health System Participation and Non-Participation

Most health systems in Pennsylvania operate as centralized health systems in which decisions are made at the system level rather than the local level. (**Exhibit 5.5**). Studies indicate that system-affiliated hospitals benefit from efficiencies in service delivery and payer relationships offered by a centralized governance structure.

Centralized health systems may also have marginally better quality and financial outcomes, but at higher costs per discharge compared to noncentralized systems. [45,46] The model was designed to enable participating rural hospitals to tailor their services to meet local community needs. Local community needs may not always align with priorities determined by the central office of a health system.

Exhibit 5.5. A Majority of the PARHM Eligible Hospitals are Affiliated with Centralized Health Systems

System-level Measures (% of hospitals)	Pennsylvania	PARHM Eligible Hospitals
Centralized health system	18	10
Centralized physician/insurance health system	15	16
Moderately centralized health system	30	25
Decentralized health system	2	0
Independent health system	13	10
Insufficient data to determine cluster assignment	22	39

SOURCE: American Hospital Association Annual Hospital Survey, 2019

Centralized health systems were less inclined to participate in the model if not all of their hospitals were deemed eligible to participate. Some centralized systems chose not to participate in the model, especially if some of their hospitals did not meet eligibility guidelines, because they would have to employ different strategies based on model eligibility. This added complexity would affect their population health efforts and reduce benefits from scaling their programs system-wide. One non-participating system noted that they would typically consider VBC participation once all of their hospitals are eligible in order to ensure system-wide synergy:

> *If we were to have embarked upon this, we would have almost had two separate, complete tracks in how we manage population health, with the [PARHM] rural track being one and our global efforts being another. It's hard enough to manage what's going on as it is with one system ... For us, it was ultimately a pretty easy decision to say, 'This is a great model, but it's just not one-size-fits all. For us, it just doesn't make sense.'*

One participating system leader reported being more motivated to participate in the model after they became aware of their eligibility in PY 2 (2020): "Once both hospitals could participate, it dovetailed nicely in all the work we were already doing around population health and population management."

Health systems reported leveraging their regional networks in payer negotiations to get higher reimbursement rates for their rural hospitals, which conflicts with the goals of a VBC model. Rural hospitals noted the conflict between VBC models and payment models still driven by price and volume. Tying smaller, financially vulnerable, rural hospitals to larger providers allows health systems to negotiate higher prices from payers or employers who are common customers across these markets. One system leader provided an example of this negotiation strategy:

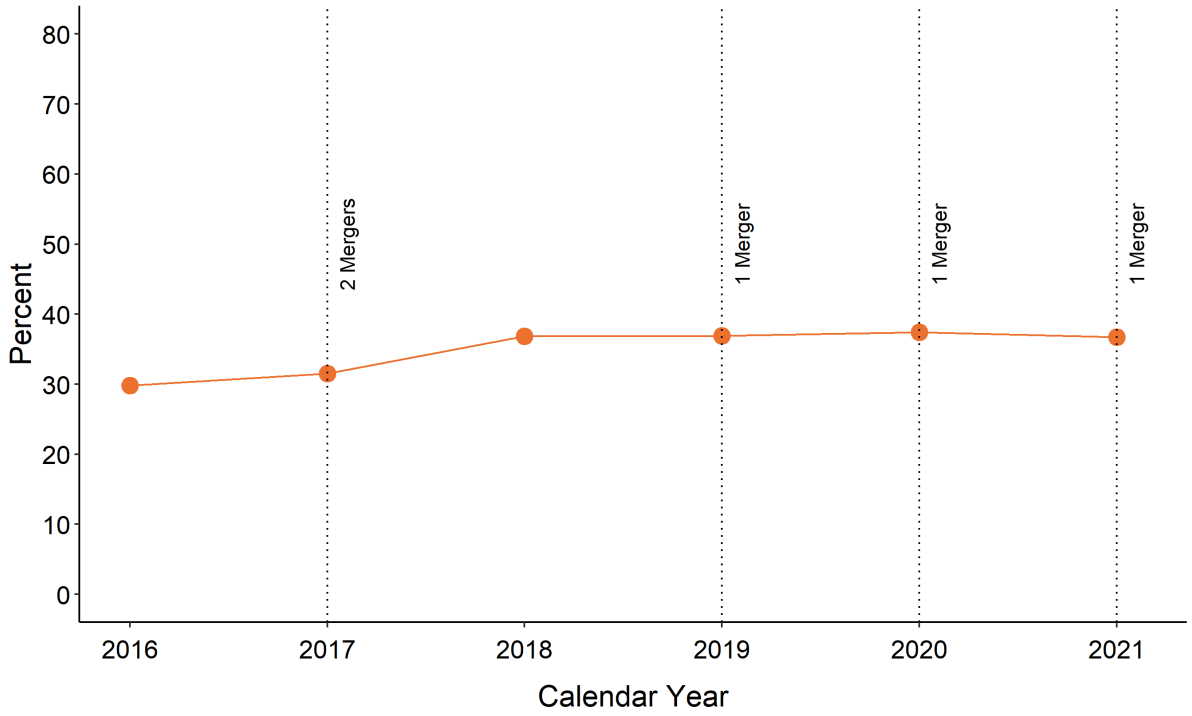
> *The payment amounts that they get will vary ... Ironically, [our small community hospital] is in the market that is lumped historically with [largest system hospital]. We get our highest reimbursement in those two markets. Here you have this little community hospital that, on its face, looks like a little rural community hospital, but because of the market clout of [the system] and its flagship hospital...[t]hey've been able to command ridiculously high reimbursement rates that a community hospital would never have*.

Health systems can integrate services across the care continuum, which may reduce the financial vulnerability of rural hospitals within their network and consequently their willingness to participate in VBC models such as PARHM. Compared to independent hospitals, health systems can potentially offer quality care through greater economies of scale and geographic coverage. One participating system noted that they are working to increase access via telehealth models in rural areas, linking physicians from their urban centers to their rural hospitals. A telehealth provider associated with the system emphasized that this level of integration would not have been possible without system affiliation:

> *You need the whole system. You need a tertiary care facility. You need the family of health care and administrators all on board doing the same thing. Part of this changeover was an IT group that was put together. IT and clinicians, we met like weekly for a year trying to iron out the bugs and how to interview the patient over a computer.*

However, we found spending increased when independent hospitals merged with health systems. We reviewed health systems' global budget spending across non-participating system-affiliates of participating hospitals. The average share of global budget spending for patients within the market areas increased sharply at non-participating system-affiliates when participating hospitals merged with health systems (**Exhibit 5.6**).

Exhibit 5.6. Average Share of Spending Incurred in Non-Participating System-affiliates Across System-affiliated Participating Hospitals



SOURCE: Medicare FFS Claims (CY 2016-CY 2021)

Concerns about Overlap in VBC Initiatives

Both system-owned hospitals and commercial payers shared concerns related to potential financial and logistical misalignment between PARHM and other VBC initiatives. Implementation partners reported that commercial payers are reluctant to participate in the model with system-owned hospitals due to the potential for misalignment with their existing VBC initiatives. Additionally, commercial payers that own health systems may want to participate with their own hospitals to further their own business strategy and benefit from vertical integration.

Some system-owned hospitals chose not to participate in the model because they thought the model did not align with other VBC programs in which they participate, including both CMS and MCO programs. Participating and non-participating multi-hospital systems reported joining commercial "gain-sharing contracts" and other VBC initiatives, such as ACOs. One representative from a small multi-hospital system that chose to participate noted, "Everybody's heading generally the same direction, maybe not completely aligned necessarily. You have a conceptual framework that's working in the same direction." They added that the mechanisms to achieve these objectives, such as quality measures and financial targets, weren't always aligned. Each payer had their own specific requirements and measure reporting to which providers have to adhere, which increased administrative burdens.

Some commercial payers expressed concerns that the model could conflict with larger VBC initiatives that they already have in place with health systems in their networks. Payers were anxious about the administrative burden of reconciling the model within the scope of their existing VBC programs and the

challenges it could create. One non-participating system stated that some commercial payers believed that their health system would get duplicative benefits by participating in PARHM and commercial VBC initiatives: "I know we had one payer, in particular, who basically pushed back and said …'This makes no sense,' and they were right. If you already have a mechanism down the continuum of value with the payer, why would you then somehow overlay this? They felt like it was almost like double-dipping."

5.6 Discussion

Policy interventions designed to sustain rural hospitals should consider the unique needs and financial incentives of independent hospitals relative to system-affiliated hospitals. Many rural hospitals, including those eligible for PARHM, are now affiliated with systems. Models that attempt to transform health care delivery in rural areas need to account for the motivations of these system-affiliated providers.

The needs and requirements of independent rural hospitals are inherently different from those of system-affiliated rural hospitals. It is challenging for health systems to contend with conflicts that arise between FFS and VBC incentives within the same system. System hospitals that have access to the health system's financial resources are not as motivated as independent hospitals by the cash flow stability offered by global budgets. System-affiliated hospitals also still benefit from FFS, using their competitive advantages to negotiate higher commercial reimbursement rates compared to independent hospitals. They can also leverage economies of scale by integrating hospital infrastructure and service delivery across all providers.

System-affiliated hospitals participating in PARHM have the resources to innovate and experiment with care delivery in their rural hospitals to make them more sustainable. Integrated systems can facilitate referrals and access across the continuum of care, which can be beneficial in a VBC model. However, these systems may need additional incentives to move away from an FFS-orientation.

Future rural Innovation Center models may consider additional design features that appeal to both independent and system-affiliated hospitals. The prevalence of system-affiliated hospitals in rural areas indicates that future Innovation Center rural models need to account for their participation if such models aim to change incentives or culture across all rural areas in a state.

Additionally, there is evidence that system affiliation in rural locations could lead to more closures of essential service lines and hospitals, reducing access to care and increasing disparities.[25–29] It is not clear that systems are going to provide services that respond to the community's needs, particularly in states that do not have Certificate of Need laws.

Models could also consider including incentives for systems to invest in meeting community needs by adding or retaining essential health care services in rural areas and promoting coordination with community providers. They could also consider including incentives for system-affiliated hospitals to tap into the strengths of larger systems by increasing access to care through telehealth and reducing transportation barriers.

Chapter 6: Engagement and Coordination with Community Organizations and Providers

Key Takeaways

Hospital Focus Area

- The hospital transformation plans increase hospital motivation to advance existing strategies and implement new strategies to address community needs.

Community Engagement Strategies

- Increased focus on community engagement helped participating hospitals to identify challenges to address, and ways to better support, the social needs of their communities.
- Community engagement is most effective and sustainable when there is a dedicated hospital staff member, either full-time or part-time, to facilitate community partnerships.

Implementation Challenges

- PARHM is a hospital-centric model and funding does not flow to community partners. This lack of financial incentives for community partner participation limits how much they can engage with the hospital.

Participating hospitals have implemented diverse strategies to improve care coordination and address SDOH, with several hospitals developing or enhancing relationships with community-based organizations, community providers, and social service providers to advance model goals. Similarly, nationwide there has been an increase in hospital-community partnerships as many hospitals invest in community engagement as a strategy to address upstream SDOH, better support population health needs, and ultimately, reduce disparities in access, utilization, and outcomes.[q,47]Hospital-community partnerships can serve a particularly important function in rural communities with high rates of chronic disease, limited availability of health services and numerous barriers to accessing care.

Rural residents across the nation face a unique set of challenges that contribute to health disparities. Adults are more likely to be food insecure, live in poverty, be uninsured or underinsured, have unmet health needs, and live further from medical care as compared to adults living in urban areas.[48] Moreover, high rates of SUD coupled with behavioral health workforce shortages has made it difficult to meet the demand of individuals who need mental health and SUD care, especially in rural Pennsylvania. As such, many individuals in rural areas experience difficulties accessing health care and social services, and either rely on the hospital ED for care or forego needed care.[49,50]

Hospital-community partnerships, especially partnerships supported by a dedicated hospital staff member (for example, rural health navigator, care coordinator), can improve health equity by helping patients access the appropriate level of care and navigate the health care system and social services outside of the hospital setting.[51,52] Such partnerships can facilitate pathways for patients to access health care services both on-site and in the community, increase opportunities for patient-centered out-of-hospital care, and bolster coordination along the care continuum.

Rural hospitals can also play an important role in engaging the community in efforts to address SDOH needs (for example, food insecurity and transportation) and implement community health and wellness initiatives.[53] Partnerships with community-based organizations, community providers and social service providers help hospitals to better understand and support community needs, more effectively leverage community resources and expand their reach through participation in community coalitions.

While hospitals and communities benefit from working together, it is important to acknowledge challenges involved in hospital-community engagement efforts, particularly in the context of the COVID-19 pandemic. For example, funding constraints, workforce shortages, regulatory barriers, and internet connectivity issues can make it difficult to form and sustain hospital-community partnerships in rural settings.[54] To fully address patient and community-level needs, it is important to not only understand the current landscape of community engagement, but also to explore implementation challenges that may hinder sustainable progress.

[q] We use the CDC definition of Community Engagement, "the process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the wellbeing of those people. It is a powerful vehicle for bringing about environmental and behavioral changes that will improve the health of the community and its members." Chapter 1: What Is Community Engagement? | Principles of Community Engagement | ATSDR (cdc.gov)

Case Study Objectives

In this case study, we identify participating hospitals' coordination and engagement efforts with community-based organizations, community health care providers and social service providers (referred to collectively as "community partners"). We describe the hospitals' community engagement strategies to improve care coordination and address SDOH needs. We also explore implementation challenges participating hospitals experienced when engaging community partners in these activities.

6.1 Methods

This case study was informed by both primary qualitative data and secondary quantitative data. First, we analyzed key informant interviews with hospital staff (clinical and administrative), community partners and patients conducted in 2022. We identified key themes related to implementation facilitators and challenges that either support or limit care coordination and community engagement efforts. (For the purposes of this case study, care coordination and community engagement will be referenced collectively as "community engagement.") Second, we conducted a descriptive analysis of quantitative data sources to provide context to the qualitative findings, including: the American Community Survey (5-year estimates), 2018; AHRQ Social Determinants of Health Database, 2018; and the Recovery Ecosystem Index, 2016–2020.

6.2 Findings: Hospital Focus Areas

Transformation plans helped hospitals prioritize and focus on a set of goals to advance their community engagement activities. As discussed in **Chapter 4**, many hospital transformation plans include goals related to enhancing community engagement and identifying and addressing SDOH needs. Several hospital respondents identified the model as the impetus for them to prioritize and make progress towards community-focused transformation goals. As two hospital respondents reported:

> *[Prior to the model], there was no collaboration of [community partner] coming here and seeing that individual, which there is now. The model really pushed us to focus and stay focused on this, on all of our goals and to push it as far as we could. It's been great in that aspect. It probably would not have been pushed without the model to be honest.*

> *I think [the model] has put some focus on specific community engagement efforts and has allowed us to focus on particular populations better than we were able to under traditional fee-for-service.*

Some hospitals built new partnerships, while other hospitals expanded existing partnerships to include services that were not offered prior to model participation. While it is difficult to determine temporality, hospital staff noted efforts to enhance partnerships were largely motivated by their hospital transformation plans. Having specific, actionable goals helped them focus on partnerships that may not have been otherwise prioritized. For example, one hospital achieved its goal to hire a part-time social worker to serve as a liaison between the hospital ED and an on-site case management and recovery support provider, enhancing their work with this partner.

Community engagement activities highlighted by participating hospitals are funded through a mix of funding streams, including grants (for example, Rural Communities Opioid Response Program) and internal funding. However, it was often the case that hospital leadership could not identify a single funding source for their transformation initiatives described throughout this section given that they drew on braided funding to support implementation. That said, while the global budget was not sufficient to fund the community engagement activities in their entirety, the model did increase hospital motivation to invest in and enhance these activities. We will continue to explore how community engagement initiatives are funded in future data collection.

Based on data from qualitative interviews, we identified four primary areas in which participating hospitals are engaging community partners to make progress towards their transformation goals: (1) care coordination, intervention and referral for mental health and SUD treatment, (2) community paramedicine and remote patient monitoring, (3) initiatives to address food insecurity, and (4) community health and wellness. In this section, we provide an overview of the engagement efforts in each area as well as strategies used. We discuss implementation challenges in a later section.

Care Coordination, Intervention, and Referral for Mental Health/SUD Treatment

Four participating hospitals are building and expanding local partnerships to improve care coordination, intervention and referral processes for mental health and SUD care. These community partnerships facilitate care pathways (for example, connecting individuals with outpatient psychiatric care and providing case management support) intended to reduce PAUs associated with mental health and SUD. Prioritizing engagement in this area is especially pertinent as the prevalence of mental health issues (for example, anxiety, depression) and SUD has increased in the wake of the COVID-19 pandemic.[55–57]

Exhibit 6.1. Drug and Opioid Overdose Mortality Rates, 2016–2020

Measure	Counties with Participating Hospitals	FORHP Rural Counties	Pennsylvania	United States
Drug Overdose Mortality Rate per 100,000 population aged 15–64 (2016–2020)	54.4	43.2	58	27
Opioid Overdose Mortality Rate per 100,000 population aged 15–64 (2016–2020)	31.8	27.3	36	21

SOURCE: Recovery Ecosystem Index

Participating hospitals are engaging with the community to improve mental health and SUD support through two primary avenues: 1) on-site case management and recovery support at hospitals or in EDs and 2) county partnerships to support services along the care continuum. In all cases, community partners are distinct entities and are not organizationally affiliated with the participating hospitals. Of note, participating hospitals

may also receive funds through other funding sources (for example, Rural Communities Opioid Response Program grant,[r] foundation grants) to facilitate these partnership activities.

On-Site Case Management and Recovery Support

Two participating hospitals have engaged with community partners to provide on-site case management and recovery support services in the ED. Community partners provide an on-site counselor, who is funded by the community partner, to triage and support individuals who present to the ED with mental health and/or SUD concerns. This support is available Monday through Friday from 9 a.m. to 5 p.m. While neither hospital mentioned immediate plans to expand coverage beyond these hours, this may be an area for future expansion with additional funding.

In addition to providing an on-site counselor, one community partner provides an on-call behavioral health crisis intervention counselor — available 24/7 — to provide case management services as needed. A community partner noted that they have observed increased hospital investment in mental health and SUD services since the hospital started participating in the model. For example, the hospital created a "safe room" in which the community partner conducts behavioral health intakes and has implemented new pathways intended to keep individuals out of the ED. The hospital also hired a social worker to liaise with the community partner to conduct Screening, Brief Intervention and Referral to Treatment (SBIRT) and ensure that individuals connect with the appropriate level of treatment.

Additionally, one participating hospital partners with a mobile crisis outreach and intervention team to provide treatment coordination assessment and financial support for individuals seeking mental health and SUD treatment outside of the hospital setting. While this helped to facilitate warm hand-offs, the hospital experienced challenges referring patients to other behavioral health services after engaging with the mobile crisis team due to behavioral health workforce shortages in the area.

County Partnerships to Support Substance Use Services along the Care Continuum

Two participating hospitals work with local county drug and alcohol partnerships that provide a wide range of drug and alcohol services to county residents**.** In both cases, partners meet monthly to strategize how best to meet population-level treatment needs and facilitate pathways to appropriate levels of care in the community. As part of their engagement in these meetings, the hospitals also review population-level data, discuss prevention and intervention initiatives, and more holistically address community needs relevant to SUD. The partnerships also provide financial assistance for individuals who are uninsured or underinsured and offer transportation to SUD treatment facilities at no charge.

Community Paramedicine and Remote Patient Monitoring

To reduce PAUs and ensure individuals receive the appropriate level of care, three participating hospitals are working with community partners to implement programs to reach patients at home by implementing community paramedicine and remote patient monitoring programs. These programs are designed to reduce

[r] 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

health care disparities for patients who experience barriers to care, such as transportation access and mobility challenges. While rural hospitals nationally employ strategies to provide health care at home, participating hospitals highlighted community paramedicine and remote patient monitoring.

Community Paramedicine. Community paramedicine is an innovative model in which paramedics and emergency medical technicians play a broader role in addressing the health care needs in rural communities.[58] Community paramedics connect patients with the appropriate level of care, complete post-hospital follow-up care, provide health education and address unmet primary care needs in the community. Studies have demonstrated community paramedicine can reduce intensive care and emergency service utilization, lead to better health outcomes and reduce health expenditures.[59]

One participating hospital works with community paramedics to provide in-home urgent care services. Community paramedics are present with patients in their homes during telehealth visits with physicians. The community paramedic working with the physician can provide urgent care and outpatient diagnostics and treatment for concerns ranging from urinary tract infections to CHF. Patients are referred to the program by their primary care provider or specialty care provider. The hospital can support approximately 4 to 6 visits between the hours of 7 a.m. and 11 p.m. daily. According to one hospital staff member, the program has successfully treated hundreds of patients since September 2021 and helped patients to remain in their homes while reducing ED and inpatient volumes. The hospital staff member reported that:

> *The [community paramedicine] program is mutually beneficial — it's really a three-way win. It helps the emergency department in the hospital at a time where there are staffing crises and crowding. It helps the health plan because it eliminates unnecessary emergency department visits and admissions and it helps the patient, because most people don't want to be in the hospital.*

Two additional hospitals are exploring the possibility of engaging with local emergency medical systems (EMS) to implement community paramedicine programs to reduce PAUs among populations who are medically underserved. However, both hospitals are experiencing difficulties partnering with local paramedics and licensed EMS professionals due to the start-up costs. One hospital respondent noted that they have identified a potential partner, but it would cost over $94,000 to start the program. They are applying for grants to launch the program.

Remote Patient Monitoring. Some rural hospitals are implementing remote patient monitoring to improve quality of care. One participating hospital implemented remote patient monitoring for individuals with hypertension and/or cardiopulmonary conditions who would benefit from more frequent monitoring. Individuals enrolled in remote patient monitoring receive a blood pressure cuff that transmits data directly to their provider's office. Based on the data, the provider can adjust the patient's medication accordingly without requiring an in-person visit.

So far, the participating hospital has established remote patient monitoring in collaboration with two community providers, and participating patients have been receptive to the program. Hospital staff and patients report improvements in medication management and chronic condition management as a result of the program. Three patients noted they have been better able to track and monitor their blood pressure and related symptoms since starting the program. Two patients said the program offers them "peace of mind."

The hospital is exploring a partnership with local nursing homes to provide remote patient monitoring but is facing difficulties due to internet connectivity issues. One remote monitoring patient expressed daily benefits to participating in the program:

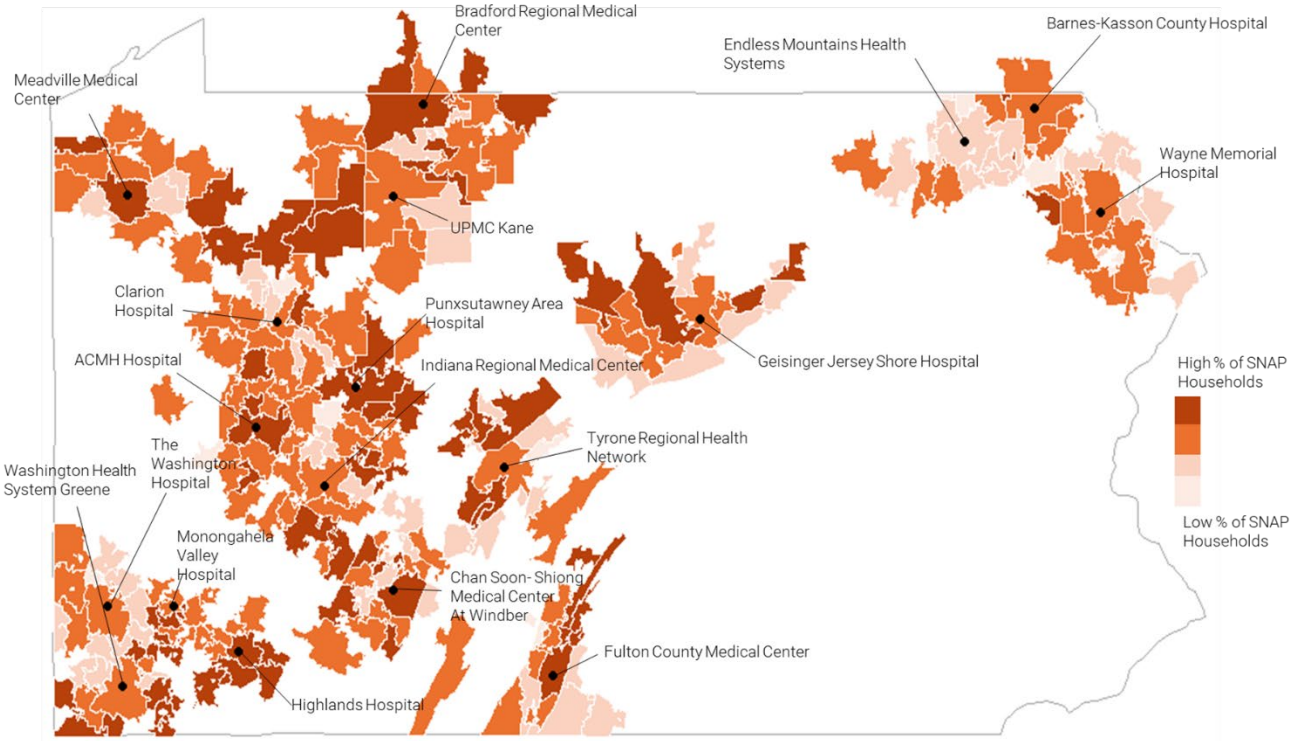
> *I think that it allows them to see my blood pressure on a regular basis not just when I go in every few months, and it allows me to see that I'm maintaining it every day. It allows me to know that I'm doing the right things, I'm meeting the right things, so that I'm maintaining my blood pressure.*

Ultimately, engaging with community partners to implement community paramedicine and remote patient monitoring has helped hospitals make progress towards improving access to care. These strategies can reduce PAU and increase access to continuous care management by removing barriers such as transportation and lengthy commutes to medical services.

Initiatives to Address Food Insecurity

Rural counties make up 63% of all U.S. counties but account for approximately 87% of counties with the highest rates of food insecurity. In the Commonwealth,10.9% of residents are food insecure, and food insecurity is particularly prevalent in participating hospital market areas. In 2018, the majority of participating hospitals were in market areas with high percentages of households receiving food stamps/Supplemental Nutrition Assistance Program (SNAP) benefits. **Exhibit 6.2** provides an overview of the food insecurity rates in participating hospital market areas.[60]

Exhibit 6.2. Percentage of Households Receiving Food Stamps/SNAP in 2018, by Market Area



SOURCE: American Community Survey 2018 5-Year Estimates; Market areas are based on Medicare FFS Claims (CY 2014—CY 2019)

In response to high rates of food insecurity, three hospitals developed programs to increase access to nutritious foods in their communities. For example, one hospital implemented a program in which hospital cafeteria food that would have otherwise been thrown away is used to make frozen meals for patients being discharged from the hospital. This program is funded through an employee fund and a community donor, and the hospital is working with the American Heart Association to secure additional grant funding. While the program was well received, one hospital staff noted challenges related to social stigma (that is, hesitancy to report food insecurity).

Another hospital created an on-site food and essentials pantry for patients experiencing food insecurity. The hospital also promotes the local food pantry via social media and the hospital website and is exploring partnerships with local grocery stores to expand their on-site food pantry. They have encountered hesitancy from the grocery stores to participate due to liability concerns. One hospital started a community-funded farm initiative through which they partner with local farmers to increase access to healthy and affordable food in their communities. Participation in food access-related initiatives demonstrate participating hospitals' investment in prioritizing and addressing SDOH impacting population health in their communities.

Community Health & Wellness

Participating hospitals demonstrated an increased commitment to community health and wellness initiatives, such as increasing health education around nutrition and preventive care, promoting the importance of physical activity and offering a variety of other wellness activities intended to promote the overall health of the community.

One hospital is in the process of building a Community Health & Wellness Center, which will provide opportunities for physical activity and health education free of charge. Similarly, another hospital piloted a wellness program to help individuals develop healthier lifestyle habits, provide smoking cessation programs and offer diabetic counseling. Currently, the program has only been rolled out to hospital employees, but ultimately will be available to anyone in the community (not just patients of the hospital). As part of this program, the hospital has contracted with two health coaches, both of whom are exercise physiologists and who are available for video calls or in-person appointments.

Health Education

Three hospitals are engaging with local community partners to implement health education programming, but experienced delays due to challenges associated with COVID-19 (for example, difficulties accessing local schools and senior centers, staffing shortages, shifting priorities). Despite these challenges, the hospitals have taken steps to provide the community with resources that promote healthy lifestyles. For example, one hospital created a cookbook with recipes that can be made using food from the hospital food pantry. Another hospital partnered with local grocery stores and school districts to add suggested menus to encourage individuals to make healthier food choices. One hospital is partnering with local community partner organizations and a local college to promote cancer screening at health fairs and via radio and television commercials.

Physical Activity

Two hospitals are engaging with local community partner organizations to encourage residents to increase their physical activity levels. One hospital created a community walking trail near the hospital facility and included signage along the trail related to various health topics. Another hospital plans to offer personalized exercise programs.

While hospitals have taken a variety of approaches to educate the local community around the importance of healthy eating, exercising, and chronic disease prevention and management, they continue to experience challenges empowering community members to use the resources offered. One hospital respondent noted that it is difficult to engage residents in rural communities in which low levels of health literacy, limited access to transportation and competing demands impact resident participation in health promotion activities. Despite these difficulties, the hospitals continue to invest in community health and wellness.

6.3 Findings: Community Engagement Strategies

Hospitals used several approaches to enhance hospital-community partnerships and facilitate community engagement activities, particularly working with community coalitions to leverage resources and hiring dedicated staff to support care coordination**.** Some hospitals implemented components of the strategies described below prior to participation in the model, but most participating hospitals noted the model helped them to prioritize and invest in these strategies.

Community Coalitions

Four hospitals participate in cross-sector community coalitions to leverage community resources. The community coalitions also seek to streamline community health initiatives to address SDOH needs more effectively in their health market areas. While the community coalitions existed prior to the model, participating hospitals noted that the model helped to formalize their participation. Hospitals reported increased motivation to prioritize community engagement-related activities and allocate time for hospital staff members to participate in the meetings. Additionally, in many cases, participating hospitals aligned their transformations plans with the community coalitions' existing goals and priorities which created a synergistic relationship.

The level of engagement with community coalitions varies across hospitals, but all four hospitals attend the coalition meetings on a regular basis. Examples of rural community coalition partners are identified in **Exhibit 6.3**. The collaborative leverages the community health needs assessment to identify population health challenges and creates opportunities to build and sustain a healthy community.

Exhibit 6.3. Rural Community Coalition Partners

- Hospital and health care providers
- Behavioral health providers
- Social services organizations
- Oral health providers
- Schools
- Colleges
- Childcare providers
- Business leaders
- County commissioners
- Local government
- Economic development organizations

Two hospitals are working more actively with community leaders, including local officials (mayors, county judges, borough managers), school superintendents, and the area's industrial development corporation to engage community members in identifying and implementing initiatives that are important to the community. For example, they host annual community meetings and regularly participate in activities to promote the social, economic, emotional and physical well-being of area residents. Ultimately, hospital participation in community coalitions bolsters a rural hospital's relationship and coordination with local community-based organizations and leaders, community providers and social service providers. A hospital staff member relayed the community's attitude towards their hospital-community partnership:

> *I think that the community really embraces the hospital ... and those partnerships run deep because, being a rural community, I think they realize the importance of all of them sticking together and working together for the betterment of the community.*

Dedicated Staff for Community Engagement

Three hospitals have hired and/or devoted a portion of a full-time equivalent staff person to supporting coordination and engagement with community partners. These dedicated staff members include social workers, population health navigators and care coordinators, all of whom focus on facilitating implementation of hospital transformation goals related to community engagement. The use of dedicated staff for transformation is consistent with a large body of evidence that supports the importance of "staff champions" who advocate for change, motivate others, and facilitate the adoption of transformation activities, new clinical pathways, and other innovative practices.[61,62]

For participating hospitals, this strategy facilitated progress towards addressing SDOHs. One hospital hired a social worker who created a community resource directory which is distributed to patients and local physicians' offices. The social worker also connects patients with unmet social needs to local social service agencies and conducts follow-up as needed. Similarly, another hospital hired a population health navigator who is dedicated to addressing SDOH-related issues and enhancing linkage with community services and programs. Another hospital hired a part-time social worker to improve mental health and SUD-related workflows and referral processes as well as to reduce inappropriate ED utilization. One Medicare patient spoke to the benefits of the hospital hiring a social worker:

The [social worker] keeps my courage up … she sits down and explains exactly what's going on because you can't understand some of the doctors, and [social worker] will sit down and speak my language.

At all three hospitals, hiring dedicated staff has enabled hospitals to prioritize community engagement in the face of competing demands (for example, COVID-19, workforce shortages). Hospital staff expressed that dedicated staff are better able to execute and monitor transformation goals, overcome organizational barriers and maintain strong community connections than staff who may have shifting priorities. Moreover, dedicated staff ensure that the hospital continues to support patients getting connected to the appropriate level of care and that someone is focused on helping patients to make those connections to community providers. One dedicated staff member described their role in care coordination:

Typically, it's getting individuals to connect with our local agencies and local assistance office to get them started because once they complete their application, that opens up the door for a great many things.

6.4 Findings: Implementation Challenges

Despite investment in community-focused initiatives, hospitals faced implementation barriers hindering their ability to fully address identified needs. Of note, many of the challenges described are not unique to participating hospitals. Yet, the focus on transformation plan progress has encouraged hospitals to consider the challenges and address them in ways they might not have in the absence of the model.

Funding Constraints. Hospital staff highlighted funding constraints as a primary barrier to achieving their transformation goals. While the global budgets helped provide hospitals with a more predictable funding stream throughout the year, it was not sufficient to support hospital investments in transformation activities. These efforts required supplemental funding streams and other investments in staff full-time employees. Across all five hospitals interviewed, staff identified financial challenges both internal (for example, funding to hire staff and sustain internal programs) and external (for example, access to grant funding and investments from the community) to the hospital. For example, one hospital closed their substance use detoxification unit and their skilled nursing facility due to insufficient funding to hire staff. Another hospital seeking to implement a community paramedicine program cited program expenses as a limiting factor in both initiating and maintaining the program. The hospital is exploring grant funding but has not yet identified a funding source.

Additionally, in some cases, hospitals collaborate with community partners to provide care coordination, on-site mental health and SUD crisis counselors[s], and other social services. The community partners' capacity to invest in and sustain these services directly impacts the hospital's ability to offer them to their patient population. A few community partner organizations noted financial difficulties, particularly in the context of the COVID-19 pandemic, that may impact their investment in hospital-community partnerships. One hospital respondent identified resource-sharing as a potential solution:

[s] One hospital receives grant funding through the Rural Communities Opioid Response Program to support their work in addressing barriers to SUD/OUD treatment. This type of funding serves as a major facilitator to community engagement in this realm.

I've talked to a couple of our sister hospitals that are participating [in the model] too, and I think collaboration between small hospitals and community partners is key to figuring out what services may be in your community that you can either take advantage of or that you can partner with someone else to bring into the community. I think those partnerships truly are the answer to how we meet the needs of each other as patients and community.

Workforce Shortages. Hospital interviewees reported the impact of workforce shortages and struggles to recruit and retain staff, particularly nurses, certified nursing assistants, long-term care staff and radiology technicians. Many hospitals have had to redirect resources towards recruiting, hiring and training new staff at the expense of care coordination services and activities to address SDOH. Moreover, multiple hospitals rely on agency staffing, which is more expensive and leads to higher rates of staff turnover. Hospital respondents reported that:

We're spending more money now than we ever have by far just in advertising for nursing employment ... we're providing bonuses and spending a lot more money than we've ever even considered to try and get staff in …

We have a significant health care worker shortage right now throughout many areas but dominated by a loss of nurses. It has forced us into using an enormous amount of agency nurses to simply keep the doors of the hospital open. It has become an enormous drain to the hospital.

Staff turnover makes it difficult for the hospital to form meaningful and sustainable community partnerships because it takes time for individuals to build community relationships. Staff turnover also creates challenges related to care coordination because new staff may be unfamiliar with workflows and referral processes and do not have established relationships with community organizations. One hospital respondent noted that while *"*long-term staff have always felt comfortable with making referrals*,"* this is not the case with new staff, and it is difficult to know if an appropriate referral is being made.

COVID-19. The COVID-19 pandemic had a major impact on participating hospitals' abilities to engage with their communities. Hospitals had to shift their priorities away from hospital transformation and towards addressing the pandemic and its impact, including workforce shortages, higher ED volumes and supply chain concerns. Similarly, their community partners faced unprecedented challenges as they navigated the pandemic and pivoted to a virtual context. In many cases, the pandemic exacerbated challenges associated with linking patients to long-term care services, mental health and SUD treatment and other social services.

Hospital respondents also noted even after the "peak" of the pandemic, they were still not able to enter schools, senior centers or community centers to provide health education programs. While participating hospitals began to re-engage in community engagement-related initiatives in PY 3 (2021), they attribute much of the delay in progress to the pandemic. One participating hospital described the impact of COVID on their community:

COVID really skews all that as well with number three, our goal of making a healthier community. There was no way we were getting into the schools with COVID going on with these kids to do backpack programs or healthier eating and providing them support throughout the summer when they are not in school and winter. That's been a lot of the barriers.

Transportation. Multiple hospitals cited limited transportation options as a major barrier to care coordination and explained they struggled to form community partnerships to increase access to transportation. Without access to reliable transportation, patients face difficulties accessing specialty care and/or follow-up appointments, which can lead to delays in receiving treatment. One hospital respondent identified lack of transportation as a deterrent for patients to initiate SUD treatment.

While hospitals consider transportation when making referral decisions, they have few community partnerships to support transportation. Hospital staff noted challenges working with local public transit, lack of rideshare services (for example, Uber, Lyft) in rural settings, and workforce or volunteer shortages in the county-run ambulance services. One hospital has a partnership with a county-subsidized, on-demand transportation provider, however, there is a small fee that is cost-prohibitive for many patients.

Limited Mental Health and SUD Services in Health Market Area. Hospitals find it challenging to refer patients to care for mental health and SUD concerns due to limited availability of services in PARHM market areas (**Exhibit 6.4**). While counties with participating hospitals had slightly higher availability of substance use treatment facilities than FORHP Rural Counties, they were below Pennsylvania and United States averages in categories such as mental health providers and providers prescribing buprenorphine.

Exhibit 6.4. Access to Mental Health and Substance Use Disorder Services (2016–2020)

Measure	Counties with Participating Hospitals	FORHP Rural Counties	Pennsylvania	United States
Substance Use Treatment Facilities per 100,000 (mean)	6.2	6.0	4.4	4.3
Buprenorphine Providers per 100,000 (mean)	14.8	13.0	20.1	15.2
Average Distance to Nearest MAT Provider (miles)	11.8	12.9	N/A	N/A
Mental Health Providers per 100,000 (mean)	153.7	109.1	237.5	284.4
Recovery Residences per 100,000 (mean)	1.6	1.0	1.2	1.0
Average Distance to Nearest Syringe Service Program (miles)	52.0	71.3	N/A	N/A
Narcotics Anonymous or Self-Management and Recovery Training (SMART) Meetings per 100,000 (mean)	12.5	9.9	12.1	8.1

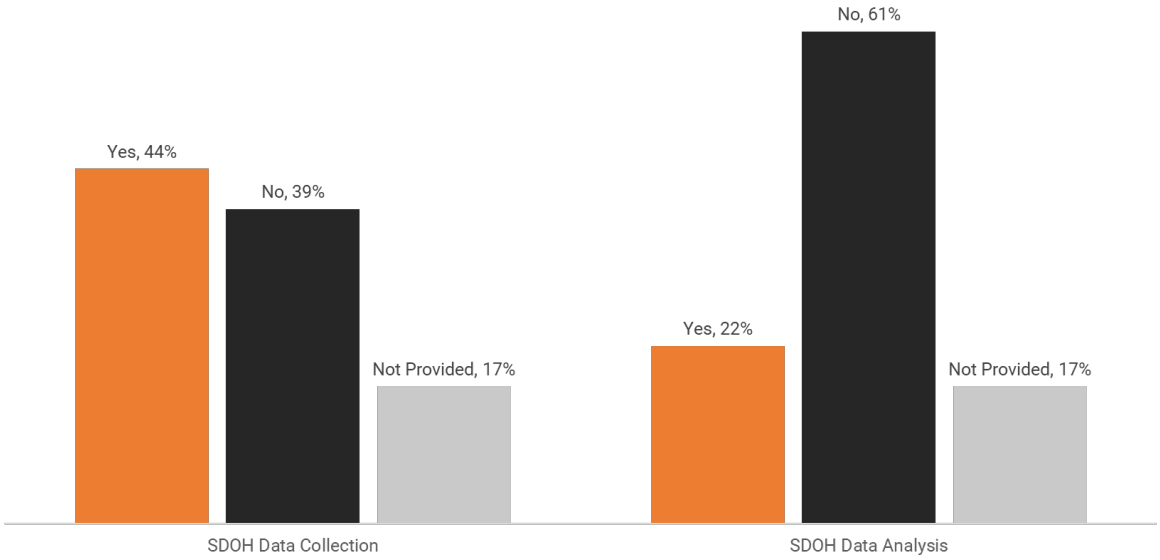
SOURCE: Recovery Ecosystem Index

Data Tracking and Monitoring. Most participating hospitals track and monitor data manually (for example, Excel documents). Additionally, fewer than half of participating hospitals (8 of 18 hospitals) report collecting SDOH data (for example, income, educational level, employment, literacy skills), and only one in five analyze

the data **(Exhibit 6.5).** [t] One hospital worked with a local technical assistance provider to build SDOH-related questions into their electronic health record. However, hospitals need additional technical support to bridge the gap between data collection and data analysis. Taking steps to streamline data tracking and monitoring processes would likely help participating hospitals better identify and support community needs. One hospital staff member described their challenges with data collection:

> *There's a lot of manual work that I do with compiling data. It would be lovely to have a computer program or somebody that had enough time to help build something that would be useful and meaningful just to make my role more efficient.*

Exhibit 6.5. Collection and Analysis of Social Determinants of Health (SDOH) Data in Participating Hospitals (n=18)



SOURCE: Rural Health Redesign Center Implementation Report, 2021

Stigma Related to Using Social Services. Hospital staff noted that some patients are hesitant to use social services due to stigma around asking for support or substance use services. For example, one hospital staff member encountered patients experiencing food insecurity who declined access to the food pantry or participation in the food program. Another hospital staff member shared that patients do not want to engage with the social worker while in the ED and/or will not return their calls following a hospitalization due to perceived stigma attached to seeking help. In one community that has a taxi service, the taxi driver will not transport patients to or from rehabilitation centers, which contributes both to stigma associated with SUD treatment and transportation barriers previously discussed.

Technological Barriers. Technological barriers, particularly for telehealth and remote patient monitoring, hinder care coordination and hospital-community partnerships. For example, hospitals noted local nursing home facilities are unable to implement remote patient monitoring because of Internet connectivity issues.

[t] Rural Health Redesign Annual Report 2021

Another technological barrier is access to telehealth; as hospitals noted, not all patients have access to Wi-Fi and the necessary technology to engage in telehealth services.

6.5 Discussion

Overall, the model motivated participating hospitals to engage new community partners and served as a catalyst to accelerate existing community engagement strategies. Participating hospitals have taken several steps to advance strategies to address community needs through increased care coordination and enhanced hospital-community partnerships. While some participating hospitals may have invested in these strategies in the absence of the model, participation provided hospitals with further impetus to formalize and track progress towards relevant transformation goals. Moving forward, participating hospitals will be better able to leverage strategies, such as participating in community coalitions and using dedicated staff for transformation, to prioritize and execute community engagement activities. The model also drew attention to several implementation challenges and the importance of including efforts to mitigate such barriers in future strategic transformation planning processes.

Hospital staff and patients emphasized the essential role of hospital-community partnerships. However, the current model design is hospital-centric, and funding does not formally flow to the community-based organizations or providers to support such partnerships. As such, the financial incentives do not exist to support hospital and community provider collaboration across the continuum of care, leading to inconsistent and unsuccessful care transitions. Providing reimbursement for professional services as part of the global budget could facilitate care transition, allow for additional preventive, out-of-hospital care and reduce PAU. Additionally, to further support hospital-community partnerships, it would be beneficial to design the model such that hospitals have targeted incentives or are accountable to allocate financial resources to community partnerships. Strengthening community partnerships could reduce implementation challenges and enable hospitals to meet the needs of their patients more effectively.

Hospitals would benefit from additional opportunities for shared learning, technical assistance and incentives to support dedicated staff for transformation. Continued opportunities for cross-hospital collaboration could enhance shared learning among participating hospitals. For example, the monthly all-provider meetings provide a venue for hospitals to share successes, identify challenges, and build on lessons learned related to community engagement.

In addition to having a forum for shared learning, participants have unique needs and preferences and appreciate continued opportunities for individualized technical assistance. Offering additional support and technical assistance resources as part of the model would help participating hospitals develop more robust systems to track and monitor patient-level and hospital-level data.

Hospitals that have made significant transformation progress leveraged “staff champions” to further support progress towards action steps. The model design could offer start-up funding to support dedicated full-time employees or “staff champions” who focus specifically on hospital transformation planning and execution.

While we found that the global budget was not sufficient to fund the hospital transformation activities in their entirety, the model transformation planning process encouraged hospitals to focus their attention on care coordination and community engagement. Moreover, participating hospitals highlighted the synergistic relationships between the transformation activities they are undertaking as part of the model and other local community health initiatives and funding streams. As hospitals continue to work towards care delivery transformation to better meet community health needs, it is important to consider policy and programmatic changes that support community engagement. For example, sustainable funding mechanisms to enhance hospital-community partnerships, opportunities for shared learning and technical assistance, and support for dedicated staff for transformation would all enhance rural hospitals' ability to coordinate and engage with their local communities.

Chapter 7: Exploring Service Line Changes

Key Takeaways

Model Design

- The PARHM is designed to help rural hospitals refine or "right-size" service line offerings in response to community needs.
- PARHM components that support rightsizing include the transformation plan and related technical assistance as well as the global budget methodology associated with planned service line changes and unplanned volume shifts.

Hospital Service Line Planning

- PARHM participation influenced hospital service line planning, but external factors including health system affiliation were the main drivers of service line decision-making.
- Service line additions were hindered by lack of access to start-up capital and lack of access to specialized staff.

Financial Incentives

- Participating hospitals did not associate the global budget methodology with decisions to make planned service line reductions or closures.
- Future models should align financial incentives and design features to support rural hospitals' transformation planning.

Rural hospital closures have accelerated in the past decade, which contributes to the decline in service lines available at rural hospitals. Service lines are categories of services such as obstetrics, cardiology and oncology.[63] Service line closures at rural hospitals are a public health concern as rural populations are aging and have increasing health care needs.[64] Factors potentially associated with decisions to close service lines at rural hospitals include financial constraints and the limited ability to recruit and maintain specialists and technicians.

The model aims to provide rural hospitals with an opportunity to refine or "rightsize" service line offerings in response to community needs. In some cases, this means supporting rural hospitals to maintain or add service lines needed by their communities. In other cases, rural hospitals may downsize or close service lines that are provided by other hospitals within a reasonable travel distance to prioritize resources on other services. Model components aligned with rightsizing include the transformation plan and related technical assistance. Further, the PARHM global budget aims to provide cash flow stability and, for some PPS hospitals, savings from the reduction of potentially avoidable utilization (PAU) to invest in new service lines to meet community health needs.

Because the model aims to support rural hospitals in providing access to health care that is essential for the health of their communities, it is important to understand how the design of PARHM could influence decisions to add or close service lines. For example, in addition to transformation plans, design features of the global budget require processes for adding or removing service lines.

Case Study Objectives

The goal of this case study was to describe how service line changes have unfolded under PARHM. We also examined how, and through what design features, the model influences rural hospital decision-making about service line additions, expansions and closures.

Results from this case study can inform policymakers' understanding of how PARHM facilitated rural hospitals' service line changes based on community needs. Examining features of the model design that are relevant to service line decisions can inform future efforts to transform access to health care in rural areas.

7.1 Literature Review

Empirical studies have found that service lines offered by rural hospitals have declined over time. Using hospital discharge data to examine rural hospitals across the United States from 2006 to 2019, Jiang et al. found large reductions in service lines offered.[29] For example, maternity/neonatal services were provided by 66% of rural hospitals in 2006 but only 55% of rural hospitals in 2019.

Two reports used data from the AHA Annual Survey to summarize 2009 to 2017 changes in services as reported by hospitals. The reports found that, compared with urban hospitals where services were expanding, rural hospitals had a declining trend in some essential services, including obstetrics, surgery, long-term care and home health.[65] However, the reports also found that some rural hospital services, such as orthopedic services, oncology services, hospital-based outpatient services and emergency psychiatric services, increased during the same period. Another study compared service changes at rural PPS hospitals and CAHs during the same period to assess whether CAHs, the smallest hospitals, were more likely to reduce

service offerings.[66] The authors found that rural CAHs, but not rural PPS hospitals, reported declines in general medicine/surgery and home health services. Hospitals that become affiliated with health systems are at higher risk of reducing service lines. Other studies have determined that rural hospitals that merged were more likely to reduce obstetric services.[28,67]

Rural hospitals' decisions to close service lines are likely based on the same factors that cause rural hospitals to close: insufficient reimbursement, low patient volumes, and workforce shortages.[65] At least one study confirms this notion; an examination of rural hospitals' discontinuation of obstetric services found that reasons for this discontinuation included staffing issues, low volume and financial issues.[68] While there is evidence that service line closures in rural areas can lead to improved care quality and health outcomes if patients are transferred to higher volume settings, the loss of service lines can also be detrimental in rural areas. For example, a loss of obstetric services is associated with negative birth outcomes and rural hospital closure is associated with higher inpatient mortality.[69–71]

One possible contributor to low patient volumes at rural hospitals is that rural residents may prefer to bypass their local hospital for a larger hospital to receive care for certain services, despite a longer travel distance. A study that examined elective surgeries in four states using 2011 hospital discharge data found that the rural bypass rate for elective surgical procedures was nearly 50% and that patients were most likely to bypass low-volume hospitals.[72] It is important to note that rural hospital bypass studies may not assess whether the specific surgical procedure the patient received is available at the bypassed rural hospital. One study that did take local service availability into account found an avoidable hospital bypass rate of around one-third among Medicare FFS enrollees with at least one inpatient stay.[36] This study found an association between higher avoidable bypass rate and MA penetration, suggesting that managed care plans may influence hospital choice.

7.2 Methods

We reviewed and extracted information about service line changes and global budget methodologies related to service line changes from the following documents:

- hospital transformation plans and hospital transformation plan updates;
- quarterly and annual RHRC reports;
- technical specifications describing the development and reconciliation of participating hospitals' global budgets (also referred to as Detailed Business Requirements [DBR]); and
- other model documents summarizing service line changes.

We queried implementation partners when additional detail was needed.

We conducted key informant interviews with participating hospitals and payers, PARHM leadership and technical experts in 2020, 2021, and 2022. Interviews conducted in 2022 included a focus on service line changes. We coded transcripts and conducted a thematic analysis of the qualitative data.

7.2 Results

Results From Document Review

The document review confirmed that service line changes by participating hospitals were anticipated and included in the initial model design as part of the annual transformation planning process. PARHM technical documentation, also referred to as Detailed Business Requirements (DBR), specifies how planned service lines are incorporated into the global budget. This process has been updated from the original DBR and continues to evolve.

PARHM Definition of Service Lines. The DBR defines primary and secondary service lines in the global budget methodology. Primary service lines are major diagnostic or population-based categories such as cardiology or obstetrics. They are used in the global budget methodology to track hospital-level volume shifts that may require adjustment in budget reconciliation. The primary service lines included in PARHM are shown in Exhibit 7.1. Secondary service lines are an additional (and more detailed) classification used in the model for specification of service line changes or for other adjustments.[73] For example, cardiac catheterization lab is a secondary service line within the cardiology primary service line.

Primary service lines are further categorized in the model as either "unmet need-related" or "market share-related." This categorization has an important impact on the Medicare FFS global budget process (as described below in **Planned Service Line Change Request Process**). Several factors are used to make this determination, including the categorization shown in Exhibit 7.1. If a service line is in the "essential" category, it is deemed unmet-need related. If it is in the "tertiary" category, it is considered market share related. If it is in the "other" category, additional documentation is considered to properly assign the service line such as a recent community health needs assessment and/or historic service utilization based on claims data.

Exhibit 7.1. PARHM Primary Service Line Categories

Essential	Tertiary	Other
Dental and oral health care	Thoracic surgery	Dermatology
Diabetes	Burns and trauma	Endocrine surgery
Gastroenterology and hepatology	Neonatology	Ear, nose and throat surgery
Gynecological surgery	Transplant surgery	General medicine
Gynecology	Cardiothoracic surgery	General surgery
Hematology and immunology	Invasive cardiology	Injury/compilation of care/allergy
HIV		Nephrology
Infectious disease		Neurological surgery
Normal newborn		Neurology
Obstetrics/delivery		Oncology
Inpatient psychiatry		Ophthalmologic surgery

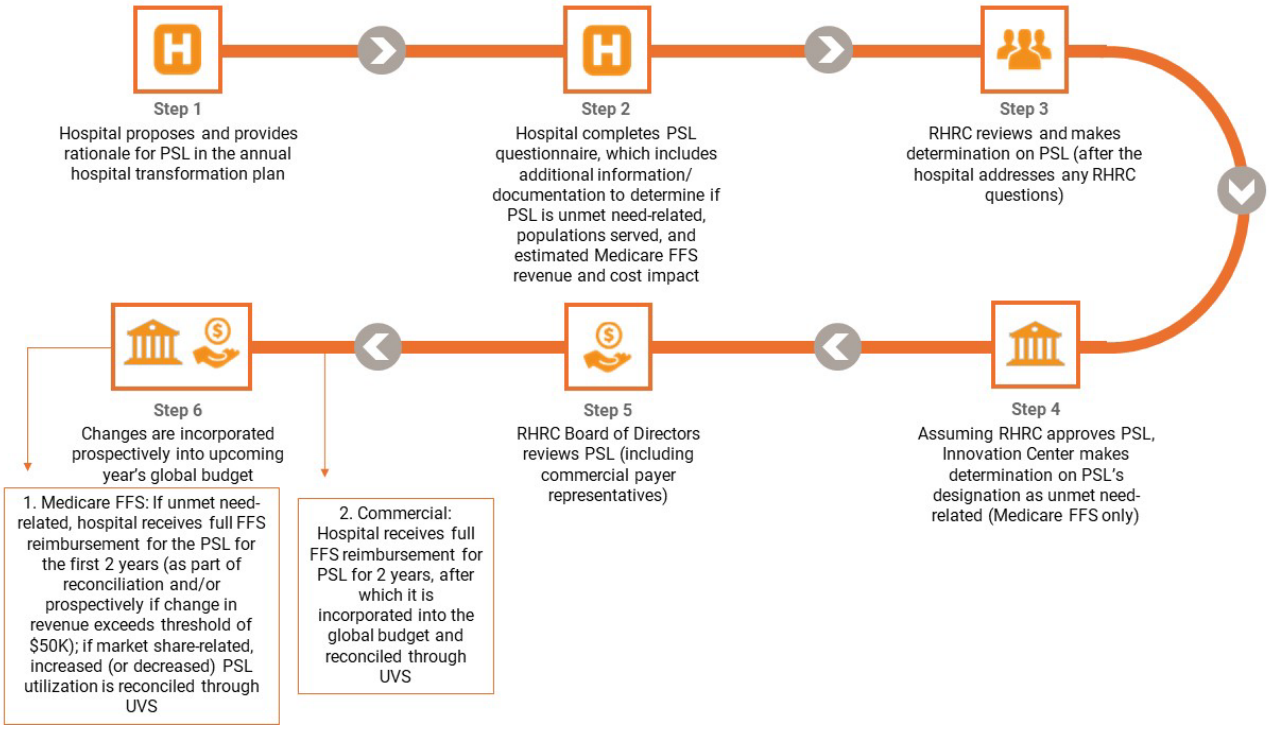
Essential	Tertiary	Other
Rehab/aftercare		Ophthalmology
Respiratory		Orthopedic surgery
Substance abuse		Orthopedics
Ventilator support		Otolaryngology
Cardiology		Rheumatology
Endocrinology		Spine surgery
Rhythm management		Urological surgery
Behavioral health		Urology
		Vascular surgery

SOURCE: PARHM technical specification for rural global budget, version 12.

Hospitals can propose service line changes at the primary or secondary level. Primary service lines are pre-defined by medical coding in model documentation. For secondary service line changes, hospitals are required to provide the medical codes associated with the services they plan to include (since these may vary by hospital). Changes can include the following types: addition of new service lines, expansion of existing service lines or closure/contraction of existing service lines.

Planned Service Line Change Request Process. Hospitals are expected to propose service line changes in their initial transformation plans and annual updates for the upcoming year. As such, model technical documents refer to service line changes as "planned" service lines.[73] In **Exhibit 7.2**, we describe the steps for a planned service line within the transformation plan process. The detail included in **Exhibit 7.2** is based on the DBR and supplemented by information from model implementation partners on the commercial payer approval process. Further, the process assumes the planned service line is a service line addition/expansion rather than a closure/contraction since nearly all planned service lines implemented thus far in the model have been the former type. This is a high-level description of the process, which does not reflect the considerable level of effort entailed for all involved parties.

Exhibit 7.2. PARHM Service Line Change Request Through Hospital Transformation Plan Process



ACRONYMS: PSL = planned service line, FFS = fee-for-service, UVS = unplanned volume shift, RHRC= Rural Health Redesign Center, Innovation Center = Center for Medicare & Medicaid Innovation.

Planned service lines for Medicare FFS global budget adjustments, including categorization, must be approved by the RHRC before submission to CMMI as part of the annual process. Planned service line changes are reviewed by the Board of Directors as part of the overall transformation plan review and approval process before submission to CMS and subsequent approval by the Innovation Center. As outlined in **Exhibit 7.2**, under PARHM, hospital participants request planned service lines as part of the original transformation plan or annual updates. With the request, participating hospitals must submit a rationale and any supporting documentation, including costs and anticipated revenue. The Innovation Center prospectively incorporates approved planned service lines that exceed a $50,000 materiality threshold in the upcoming year's global budget. The same process applies for service line closures/downsizing, resulting in *decreases* to the upcoming year's global budget (for changes that exceed the materiality threshold).

Hospitals may also request planned service lines between annual transformation plan updates. These requests can arise due to unforeseen circumstances such as closure of a service line by a non-participating hospital. The documentation and review processes are the same as described above, but approved changes to the Medicare FFS global budgets can be incorporated either as mid-year adjustments or prospectively into the next year's global budget.

The planned service line process was refined in 2020 after the first PARHM performance year and continues to evolve. For example, the questionnaire required in Step 2 was added to the process in 2020. As previously

mentioned, PARHM began distinguishing between unmet need- and market share-related categories of planned service lines specific to Medicare FFS. That same year, the algorithm for the prospective calculation of planned service lines was updated, and an algorithm for planned service line reconciliation and adjustment was added to the DBR. In 2021, the definitions for unmet need- and market share-related planned service lines were updated.

Rural hospitals can benefit from planned service lines. Ultimately, new service lines can increase revenue from the global budget. For Medicare FFS, planned service line additions that exceed a $50,000 materiality threshold are included in global budget payments. A payment associated with unmet need-related planned service lines is reconciled to full FFS reimbursement for two years and is reassessed in future years. A payment associated with market share-related planned service lines is reconciled as part of an unplanned volume shift (UVS) adjustment. Changes associated with planned service line reductions/closures are also reconciled as part of UVS. For commercial payers, the benefit of adding a service line is the same as it would be under the FFS reimbursement system. Commercial payers, which use a virtual global budget approach, provide hospitals with FFS reimbursement for utilization associated with the new service line for the first 2 years. After two years, utilization associated with new service lines is then incorporated into the global budget. CAHs' global budgets are reconciled with cost-based reimbursement which is not affected by planned service lines. Therefore, CAHs do not have to submit planned service line requests, although they can include planned service lines in their transformation plans.

Hospitals have a more secure Medicare FFS reimbursement opportunity from planned service line additions that qualify as unmet need-related. Market share-related planned service lines are not guaranteed to be reimbursed at the same rate as they would be under FFS reimbursement because they are included in the UVS adjustment during the reconciliation process. Reimbursement in this case is subject to external volume shifts in the market, which may be less predictable.

For commercial payers, all approved planned service lines are treated the same and are provided FFS reimbursement for the first two years. As part of RHRC Board approval, commercial payers (through their respective representatives on the RHRC Board of Directors) have an opportunity to review planned service lines in hospital transformation plans.

Changes that participating hospitals have made in the *way* they deliver services (for example, new or expanded use of telehealth) and in professional service offerings are incorporated in the transformation plan review. However, they are not treated as planned service lines and, accordingly, have no global budget impact.

The number and type of service line change requests made by hospitals in 2018–2022 are provided in **Exhibit 7.3**.

Exhibit 7.3. Rural Hospital Participants' Service Line Change Requests

Implementation Year	No. of Hospital Participants	No. of Hospitals Requesting Service Line Changes	No. of Service Line Changes Requested	Types of Service Line Changes Requested
2018 (pre-implementation)	N/A	1	8	Unmet need-related: Rehab and therapy Other/not clear: oncology, swing bed, laboratory, imaging
2019	5	2	13	Unmet need-related: gynecological surgery, gastrointestinal Other/not clear: orthopedics
2020	13	8	20	Unmet need-related: gastrointestinal, OB/GYN, pulmonary rehab Market share-related: transcatheter aortic valve replacement Other/not clear: orthopedics, general surgery, ENT, drug infusion, CHF clinic, palliative care
2021	18	5	11	Unmet need-related: Cardiology Other/not clear: ENT, oncology, ocular, orthopedic spine, toxicology
2022	18	2	7	Unmet need-related: gastrointestinal, inpatient detox Other/not clear: orthopedics, urology, nephrology, drug infusion

SOURCE: PARHM Global Budget Generalized Configuration File, v30.3, The Lewin Group, Planned Service Line Changes Tracker July 29, 2022, and Hospital Transformation Plans 2019–2022
ACRONYMS: CHF = congestive heart failure; ENT= ear, nose, and throat; OB/GYN = obstetrics/gynecology.

We categorized hospital requests as "unmet need-related," "market share-related" or "other" based on the criteria in the DBR (outlined earlier in **Exhibit 7.1**). Starting in 2022, the unmet need-related category affects how the planned service lines are reimbursed for Medicare FFS. This classification does not affect how planned service lines are reimbursed by commercial payers.

Hospitals made more requests for planned service lines in the earlier years of the model. This may be because some Cohort 1 and 2 hospitals had service line changes in process when they joined the model. Participating hospitals that had recently become affiliated with another hospital or health system were more

likely to make planned service line requests. No planned service line requests were rejected by the RHRC, Innovation Center or commercial payers involved.

Few requests were made to close service lines, however two hospitals reduced their outpatient surgery and/or inpatient service lines.[74] Pennsylvania does not have a state policy that requires hospitals to get approval for major capital expenditures (known as a Certificate of Need program) so service line additions and closures generally do not require approval from an entity outside of PARHM.

As noted above, changes in the way services are delivered do not affect global budgets and therefore do not require a planned service line even if they are initiated in response to unmet needs in the community. These include telehealth, care coordination and mental health/SUD crisis interventions.

Interview Themes

Despite transformation technical assistance from PARHM, adding a service line is challenging for rural hospitals, particularly because of the limited availability of hospital staff including specialists, nurses and technicians. Although hospitals sometimes identify unmet need from community health needs assessments and other sources, only a subset of hospitals (12 of 18) included planned service line changes. Hospitals reported that the recruitment of specialists was a limiting factor for service line expansion. One hospital described this difficulty:

> *How do you recruit somebody into the area? How do you keep them? How do you financially keep this — how do you keep this service alive and financially stable? When you're turning over providers which, historically, we have done for a variety of reasons, it makes it really, really challenging, so it will continue to be challenging.*

Another hospital relayed that service line changes are sometimes less planned than spurred by new specialists moving to the area:

> *The general surgeon came to us looking for a position. It was like manna from heaven. We definitely, we weren't looking for it. It just so happened that she started about the same time that we were investigating or getting started with the model. We were just able to kind of roll that in with it … to bring that service line up, it was pretty easy to do actually. Having a surgeon of course was the biggest step in that.*

In this case, specialist availability was the underlying factor motivating service line adoption.

Hospitals that were affiliated with hospital systems had supports for service line additions that helped them overcome start-up challenges. One hospital noted the staffing challenges involved in service line addition but pointed out that its hospital system was able to facilitate the required staff training involved with making the change:

> *In today's environment, staffing was a little bit of a challenge … luckily we have sister hospitals that have that service line so [our staff] can be oriented [to the new service line]. They're being oriented elsewhere right now so they're ready to go when the clinic is ready to go.*

CAHs reported having additional challenges when expanding service lines. One CAH reported that it was not able to add inpatient surgery because of its limited access to resources: "That's really been the biggest challenge ... because we're a CAH and we really don't have the resources for a call team, anesthesia on call, those kinds of things."

The PARHM service line change process was noted as burdensome because it requires justification, financial impact estimates, validation, and categorization of the change for purposes of Medicare FFS payment (for example, unmet need-related):

> *[Hospitals] have to demonstrate community need, but then it's really important that they do because it impacts their budget. Whether we like it or not, a lot of the transformation plan work is budget driven. If they have a new service line, they have to budget for it and get a number, a defensible number in there so their budget can be adjusted.*

Participating hospitals added service lines that increased access to needed services for the community. Hospitals reported that service line expansions met community need. One hospital reported expanding service lines to facilitate preventive care that otherwise may not have been accessible, such as locally available colonoscopies. Another hospital identified pulmonary rehabilitation as a service that would reduce hospitalizations if provided locally. The hospital described why providing this service locally in the community is important:

> *When that option is there but it's 20 to 30 minutes away, that's tough. That's a tough sell. You have patients who are highly motivated and economically are able to do that and engage with that, and that's great. Unfortunately, some of the people that need it the most have neither of those two things.*

PARHM is just one of several factors that influenced hospitals to add service lines. PARHM has a nuanced role in motivating service line change. One hospital reported a perception that participating in PARHM was a disincentive to add a service line:

> *I can tell you I've talked to other hospital CEOs in the last couple years, and some of them are jealous and wish they could get in a program, and some of them think we're stupid. Their attitude is, 'Why would you go into a model that encourages you not to have revenue growth?' My comment to them has been, 'Well, the model has flexibility for a service line expansion. I don't see it as limiting our ability to try and grow and expand services where it makes sense for our community.'*

A continued orientation toward revenue growth, rather than value-based care, may still be an important impetus for service line additions. This is particularly true for CAHs reconciling to cost-based reimbursement.

Some hospitals proposed service line expansions in the early model years based on plans already in progress as part of a new affiliation. One hospital noted that the motivation for the new service line was driven by their recent health system affiliation:

[The service line change] was probably more tied to the affiliation because we were at the time trying to look at services that we could bring back to the community … The model definitely provided the platform for us to build that program and to bring it back.

In this hospital's case, participation in the model was supportive but not the primary factor influencing the service line change decision.

The timing of hospitals' planned service line requests has meaningful implications for financial outcomes. Planned service lines are reconciled to FFS payment for the first two years unless they fall into the category of Medicare FFS market share-related changes. However, planned service lines requested in between transformation plan cycles may be processed through UVS adjustment during the reconciliation process depending on when the request is made for the current performance year, the type of expansion that is being implemented, and if a prospective adjustment is being requested for the current performance year. The more favorable financial picture for planned service lines prospectively included in the global budget (versus reconciled through UVS) may motivate hospitals to plan more thoroughly and link service changes to overall hospital transformation. A technical assistance partner described concern about implications of UVS reconciliation for new services, especially since participation in the model is voluntary:

There is a flaw … based on how the reconciliation [addresses] market shift, and especially in a state where [participation is] voluntary. [For example] this particular leader sits in a portion of the state where not all people are playing by the same rules. He's in a program voluntarily, but the next hospital, 15 minutes down the road, is still in fee-for-service. Until everybody is in the same [model] — the incentives are different. If his volume went up, but so did the hospital's down the road, he would get nothing in [unplanned] volume shift.

The participating hospitals did not associate the global budget methodology with decisions to make planned service line reductions or closures. Interviews further confirmed what was suggested from the minimal activity around service line closures: PARHM does not encourage service line closures.

There was a thought that there would be more downsizing than what we have seen but our hospitals are very astute people and when they learn that every bit of fee-for-service revenue is going to be stripped out of their budget, they are not going to get rid of services.

One implementation partner noted, *"*We have hospitals that are very slow to close service lines because of that. The incentive isn't quite right yet*."* Any planned service line closures would prospectively remove dollars from the global budget. This loss of revenue may lead hospitals to keep service lines in place despite very limited demand since they may be able to retain revenue from that service line if the data does not show volume shifting to another hospital. Interviews with model leadership confirmed this possibility.

A technical assistance partner noted that changing hospital leadership from a growth to closure mentality may take time: *"*Your hope is with a global budget that you can get away from some of that mentality, but that's a mentality that's been developed over 20 or 40 years of hospital CEO and leadership culture. That may be tough to work*."* This perception suggests that rightsizing also requires a cultural shift beyond the model.

Commercial payers generally accept their role in planning service line changes as perfunctory given limited financial implications. Commercial payers have been largely focused on and prioritizing global budget operations and taking a global view of how the model is going rather than closely examining transformation plans and service line requests. One commercial payer noted that service line additions had limited financial implications, so they were not an important area of focus:

> *Each hospital is required to give us announcements, right, of all of their changes, so we are aware of all of them. Have we seen the changes flow through to, let's say, our bottom line that we'd wanna look back and say, 'Wow. How did this happen?' We haven't because it's just the numbers are so low. I think this is what comes back to, you know, my time. If this were a material change for us, my boss would wanna know immediately, 'How did this happen?' You know, 'How could we get more of this?' Because it's not that, it's not where I'm spending my time right now. It's just an unfortunate consequence of just low numbers.*

A second payer shared the same sentiment:

> *I'm not sure that I've taken the time to understand what that may be as of yet for these possible new service lines. I don't think there's been a whole lot that have affected us with the hospitals that we're with, though, as I think about it. I could be wrong, but nothing that we've seen has been material in any way thus far.*

However, one payer described increased and earlier involvement in hospitals' planning for service line changes as "one of the areas of opportunity for the model." This payer described working closely with participating hospitals on transformation activities but wished they had more say before transformation plans came to them "almost fully baked" to align service line changes with member needs (for example, access to behavioral health services) and satisfaction (for example, lower co-pays).

Participating hospitals added services (including telehealth) that are not considered as part of the planned service line process because they are not part of the global budget. Although services such as telehealth and care management are largely outside of the global budget, they may meet community needs and reduce PAU. One implementation partner noted that hospitals are including a lot of telehealth and this increase falls outside of the global budget but still within the intent of the program:

> *We do see a lot of [telehealth] in the transformation plans, but it doesn't impact the global budget. That's an important distinction, too, the service lines that we have to address as part of the hospital global budget versus a service line like telehealth … When I think service line, I'm guarding the global budget cost growth, and it's like my antennas go up to just to make sure that we're honoring the intent of the program and we're not looking to duplicate fee-for-service.*

The implementation partner further relates services outside of the global budget that are also being proposed to the benefit of the community:

> *Even [telehealth in] outpatient walk-in clinics like urgent care clinics and we've got one hospital that opened up a walk-in orthopedic clinic because they had so much orthopedic coming into their*

[emergency department], so they opened an orthopedic walk-in clinic. Again, the right things for the community.

Another implementation partner noted the other support available through other sources for hospitals to implement telehealth sources. One example is the Pennsylvania regional telehealth strategy that has led to increased partnership among former competitors.

7.4 Program/Policy Implications

PARHM is one of several factors that has influenced participating hospitals' decisions to adopt or maintain service lines. PARHM hospitals proposed new service lines that were considered essential and classified as unmet need as well as some that were not considered essential. Expanding service lines to meet community needs is consistent with the goals of the model. Maintaining and growing market share remains key to hospital survival. Low market share hospitals do not have the same negotiating power as larger market share hospitals/health systems.

It is not evident that PARHM has spurred a broader and longer-term plan for how hospitals, other health care providers, and community partners can address unmet health care needs in their communities. Hospital participants have proposed planned service lines in response to community needs, but some are categorized as tertiary or market share-related, not essential services. Some hospitals have prioritized change based on readily available resources rather than spending effort on the highest priority community needs. Further, some hospitals have focused on planned service lines that are a priority for their health systems, which may not be aligned with local community needs. Providing technical assistance to support participating hospitals' broader assessment and planning of service lines in relation to and in cooperation with community partners and other providers may advance PARHM goals. However, because the model is solely focused on hospitals, this may not be possible unless PARHM uses a total cost of care model that also supports community partners and other provider partners.

PARHM does not have a process that allows rural hospitals to benefit from service line closures. Hospitals may need support evaluating existing service lines and data related to rural hospital bypass to assess services that their communities can receive from other hospitals. Future models should consider providing technical assistance focused on how to consider and plan service line closures and aligning incentives with rightsizing. PARHM could help hospitals consider the longer-term impacts of closing service lines on rural communities, which may include understanding community preference for traveling to more distant hospitals for certain types of care. Such technical assistance should allow hospitals to consider potential consequences of rural residents leaving a community for services not available locally. For example, service line closures may lead to loss of market share, even for service lines that do not close, if residents start receiving other services, including primary care, outside the community. Hospitals affiliated with health systems may refer rural residents to providers within their system for primary care, rehab and ancillary services, even if those providers are not local to the patient.

The exclusion of professional services from the global budget and the unpredictability of UVS makes understanding the benefits and drawbacks of service line additions more complex. For example, it is difficult for hospitals to understand the longer-term costs and benefits of service line expansion. Service line additions

can have long-standing benefits in rural communities that extend beyond the life span of the model. Future research should confirm that participating hospitals can sustain new service lines when PARHM is over and detail how the expanded access to care affects health outcomes.

7.5 Discussion

The model influenced hospital service line planning, but external factors including health system affiliation were main drivers of service line decision-making. Service line additions were hindered by lack of access to start-up capital and challenges recruiting specialists and other staff. Planned service line closures were discouraged by global budget methodology which dictates that revenue associated with the service line be removed.

This case study is consistent with previous research that describes how rural hospitals make service line decisions. The NORC Walsh Center for Rural Health Analysis found that in rural hospitals, service line closures were most often influenced by low utilization in the community, staffing issues, and the financial vulnerability associated with serving a high proportion of patients enrolled in Medicaid and a perceived low level of reimbursement.[75] Our study and others have also highlighted that rural hospitals often lack the start-up costs for investing in new service lines. In combination with the model's annual reconciliation process, which can be a learning curve for participating hospitals, it is also possible that participants were hesitant to invest in more substantial changes in case they were required to return funds at the end of the year. This theme was also present in the second evaluation report, which described implementation partner concerns for similar paybacks resulting from UVS like those resulting from COVID-19.[76]

Model Implications

As evidenced by revisions to the DBR, the methodology for how planned service line changes impact prospective global budget payments and annual reconciliation has been refined since model inception. Reimbursement for service line changes not communicated to the RHRC and subsequently captured in the transformation plan are reconciled via UVS, which means the impact of these changes on reimbursement is not known until reconciliation. In general, the complexity of how service line changes are processed as part of the global budget methodology may hold hospitals back from making service line changes. Additionally, the history of methodology revisions to the DBR might contribute to the perceived complexity of the reconciliation process, which will be explored further in future evaluation reports. As hospitals become more familiar with the model and obtain a better understanding of the financial consequences, they may be more influenced by model incentives.

Although hospitals receive some technical assistance and support to follow the steps required to request a service line change, implementation partners indicated that hospitals may need additional support to develop a long-term strategy for "rightsizing" service lines in response to community needs.

Many hospitals focused transformation plan efforts on specific services that were outside the global budget, including telehealth, care coordination and mental health/SUD crisis interventions. COVID-19 may have influenced this focus given pandemic-related needs for care transformation and new resources being made available federally and from the state to support telehealth adoption.

Expanding services outside the hospital global budget may nevertheless help hospitals achieve PARHM goals. However, because these professional services are also outside of the service line change process, there are no direct incentives for adopting them as part of model participation. Future models should consider whether a more inclusive approach that includes professional services and community partnerships to the global budget would support the aim of rightsizing.

CAHs receive cost-based reimbursement under the global budget for Medicare FFS. While their service line decision-making may have been influenced by the transformation plan process, CAHs did not have any possibility of using savings to invest in new service lines or to retain contracting service lines. Future models may want to consider tailored ways for supporting CAHs to rightsize their offerings.

Conclusion

In addition to stabilizing rural hospitals, an important goal of PARHM is to support hospitals to rightsize, which requires refining service lines to meet community needs. Supported by PARHM, participating hospitals have planned service line additions that address unmet community needs. Service line additions are motivated as part of transformation plans but are primarily influenced by factors beyond PARHM, notably the availability of start-up capital and specialized staff to deliver those services. Future models should align financial incentives and design features, such as specific technical assistance or forecasting tools, to support hospitals' transformation planning.

Chapter 8: Conclusion

In this report, we conducted an in-depth assessment of the local context and model design that influence payer and hospital participation and overall model implementation. The three case studies begin to reveal a more comprehensive picture of the factors that influence model implementation approaches, model outcomes, and potential unintended consequences.

By examining the differences in recruitment and participation of system-affiliated hospitals and payers in integrated models, we learned that the needs and requirements of independent rural hospitals are inherently different from those of system-affiliated rural hospitals.

While hospitals noted that the global budget was not sufficient to fund hospital transformation activities, the transformation planning process encouraged hospitals to focus their attention hiring staff to coordinate care and engage community partners. The model was a motivating factor for participating hospitals to engage new community partners and served as a catalyst to accelerate existing community engagement strategies. Additionally, participating hospitals planned service line additions designed to address unmet community needs. Service line additions are motivated as part of transformation plans but are primarily influenced by factors beyond the model, notably the availability of start-up capital and health care professionals to deliver those services.

We will present additional case studies in subsequent evaluation reports to better understand if and how the model is improving population health outcomes, increasing access to care and improving the financial health of rural hospitals in Pennsylvania. Future case studies include an assessment of implementation experiences related to global budgets and reconciliation, overlap of value-based care models, strategies participating hospitals use to address behavioral health needs, and overall model sustainability.

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