NORC at the University of Chicago

The Pennsylvania Rural Health Model (PARHM)

Second Annual Evaluation Report

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Acronyms

ACO	Accountable care organization
CARES	Coronavirus Aid, Relief, and Economic Security Act
CAH	Critical access hospital
CAP	Corrective Action Plan
CEO	Chief executive officer
CHC	Community HealthChoices
CHF	Congestive heart failure
CHNA	Community Health Needs Assessment
CMMI	Center for Medicare & Medicaid Innovation
CMS	Centers for Medicare & Medicaid Services
COPD	Chronic obstructive pulmonary disease
CY	Calendar year
DHS	Department of Human Services
DOH	Department of Health
ED	Emergency department
EHR	Electronic health record
FFS	Fee for service
FORHP	Federal Office of Rural Health Policy
FQHCs	Federally Qualified Health Centers
FY	Fiscal year
HEDIS	Healthcare Effectiveness Data and Information Set
IT	Information technology
MAT	Medication-assisted treatment
MDC	Major diagnostic categories
MLTSS	Managed long-term services and supports
NCQA	National Committee for Quality Assurance
NPR	Net patient revenue
NQF	National Quality Forum

OUD	Opioid use disorder
PARHM	Pennsylvania Rural Health Model
PAU	Potentially avoidable utilization
PHE	Public health emergency
PPS	Prospective payment system
PQI	Prevention Quality Indicators
PRAPARE	Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences
PSU	Pennsylvania State University
RFA	Request for applications
RHC	Rural Health Clinics
RHRCA	Rural Health Redesign Center Authority
RUCA	Rural-Urban Commuting Area
RQ	Research questions
SDOH	Social determinants of health
SNF	Skilled nursing facility
SUD	Substance use disorders
TA	Technical assistance
TCOC	Total Cost of Care
UPMC	University of Pittsburgh Medical Center
VBP	Value based payment

Executive Summary

The Centers for Medicare & Medicaid Services (CMS) through the Center for Medicare & Medicaid Innovation (CMMI) designed the Pennsylvania Rural Health Model (PARHM or Model) to test whether hospital global budgets can support care delivery transformation that improves population health outcomes, increases access to high-quality care, and improves the financial viability of acute care hospitals in rural Pennsylvania.[1] Designed to maintain access to health care services in rural communities, the Model seeks to stabilize participating hospitals' finances by providing a predictable revenue stream through global budgets. Global budgets are prospective, fixed payments from participating payers for hospital services provided by participating hospitals (regardless of the volume or intensity of services delivered by the hospital). The Model also supports participating hospitals in identifying and implementing activities to transform care delivery by investing in prevention, quality improvement, and community-based services to achieve targets for population health outcomes[1] and quality measures.[2]

The PARHM is a multi-payer initiative with participation from Medicare and commercial payers, including commercial payers' associated Medicaid managed care and Medicare Advantage plans. The Model is designed to improve value-based payment reform and delivery system transformation in rural communities within the Commonwealth of Pennsylvania. The Model commenced in 2019 and will continue for six performance years.

CMMI within CMS has contracted with NORC and 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 evaluation captures the implementation context, factors associated with implementation, and the Model's impact on care delivery and outcomes. This evaluation uses 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 CMMI, the Commonwealth, and participating hospitals and payers. This report covers Performance Year 2 (PY2), which began January 2020 and coincided with the initial months of the COVID-19 pandemic. A previous report covered Performance Year 1 (PY1).

In PY2 (2020), eight additional hospitals (Cohort 2) joined the original five hospitals (Cohort 1) participating in the Model. The Rural Health Redesign Center Authority (RHRCA), established by the Pennsylvania General Assembly in 2019, was stood up and assumed oversight of Model activities in May 2020. CMMI, the Commonwealth, and RHRCA refined Model components (i.e., global budget methodology and reconciliation). In addition, CMMI provided flexibilities to support hospital participants, facilitate transformation plan implementation, and lower the minimum number of participating hospitals.

This second evaluation report includes a qualitative assessment of the implementation experiences of participating hospitals (Cohorts 1 and 2) and payers in PY2 (2020). This qualitative assessment is based on information gleaned from required Model reports as well as interviews with hospitals, payers,

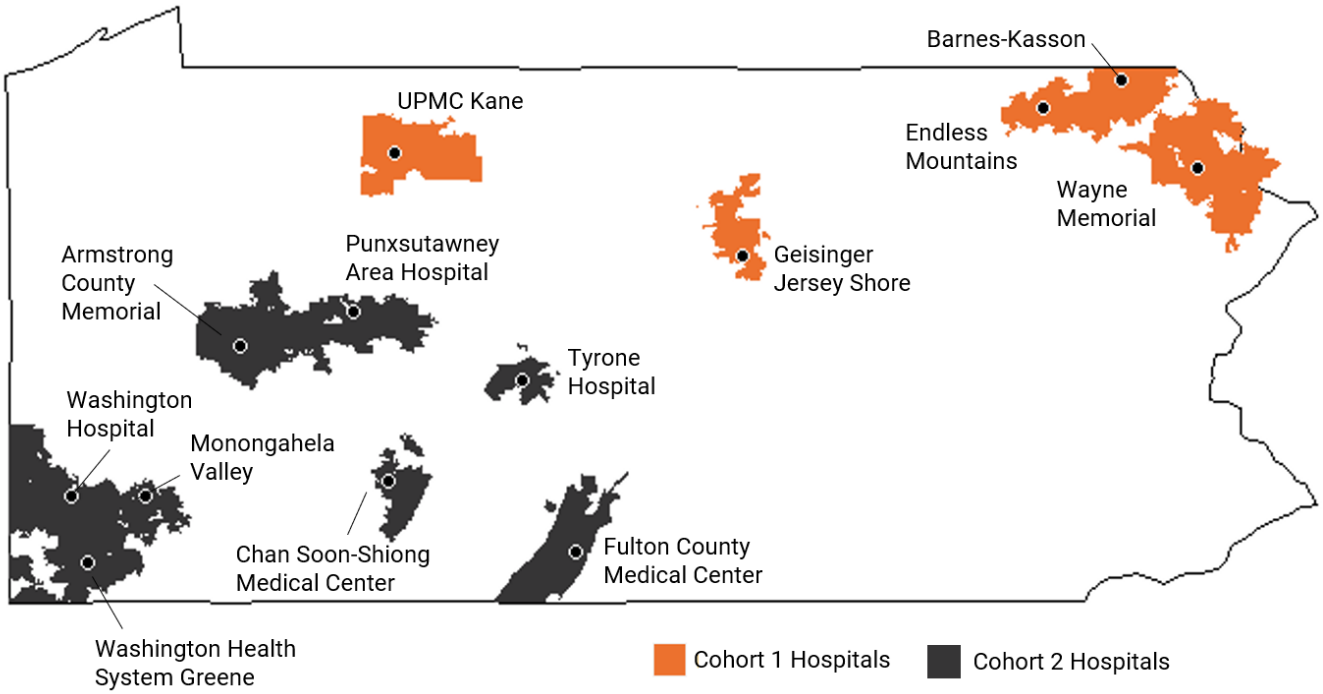
and other implementation partners. Because of health precautions during the COVID-19 pandemic, all interviews were conducted remotely.

This evaluation also includes a descriptive quantitative assessment of financial performance, spending and utilization, and access to care and quality of care outcomes during PY2 (2020). This descriptive assessment includes observations of trends in outcomes of interest and does not isolate the impact of the Model on those outcomes. It is important to note that the findings of the quantitative assessment included in the report cannot be attributed solely to the Model.

Model Participation

The Model is open to rural critical access hospitals (CAH) and acute care hospitals paid under the Medicare inpatient and outpatient prospective payment systems (PPS, using The Center for Rural Pennsylvania's definition of a population density of less than 284 persons per square mile.[3] This broad definition of rurality, which includes areas not federally designated as rural, may have implications for external generalizability.[2] Ten of the 13 participating Cohort 1 and Cohort 2 hospitals are in areas designated as rural by the Federal Office of Rural Health Policy (FORHP); three of the participating hospitals --Geisinger Jersey Shore, Washington Hospital, and Monongahela Valley Hospital— are not located in rural areas based on FORHP designations. Cohort 1 hospitals are located in the northern and northeastern parts of the Commonwealth; Cohort 2 hospitals are all located in the southwestern area. (**Exhibit ES.1**). Prior to joining the Model, Cohort 1 hospitals served areas that are more sparsely populated, had higher rates of emergency department (ED) visits and inpatient days for Medicare patients, and had less access to outpatient care than areas served by Cohort 2 hospitals.

Exhibit ES.1. Market Areas for Cohort 1 and Cohort 2 Hospitals



Model Eligibility and Scope. Eight additional hospitals joined the Model in PY2 (2020), bringing the total to 13 participating hospitals, meeting the scale targets in the amended CMMI-Commonwealth agreement. The 13 participating hospitals represent various affiliations, reimbursement methods, sizes, and financial statuses. The participation rate is higher among independent hospitals than it is for system-affiliated hospitals (60% of eligible independent hospitals are participating in the Model compared to 8% of eligible system-affiliated hospitals).

Hospital Decision to Participate. Similar to Cohort 1 hospitals, the majority of Cohort 2 hospitals cited the financial stability provided by the Model's global budget, along with the opportunity to transform health care delivery, as main factors in their decision to participate. Many Cohort 2 hospitals also reported the Model's stated goals for care delivery transformation aligned with their existing population health and care coordination objectives and/or efforts.

Recruitment Activities in PY2 (2020) for Cohort 3. In PY2 (2020), the COVID-19 pandemic and the high rate of hospital consolidation in Pennsylvania combined to create challenges in the recruitment of additional hospitals to the Model. Only five additional hospitals joined for participation starting in PY3 (2021). However, some hospitals reported a greater appreciation of the value of a global budget model over traditional fee-for-service (FFS) system after experiencing unpredictable volume fluctuations related to the COVID-19 pandemic. Because of difficulties recruiting additional hospitals to participate in the Model, CMMI adjusted the minimum number of hospital participants to 18, down from a goal of 30.

Payer Participation. One additional commercial payer joined the Model in PY2 (2020), bringing the total to five commercial payers. In PY1 (2019), the most recent performance year available for payer reconciliation data, three of the five participating hospitals met the payer scale target (i.e., that a hospital's global budget accounted for 75 percent of eligible net patient revenue). While commercial payers[a] remain motivated to help transform care delivery, some expressed concern about the higher-than-expected level of financial and administrative resources required for Model participation.

Implementation Experience

This report describes the experiences of Model implementation partners Commonwealth agencies and offices—based on interviews with representatives of Commonwealth agencies and offices and a sample of Cohort 1 and 2 hospitals, participating payers, implementation partners, and community providers that are engaged with participating hospitals. These interviews focused on activities and implementation experiences of hospitals and stakeholders to date (i.e., start of the Model to May-October of 2021). Therefore, primary data from hospitals, payers, and implementation partners include some of their experiences implementing the Model during PY3 (2021).

Model Design, Oversight, and Monitoring. The establishment of the RHRCA in 2020 shifted administrative function of the Model from the Department of Health to this independent entity. This helped build trust among participating hospitals, payers, and implementation partners. While participating payers are committed to achieving Model goals, several shared concerns about continued participation due to resource demands and perceived financial risks.

Global Budget Monitoring. The global budget provided stable cash flow, which was particularly important during the early months of the COVID-19 pandemic when patient volume decreased. Both hospitals and payers reported that monitoring the global budget was challenging due to the complexity, timing, and volume of data. Several respondents observed that, given the important role primary care providers play in reducing unnecessary ED use and hospital readmissions, the exclusion of physician services from the Model limited the potential to transform care.

Delivery System Transformation. Hospitals have initiated a variety of care transformation activities including providing patient and staff education, assessing patient social needs, hiring dedicated staff for care coordination, developing registries for high-risk patients, and implementing formalized post-discharge follow-up processes. Hospitals have engaged various clinical and nonclinical community organizations to improve behavioral health services and food insecurity in their communities. However, hospitals also encountered barriers to transformation activities in PY2 (2020). These included the need to focus on the COVID-19 response, limited resources to track and analyze patient data, and insufficient staffing. Participating commercial payers were unclear on hospitals' progress and how implementation partners plan to hold hospitals accountable for transformation outcomes.

Assessing Quality, Access, and Hospital Performance in the Model. Hospital participants reported needing real-time, actionable data at the patient level to enable coordination with other hospitals and

[a] Commercial payers cover privately insured individuals, contract with CMS to cover Medicare Advantage beneficiaries, and contract with the Commonwealth to cover Medicaid managed care beneficiaries.

outpatient settings and assist with efforts to improve care for high utilizers. However, most hospitals reported limited capacity and resources to process and analyze data. The RHRCA is working to address issues related to accessing population health data and is recruiting more staff to support hospital participants' data-processing activities.

Descriptive Assessment of Financial Performance and Interim Medicare Spending

The descriptive results in this report provide context on the financial performance and health care utilization trends at Cohort 1 and Cohort 2 hospitals during the baseline period and inform our understanding of the factors motivating participation as well as the change in utilization and service mix during the early implementation phase of the Model. In addition to descriptively assessing model-wide trends, the analysis is stratified by participating hospitals' reimbursement methodology—inpatient and outpatient PPS or cost-based CAH reimbursement. The analysis reflects general trends in outcomes of interest, and the findings cannot be attributed solely to the Model.

Medicare fee-for-service interim payment and utilization measures are based on data from fiscal year (FY) Medicare cost reports (FY2013-FY2018); calendar year (CY) Medicare Parts A and B claims (CY2013-CY2020); and Model global budget payment documents in PY1 (2019) and PY2 (2020). Financial performance measures are based on data from Medicare cost reports (FY2013-FY2018). Model settlement amounts (i.e., final reconciled payments) are based on the Model's tentative settlement worksheets from PY1 (2019).

Financial Performance in the Baseline Period. The financial viability of most participating CAHs worsened during the baseline period (FY2013-FY2018); insolvency risk increased, and liquidity levels remained persistently low. On average, Cohort 2 hospitals were marginally less financially distressed than Cohort 1 hospitals, which may have contributed to their delayed participation. Decline in inpatient volume at most of the participating hospitals and low levels of liquidity at participating CAHs may have made fixed, biweekly global budget payments an attractive reimbursement alternative.

Trends in Interim Medicare Payments and Utilization. The COVID-19 pandemic's effects on interim Medicare FFS biweekly payments demonstrate the benefits of fixed biweekly payments in generating predictable cash flow for participating hospitals. Differences between the global budget payment and reported costs resulted in larger than usual variability in settlement adjustments during the reconciliation period.

Discussion

The COVID-19 public health emergency put an additional strain on participating hospitals on top of the pre-existing pressures on rural hospitals. The pandemic highlighted both the strengths and potential weaknesses of the Model and necessitated additional refinements to support participating hospitals and payers.

Hospital leaders continued to express strong commitment to the Model. The diversity in hospital size, affiliation, and financial status among Cohort 1 and Cohort 2 hospitals demonstrates the Model's appeal to a range of rural hospitals. However, commercial payers remain skeptical of the sustainability of the Model and have concerns about the Model's administrative burden. While CMS is a key implementation partner and funder, commercial payers are central to the Model's success due to the large share of covered lives from private commercial, Medicare Advantage, and Medicaid managed care plans.

Confirming findings from the first evaluation report, global budgets continued to help stabilize hospital finances. This was especially demonstrated when the COVID-19 pandemic disrupted normal business operations. However, several respondents express concern about how the reconciliation process may affect future finances, leading some to hold a portion of funds in reserve rather than invest in transformation activities. Hospitals were especially unsure how COVID-related utilization fluctuations and emergency supplemental funding will be accounted for in the process.

Future evaluation reports will continue to assess the experiences of implementation partners, including hospital and payer participants. The evaluations will also continue to explore the impact of COVID-19 on communities participating in the Model as well as explore unanticipated effects of the Model, especially workforce-related effects. In addition, future reports will assess disparities in the Model's reach, effects on access to care and quality of care and outcomes for rural populations served by hospital participants in this Model.

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, and improve the financial viability of acute care hospitals in rural Pennsylvania.[1] Designed to maintain access to health care services in rural communities, the Model is testing the impact of hospital global budgets and care delivery transformation on health outcomes and quality of care, hospital spending across payers, and financial viability of participating hospitals. The Model's approach to global budget payments provides rural hospitals with predictable and stable cash flow, not subject to year-to-year volume fluctuations, to align incentives to foster investment in population health.

The Model 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]

Model Targets

The Center for Medicare & Medicaid Innovation (CMMI) 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.

Rural Hospital Participation. As part of an agreement amended in 2020, CMMI and the Commonwealth agreed to rural hospital participation scale targets for each performance year.[b]

- PY1 (2019): A minimum of five rural hospitals for the full year.
- PY2 (2020): A minimum of 13 rural hospitals for the full year.
- PY3 (2021): A minimum of 18 rural hospitals for the full year.
- PY4-6 (2022-2024): A minimum of 30 rural hospitals for each full year.[c,4,5]

[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.

[c] In 2021, the agreement was amended to change the hospital participation goal for PY4-6 (2022-2024) to a minimum of 18 rural hospitals for each full year.

Payer Participation Goals. CMMI 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 PY1 (2019), the Commonwealth was to ensure that the global budget accounted for at least 75 percent of each participating hospital's eligible net revenue. For PY2 (2020) through PY6 (2024), the Commonwealth is to ensure that the global budget accounts for at least 90 percent of each participating hospital's eligible net revenue.

Model Financial Targets. Over the performance period of the Model (2019-2024), the Commonwealth is expected to produce $35 million in cumulative savings. There are no expected annual savings for PY1 (2019) and PY2 (2020). Expected annual savings are $1 million for PY3 (2021), $5 million for PY4 (2022), $13 million for PY5 (2023), and $16 million for PY6 (2024). In addition, for PY2 (2020) through PY6 (2024), the Commonwealth must limit the cumulative annual Pennsylvania rural all-payer hospital cost of care growth per beneficiary to less than or equal to 3.38 percent, which represents the compound annual growth rate for the Commonwealth's gross state product from 1997–2015. Medicare total cost of care (TCOC) guardrails were also established to ensure that the Pennsylvania rural Medicare TCOC growth per beneficiary does not exceed the national rural Medicare TCOC growth per beneficiary. The Commonwealth may request that financial targets be adjusted for exogenous factors (e.g., pandemics or epidemics).

Quality Measurement and Population Health. The Model's population health, access to care, and quality of care goals include the following three goals for residents of rural counties: 1) increase access to primary and specialty services; 2) reduce deaths related to substance use disorder (SUD) and improve access to treatment for opioid use disorder (OUD); and 3) reduce rural health disparities through improved chronic disease management and preventive screenings. On November 30, 2020, the Commonwealth finalized a set of quality measures for data collection.[6] These measures, which fit within the Model's three population health and quality goals, were each scored and ranked independently by the Commonwealth and CMMI using mutually agreed upon assessment criteria, such as relevance, validity, reliability, alignment, and feasibility. The selected quality measure set was then presented to participating hospitals and commercial payers for consideration. The eight measures fall within the following domains: chronic conditions, substance use, and access to care (see **Chapter 4** for details). As part of a formal monitoring program, the Commonwealth also tracks quality using existing measures and data sources (e.g., Healthcare Effectiveness Data and Information Set [HEDIS] measures) and payer quality data to minimize the administrative burden for payers and hospitals. The Commonwealth initially was required to develop an All-Payer Quality Program by PY2 (2020), scheduled to take effect in PY3 (2021), with the goal of adjusting global budgets based on each hospital's performance. The All-Payer Quality Program was put on hold then cancelled, given availability of Commonwealth resources during the COVID-19 pandemic. Global budgets continue to be adjusted based on each hospital's performance under applicable Medicare quality programs (i.e., 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).

Hospital Global Budget

The Commonwealth and CMMI developed a methodology for calculating the prospective performance year global budget for participating hospitals. 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 (e.g., biweekly, monthly) over the course of the year.[9] Centers for Medicare & Medicaid Services (CMS) implemented the fixed global budget payment methodology for services provided to Medicare fee-for-service (FFS) beneficiaries. Following each performance year, Medicare completes a reconciliation process. Critical access hospital (CAH) payments are reconciled to cost-based reimbursement, as before the Model. 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.[9] 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.

WHAT IS A CRITICAL ACCESS HOSPITAL (CAH)?

The CAH designation was created through the 1997 Balanced Budget Act to ensure the sustainability of hospital services in rural communities. CAHs receive cost-based reimbursement for inpatient and outpatient services provided to Medicare beneficiaries at 101 percent of allowable costs. An eligible hospital that meets the following conditions may be designated as a CAH by CMS:[7]

- Be located more than a 35-mile drive (or 15-mile drive in areas with mountainous terrain or only secondary roads) from any other CAH or hospital*;
- Have no more than 25 inpatient beds;
- Furnish 24/7 emergency services; and
- Maintain an annual average acute care inpatient length of stay of 96 hours or less.

*Prior to December 31, 2005, the "Necessary Provider" provision allowed states to designate hospitals that did not meet the distance requirement as CAHs. States had flexibility to define their own criteria for certification.[8]

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 insurance amount paid for hospital services provided. Global budgets are adjusted each year based on inflation, demographic shifts, and market shifts (i.e., service lines changes, unplanned shifts in patient volume) For CAHs, the proposed Medicare FFS portion of the

global budget is based on cost-based reimbursement. **Exhibit 1.1** provides an overview of the hospital services included and excluded from net patient revenue (global budget).[9]

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 in 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 an inpatient stay. Outpatient professional services are physician services furnished in an outpatient setting (e.g., 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 (SNF) care.
SOURCE: CMS. PARHM Detail Business Requirements. Published June 30, 2020.

Hospital Transformation Plan

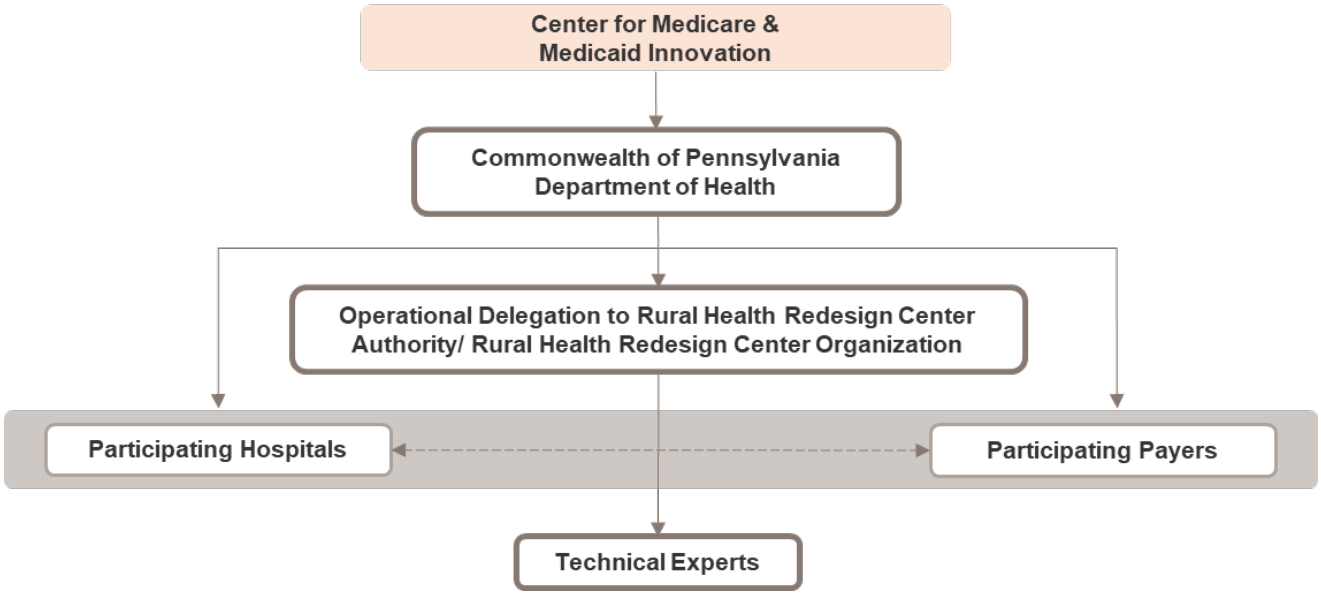
The Model requires that hospitals develop and receive approval for a plan specifying how the hospital will redesign care delivery to be eligible for Model participation. Hospital transformation plans emphasize preventive care and services tailored to the needs of the local population, with a focus on 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 (e.g., tools, publications, webinars, or events).

1.2 State Accountability and Oversight: Key Model Implementation Partners

Exhibit 1.2 illustrates the accountability and oversight structure for the Model design and implementation, including CMMI, state agencies, implementation partners, technical experts, payers, and the health care delivery system in Pennsylvania. CMMI provided the Commonwealth with startup funding to implement the Model and with flexibility to modify Medicare payment mechanisms. The Commonwealth is accountable to CMMI to meet targets for participation, financial performance, quality of care, and population health.[10] The Commonwealth, in collaboration with the independent Pennsylvania Rural Health Redesign Center Authority (RHRCA), is responsible for Model

implementation and monitoring, quality assurance, and TA to participating rural hospitals.[3] Participating hospitals sign agreements with CMMI the Commonwealth, and participating payers; payers also sign agreements with the Commonwealth.

Exhibit 1.2. PARHM Model Accountability



Center for Medicare & Medicaid Innovation

CMMI provides oversight for the Model and monitors Model implementation. CMMI also provides funding for the Commonwealth to implement the Model through October 2022, contingent on the Commonwealth meeting hospital participation scale targets.

CMMI Implementation Contractor: Lewin Group. The Lewin Group provides operational and programmatic support for CMMI's State Innovations Group Multi-Payer Operations. Through this work, Lewin provides CMMI with analytic support, such as developing hospital-specific dashboards on utilization, quality, and cost.[11]

Pennsylvania Department of Health (DOH)

As the signatory on the agreement with CMMI, the DOH is the Commonwealth agency responsible for Model oversight. The DOH operated the Model during the pre-implementation period until establishment of the RHRCA. The RHRCA was expected to be in place to implement the Model by the start of PY1 (2019); however, passage of the RHRCA legislation was delayed until November 2019. DOH continued to operate the Model for the pre-implementation period into PY2 (2020), until the RHRCA was established and operational.

Rural Health Redesign Center Authority

The Model design included the creation of an independent center, the RHRCA, to be established by the Pennsylvania General Assembly to facilitate Model implementation and other efforts to sustain Pennsylvania's rural providers beyond the Model. During PY2 (2020), the RHRCA established a board, hired an executive director and staff, and assumed many DOH duties associated with the Model. The RHRCA monitors the implementation and methodologies of global budgets, recruits and selects hospitals for participation, approves the hospital transformation plans, recruits and on-boards payers, and provides regulatory oversight to track progress. The RHRCA also provides TA to participating hospitals, collects and maintains data from participating payers and hospitals, and provides an annual assessment of each participating hospital's compliance with the hospital transformation plan and global budget targets.

The RHRCA is governed by a board comprised of Model implementation partners, which includes leaders of Commonwealth agencies or designees and is designed to have equal representation from payers and hospitals participating in the Model. See call out box for the composition of the RHRCA Board as defined by the RHRCA authorizing legislation.

RHRCA BOARD COMPOSITION[12]

- The Secretary of Health or a designee
- The Secretary of Human Services or a designee
- The Insurance Commissioner or a designee
- One member selected by each participating commercial payer (excludes any associated Medicaid managed care organization)
- One member selected by each participating payer that is a Medicaid managed care organization
- One member selected by the Hospital and Healthsystem Association of Pennsylvania
- Participating rural hospital members, not to exceed the number of participating payer members
- Two members appointed by the Governor who are nationally recognized experts in rural health care delivery or in developing and administering global budgets

Rural Health Redesign Center Organization. Established in 2020, the Rural Health Redesign Center Organization supports the RHRCA in achieving the Model goals. The Rural Health Redesign Center Organization is a nonprofit 501(c)3 corporation structured to support fundraising efforts for the long-term sustainability of the RHRCA and the Model. In addition to supporting the Model, the Rural Health Redesign Center Organization seeks to build on the lessons learned from the Model to identify scalable solutions for rural communities nationwide.[13] Staffing for the Rural Health Redesign Center Organization is shared with the RHRCA.

RHRCA Technical Experts. The DOH, and later the RHRCA, engaged technical experts to support Model implementation, summarized in **Exhibit 1.3**.

Exhibit 1.3. Overview of Technical Experts

Technical Expert	Role(s)	PY0 (2017-18)	PY1 (2019)	PY2 (2020)
Mathematica	▪ Prepared Medicare global budgets for CMMI 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 CMMI to work through Model technical updates		✓	✓
McKinsey & Company	▪ Assisted the first five participating hospitals to develop transformation plans ▪ Worked with Cohort 1 hospitals to develop global budgets	✓		
Pennsylvania Office of Rural Health	▪ Held a master ordering agreement to provide TA and research, including a formative evaluation, to understand Model facilitators and challenges ▪ Engaged additional TA providers: Mathematica, Rural Health Value, Quality Insights, and Stroudwater Associates	✓	✓	✓
Quality Insights	▪ Provided clinical technical support to hospitals around the redesign of clinical workflows to standardize care pathways for chronic obstructive pulmonary disease care		✓	✓
Rural Health Value	▪ Developed a systematic process for hospital transformation plan development ▪ Assisted new participant hospitals with transformation plan development ▪ Assisted current participant hospitals with transformation plan updates		✓	✓
Stroudwater Associates	▪ Performed cost report technical review at request of participating hospitals ▪ Presented on relevant financial topics at provider summits	✓	✓	

Participating Hospitals

Hospitals eligible to participate in the Model include 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 PY1 (2019). Eight additional hospitals joined the Model for PY2 (2020), and five hospitals joined the Model for PY3 (2021), as shown in **Exhibit 1.4**.

Exhibit 1.4. Participating Hospitals

Cohort	Hospital	County	Ownership	Hospital Type	PY1 (2019)[1]	PY2 (2020)[2]	PY3 (2021)[3]
1	Barnes-Kasson County Hospital	Susquehanna	Independent	CAH	✓	✓	✓
	Endless Mountains Health Systems	Susquehanna	Independent	CAH	✓	✓	✓
	Geisinger Jersey Shore	Lycoming	System	CAH	✓	✓	✓
	UPMC Kane	McKean	System	PPS	✓	✓	✓
	Wayne Memorial Hospital	Wayne	Independent	PPS	✓	✓	✓
2	Armstrong County Memorial Hospital	Armstrong	Independent	PPS		✓	✓
	Chan Soon-Shiong Medical Center at Windber	Somerset	Independent	PPS		✓	✓
	Fulton County Medical Center	Fulton	Independent	CAH		✓	✓
	Monongahela Valley Hospital	Washington	Independent	PPS		✓	✓
	Punxsutawney Area Hospital	Jefferson	Independent	PPS		✓	✓
	Penn Highlands Tyrone	Blair	System	CAH		✓	✓
	Washington Health System Greene	Greene	System	PPS		✓	✓
	Washington Health System Washington Hospital	Washington	System	PPS		✓	✓
3	Clarion Hospital	Clarion	Independent	PPS			✓
	Highlands Hospital	Fayette	Independent	PPS			✓
	Indiana Regional Medical Center	Indiana	Independent	PPS			✓
	Meadville Medical Center	Crawford	Independent	PPS			✓
	Bradford Regional Medical Center	McKean	System	PPS			✓

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 2020. Tyrone Hospital was acquired by Penn Highlands in November 2020.

SOURCES:

[1]Pennsylvania Pressroom. Wolf Administration Announces Next Step In Transforming Health Care Delivery In Pennsylvania. Pennsylvania Pressroom. Published 2019. Accessed December 30, 2020. https://www.media.pa.gov/Pages/Health-Details.aspx?newsid=573

[2]The Office of the Governor. Wolf Administration Announces Newest Participants in Rural Health Model. Governor Tom Wolf. Published December 26, 2019. Accessed December 30, 2020. https://www.governor.pa.gov/newsroom/wolf-administration-announces-newest-participants-in -rural-health-model/

[3]Pennsylvania Pressroom. Department Of Health Announces Newest Participants In Rural Health Model To Ensure Pennsylvanians In Rural Areas Have Access To Care. Pennsylvania Pressroom. Accessed December 30, 2020. https://www.media.pa.gov:443/pages/health-details.aspx?newsid=1188

Participating Payers

The Commonwealth engaged three types of primary payers: Medicare, Medicaid, and commercial payers. Commercial payers could participate in the Model with their private insurance, Medicare Advantage, and/or Medicaid managed care products. Payer participation is further described in **Chapter 2.4**.

Medicare. Medicare has been a participating payer since the Model's inception. Specifically, all Medicare FFS beneficiaries in the relevant geographies of participating hospitals are included in the global budget calculations. CMS encourages but does not require commercial payers administering Medicare Advantage plans to participate. Medicare Advantage beneficiaries are included in the Model to the extent that participating commercial payers have included 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 a separate Children's Health Insurance Program. Within DHS, 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, are important implementation partners. Nearly all of the Commonwealth's Medicaid beneficiaries are in managed care plans for physical and behavioral health services through the HealthChoices or Community HealthChoices Program.[d] Medicaid managed care beneficiaries are included in the Model to the extent that participating commercial payers have included their Medicaid managed care products.

Commercial Payers. The Commonwealth recruited commercial payers to participate in the Model, as listed in **Exhibit 1.5**. Payers were recruited based on market share in areas where participating hospitals operate and included Geisinger Health Plan, Highmark Blue Cross Blue Shield, University of Pittsburgh Medical Center (UPMC) Health Plan, Aetna, and Gateway. The Commonwealth had identified a sixth payer—UnitedHealthcare—whose participation would contribute to hospitals' abilities to meet payer scale targets of 90 percent.[14] However, communications with the payer stalled at the onset of the COVID-19 pandemic and have not resumed.[15] Commercial populations are included in the Model for those products that participating commercial payers have included, which may be individual and employer/group products (including self-insured products such as Administrative Service Organizations) for the privately insured, and Medicaid managed care plans and/or Medicare Advantage plans for the publicly insured. Participating commercial payers calculate

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

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‡	PY1 (2019)	PY2 (2020)	PY3 (2021)
Geisinger Health Plan	✓	✓	✓	✓	✓	✓
Highmark Blue Cross Blue Shield	✓	Via affiliate, Gateway	✓	✓	✓	✓
UPMC Health Plan	✓	✓	✓	✓	✓	✓
Gateway (Highmark Affiliate)	✓	✓	N/A	✓	✓	✓
Aetna	✓	✓	✓		✓	✓

NOTE: ‡The types of insurance products included in the commercial product line vary by payer (e.g., inclusion of employer self-funded products).

Other Partners

DOH and the RHRCA engaged partners to support hospital and payer recruitment and gather observations on Model design and implementation. Before the creation of the RHRCA, DOH engaged DHS and the Pennsylvania Insurance Department in interagency meetings. These meetings were discontinued in 2020 as these agencies now coordinate through their roles on the RHRCA Board. DOH also engaged a broad range of external partners and experts until the COVID-19 pandemic, when formal meetings were put on hold. The Hospital and Healthsystem Association of Pennsylvania collaborated with the Commonwealth on the Model design, supported hospital recruitment, and is a member of the RHRCA Board. In addition, the Healthcare Council of Western Pennsylvania collaborated with the Commonwealth on Model design and supported hospital recruitment. Finally, the Appalachian Pulmonary Health Project provides educational and funding resources.

1.3 Refinements to the Model

During PY2 (2020), CMMI, the Commonwealth, and RHRCA refined Model components (i.e., global budget methodology and reconciliation) and provided flexibilities to support hospital participants during the COVID-19 public health emergency and facilitate transformation plan implementation. CMMI also reduced funding for the Model in PY2 (2020) as the Commonwealth was unable to meet hospital participation scale targets in that year.

Global Budget Methodology Refinements

Since the announcement of the Model, there have been several changes to Model requirements and global budget calculations. During the pre-implementation period, there were refinements to the global budget calculation methodology, for example, including planned service line expansions or

reductions as part of the prospective global budget calculation. Additional PY1 (2019) changes to the global budget methodology included refinements to the demographic adjustment, payer-mix adjustment, and rural geographic area definition.

The global budget methodology was further updated and refined during PY2 (2020). The refinements included: excluding provider-based clinic revenue from the global budget; finalizing the unplanned volume shift adjustment; finalizing the potentially avoidable utilization (PAU) methodology; and developing the planned service line categorization.

COVID-19 Flexibilities

The COVID-19 pandemic began during PY2 (2020). CMMI granted flexibility in the Model in response to the pandemic's impact on health care providers, along the following lines:[5]

- **Quality Measurement:** The All-Payer Quality Program, which was intended to be used to adjust global budgets based on each hospital's performance, was discontinued due to a shortage of resources resulting from COVID-19. Instead, the current Medicare quality programs remain in place for the duration of the Model for quality-based global budget adjustments.
- **Changes to the PY2 (2020) and PY3 (2021) Rural Hospital Participation Scale Targets:** CMMI and the Commonwealth amended its State Agreement to extend the recruitment period to allow hospitals to join the Model in PY4 (2022), requiring the Commonwealth to maintain at least 18 participants for PY3 (2021) and 30 participants for PY4-6.[e]
- **Extension of Hospital Transformation Plan Deadline:** CMMI approved a six-week extension to September 1, 2020, for the Commonwealth to submit hospital transformation plans for new participating hospitals. CMMI also approved an extension to November 15, 2020, for participating hospitals to submit annual updates to their transformation plans.
- **Reduced Reporting:** Until January 2021, the Commonwealth was permitted to exclude any supplementary information on hospital transformation progress from quarterly progress reports. The Commonwealth chose to continue providing progress updates on transformation plan implementation, given the all-payer nature of the program and commercial payers' interest in transformation progress.
- **Medicare Global Budget Adjustment for Sequestration:** Global budgets were adjusted to include the suspension of sequestration related to COVID-19 as specified in the Coronavirus Aid, Relief, and Economic Security (CARES) Act.
- **Medicare Global Budget Adjustment for Exogenous Factors:** CMMI offered to work with the Commonwealth to adjust the Medicare FFS portion of the global budgets to account for COVID-19, as pandemics are specified as an exogenous factor in the CMMI-approved global budget methodology. The RHRCA Board, in consultation with CMMI, decided not to make any exogenous factor adjustments in 2020. Adjustments will be made in the future when there are sufficient data to understand the pandemic's impact on utilization.

[e] In 2021, the agreement was amended to change the hospital participation goal for PY4-6 (2022-2024) to a minimum of 18 rural hospitals for each full year.

Telehealth Expansion Waiver

In response to the COVID-19 pandemic, CMS temporarily waived the geographic location requirement and expanded the applicability of telehealth services nationwide to ensure Medicare beneficiaries could safely access care.[16] Hospitals participating in the Model are able to expand telehealth services during the public health emergency (PHE), ensuring patients are able to access needed services. Not all participating hospitals met the geographic requirement as an originating site prior to the PHE. To support continued use of telehealth after the COVID-19 PHE to provide services that align with hospital transformation plans, CMMI authorized a telehealth benefit enhancement beginning in 2021 that waives the geographic requirement for facility originating sites and allows for telehealth services to be provided at the beneficiary's place of residence. Participating hospitals may apply to CMS for the telehealth benefit enhancement.[17]

PY1 (2019) Reconciliation[18]

In PY2 (2020), the first annual reconciliation for PY1 (2019) was completed for the five Cohort 1 hospitals. Building on the lessons learned from the first reconciliation, the RHRCA 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 RHRCA 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.

The Model 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 PY2 (2020), three participating hospitals also participated in accountable care organizations (ACOs). One of the three hospitals received shared savings from its ACO participation. No adjustments for duplicative payments were made to the hospital's global budget.

Waiver Requests to the Commonwealth[18]

The RHRCA identified opportunities to support Model goals that required waivers from the Commonwealth. The RHRCA submitted the following waiver requests to the Commonwealth:

- To allow participating hospitals to staff EDs with nurse practitioners, provided there is telehealth connectivity to tertiary centers in place and appropriate transfer agreements with emergency medical services providers. While federal regulations allow CAHs to cover EDs with nurse practitioners, Commonwealth regulations prohibited such staffing arrangements.
- To allow hospitals to change the hospital bed licensing structure to right-size inpatient care to align with community needs. Two PPS hospitals were exploring opportunities to reduce their licensed beds to 10 beds to maintain inpatient care but focus on outpatient and ED services.
- To allow flexibility for the repurposing of hospital space to allow for physician services to be co-located within the hospital walls.

Commonwealth HealthChoices Program Rebid Process

In October 2019, DHS issued a request for applications (RFA) to procure the services of managed care plans to provide HealthChoices physical health program services to Medicaid beneficiaries. The RFA required Medicaid managed care plans to participate in the Model with participant rural hospitals. Selected applicants were announced in July 2020. However, managed care plans that lost bids to manage Medicaid benefits filed protests, delaying implementation.[19] Should DHS move forward with the selected applicants, it would affect the Commonwealth's ability to meet payer scale targets and would require onboarding two new payers late in the Model demonstration.[18]

1.4 Evaluation Overview

CMMI 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 secondary data sources to assess whether and how the Model's approach to global budgets and care delivery transformation achieves the intended goals of CMMI, the Commonwealth, and participating hospitals and payers. Our evaluation captures the implementation context, implementation experience, facilitators of implementation, and the Model's impact on care delivery and outcomes. A key limitation of the analysis is the small number of participants (five Cohort 1 hospitals and eight Cohort 2 hospitals participating in PY2 (2020)), which makes most comparisons to eligible nonparticipating hospitals or national or statewide benchmarks infeasible. Further, as described in **Chapter 4.2**, there are notable differences in the baseline financial performance and organizational characteristics of the Cohort 1 and Cohort 2 hospital participants.

Additionally, 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 Commonwealth offices and agencies, implementation partners, and technical experts involved with the Model; we also interviewed participating hospital staff of five of eight Cohort 2 hospitals, leadership of two Cohort 1 hospitals, participating payers, and community providers. We also interviewed leadership from a sample of nonparticipating hospitals to understand their decision not to participate.

Overview of This Report

Our first evaluation report focused on the implementation experience of participating hospitals in PY1 (2019)—Cohort 1 hospitals—and of participating payers in PY1 (2019) and PY2 (2020). We also assessed Cohort 1 hospitals' financial performance and trends in Medicare spending and utilization. For Cohort 1 hospitals, Medicare's fixed, biweekly payments helped them manage fluctuations in patient volume and provided financial stability. However, these hospitals noted the need for capital to support staff with dedicated time to implement transformation plans. Additionally, while the Model contributes to short-term financial stability, independent rural hospitals still struggled with long-term sustainability as changing cash flow timing did not alter the overall profitability of struggling hospitals.

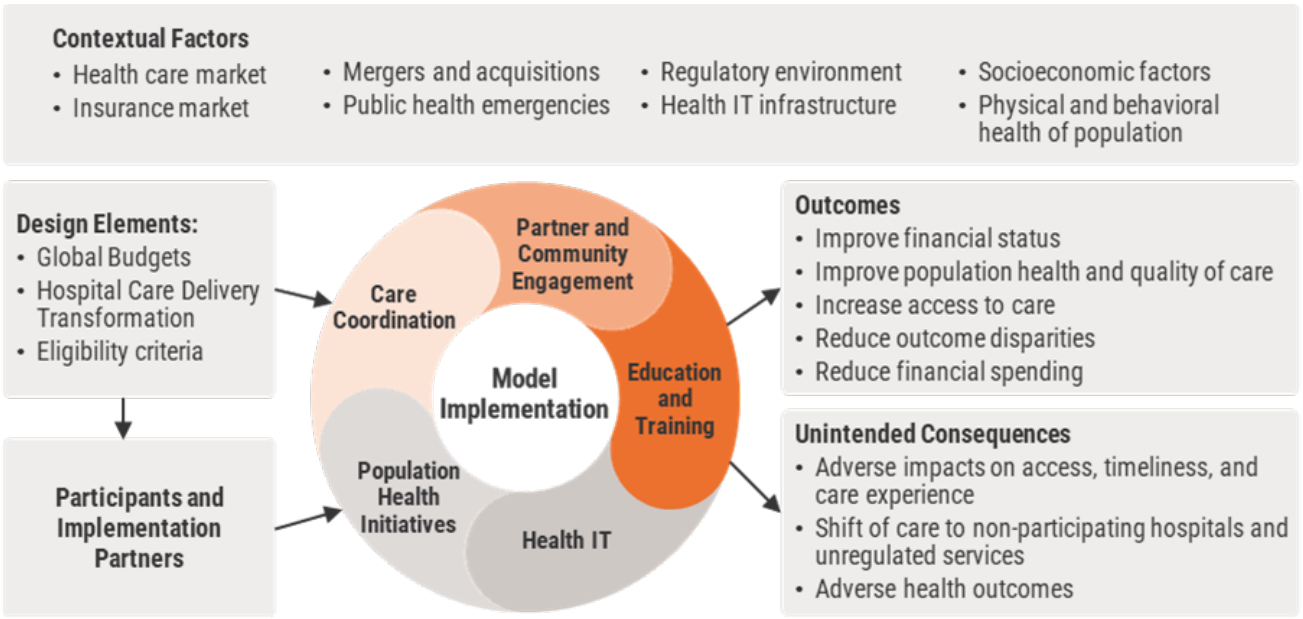
In our second evaluation report, we include an assessment of the implementation experiences of the Cohort 1 and Cohort 2 hospital participants and payer participants and a descriptive assessment of financial performance, spending and utilization, and access and quality of care outcomes during PY2 (2020). The results of the quantitative assessment included in the report cannot be attributed solely to the Model. As this is a descriptive, rather than an impact assessment, we are solely observing trends in outcomes of interest, not isolating the impact of the Model on those outcomes. Subsequent evaluation reports will include additional results for the Cohort 3 hospitals that joined in PY3 (2021).

Conceptual Framework

Exhibit 1.6 presents the conceptual framework for the evaluation. This framework recognizes the importance of context, including the federal and/or state regulatory environment, local population characteristics, health information technology (IT) and systems for health information exchange, and provider and payer market features. The local context and Model design influence payer and hospital participation and overall Model implementation. In turn, the characteristics of participants (payers, hospitals, and their implementation partners) will influence implementation and, ultimately, program outcomes.

The conceptual framework identifies determinants of implementation, such as context, Model design elements, hospital care delivery systems, and implementation partners. These factors are associated with the hospitals' respective implementation approaches, overall Model impact, and unintended consequences. Examining implementation processes, as well as impact, will provide valuable insights into whether and how the Model and participants achieve their intended goals and will help identify any unintended consequences.

Exhibit 1.6. Conceptual Framework to Inform Evaluation Design



Research Questions

The research questions (RQs) addressed in this report were developed by CMMI and refined in collaboration with the evaluation team (**Exhibit 1.7)**.

Exhibit 1.7. Evaluation Research Questions

Implementation Experience and Effectiveness
▪ What are the reasons that some rural hospitals choose to participate, not to participate, or defer participation until later performance years?
▪ What factors do participating hospitals cite as barriers or facilitators to operating under the Model?
▪ What are participating hospitals' experiences implementing their hospital transformation plans?
▪ What are the opinions of the Model from payer participants and important Model implementation partners (e.g., RHRCA and technical experts)?
▪ 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
▪ What are the trends in financial performance of the Cohort 1 and Cohort 2 hospital participants during the baseline period?
▪ How has Medicare spending and service line utilization changed for participating hospitals?

Evaluation Methods

Over the course of our evaluation, we will use an embedded, multiphase mixed-methods design,[20] using both primary and secondary data to analyze activities, outcomes, and relationships.

The evaluation combines qualitative and quantitative analyses that consider participating hospitals, both individually and as a group, and the context in which they meet rural community health needs.

The qualitative component of this report included reviewing Model documents (secondary data) and conducting interviews and analyzing primary qualitative data. Primary data collection included interviews with Cohort 1 and Cohort 2 hospital leadership and staff; interviews with participating commercial payers; and interviews with Model implementation partners, including Commonwealth offices and agencies and technical experts involved with the Model (described in **Chapter 3**; 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.[21] Employing both inductive and deductive methods, our cross-site analysis identified themes, patterns, and divergence across participating hospitals.[22,23]

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), PY1 (2019), and PY2 (2020) for the Cohort 1 and Cohort 2 hospitals. We used Medicare cost reports for the financial performance measures and Medicare FFS claims for the spending and utilization measures (described in **Chapter 4;** see **Appendix C** for additional details).

Qualitative and quantitative data were analyzed together to understand Model participation (**Chapter 2**) and key findings from the mixed-methods analysis (**Chapter 5**).

Chapter 2: Model Participation

Key Takeaways

Hospital Characteristics and Market Areas

- Eight additional hospitals joined the Model in PY2 (2020), bringing the total to 13 participating hospitals, meeting the scale targets in the amended CMMI-Commonwealth agreement. These eight hospitals make up Cohort 2.
- The 13 participating hospitals in PY2 represented a varied group based on affiliation, reimbursement method, size, and financial status; however, the participation rate is higher among independent hospitals (60 percent) than it is for system-affiliated hospitals (8 percent).
- Prior to joining the Model, Cohort 1 hospitals served areas that are more sparsely populated, had higher rates of ED visits and inpatient days for Medicare patients, and had less access to outpatient care than Cohort 2 hospitals.

Motivating Factors for Hospital Participation

- Like Cohort 1 hospitals, the majority of Cohort 2 hospitals cited the financial stability provided by the Model's global budget, along with the opportunity to transform health care delivery, as main factors in their decision to participate.
- For many Cohort 2 hospitals, the Model's stated goals for care delivery transformation aligned with existing population health and care coordination objectives and/or efforts.
- In PY2 (2020), recruitment of additional hospitals was challenging due to the COVID-19 pandemic and the high rate of hospital consolidation in Pennsylvania. Hospital participation targets were adjusted down in recognition of these challenges.
- Some participating hospitals reported a greater appreciation of the value of a global budget model over traditional FFS system after experiencing unpredictable volume fluctuations related to the COVID-19 pandemic.

Payer Participation

- One additional commercial payer (Aetna) joined the Model in PY2 (2020), bringing the total to five.
- While commercial payers remain motivated to help transform care delivery, some expressed concern about the administrative burden and higher-than-expected level of resources required for Model participation.

In this chapter, we discuss key features of participating hospitals and payers, the markets they serve, and how these features relate to decisions to participate in the Model. We use Model documents and secondary data sources (e.g., Medicare Cost Reports, Pennsylvania Health Care Cost Containment Council Financial Reports) to describe the baseline attributes of participating hospitals and payers, as well as qualitative data from key informant interviews regarding the hospitals' decisions to join the Model.

2.1 Model Eligibility and Scope

As described in the first evaluation report, the Model is open to all CAHs in Pennsylvania as well as acute care hospitals paid under Medicare PPS located in rural Pennsylvania counties. The Model defines rural counties using the Center for Rural Pennsylvania's definition, which is based on the state's average population density (284 persons per square mile);[24] counties with lower average population density are considered rural. This definition includes more densely populated areas than rural federal defintions and does not align with the Federal Office of Rural Health Policy's (FORHP) rural definition. 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 populations density of 35 or less per square mile with RUCA codes 2-3.[25] Ten of the 13 participating Cohort 1 and Cohort 2 hospitals are in areas designated as rural by FORHP; three of the participating hospitals --Geisinger Jersey Shore, Washington Hospital, and Monongahela Valley Hospital— are not located in rural areas based on FORHP designations.

The hospital participation scale targets were modified due to challenges recruiting hospitals. Thirteen hospitals signed participation agreements for PY2 (2020), which includes the five Cohort 1 hospitals that participated in PY1 (2019) and eight additional hospitals that were recruited in 2019 for PY2 (2020) participation (Cohort 2). The hospital participation target for PY2 (2020) specified in the original State Agreement required a minimum of 18 hospitals to participate in the Model for the full duration of PY2 (2020). This goal was not met as of the start of PY2 (2020), prompting CMMI to amend this requirement from 18 to 13 hospitals required for PY2 (2020). CMMI also extended the recruitment period to allow additional hospital participants to join for PY4 (2022), in part because of the challenge of recruiting hospitals for PY3 (2021) during the pandemic.[4,5,26] In December 2020, the Commonwealth submitted a Corrective Action Plan (CAP) detailing the main challenges they faced in recruiting hospitals to the Model, including mergers and acquisitions in the Commonwealth and the COVID-19 pandemic. Despite the Commonwealth's continued efforts to recruit hospitals in PY3 (2021), no additional hospitals joined the model for PY4 (2022). CMMI unilaterally amended the State Agreement to further lower the participation requirement from 30 to 18 for PY4 – PY6 (2022 – 2024).

The Commonwealth identified the changing health care landscape, particularly the increase in mergers and acquisitions, as a significant barrier to hospital recruitment. In 2015, when the Model was designed, 18 of the 67 eligible hospitals (27 percent) were part of large health systems and 49 hospitals (73 percent) were independent. However, between 2015 and 2020, two hospitals closed (including one independent hospital), and 33 of the 49 independent hospitals eligible for Model participation were acquired by health systems, leaving only 15 eligible independent hospitals at the end of PY1 (2019).[26]

Through PY2 (2020), a broad range of hospitals have decided to participate in the Model, although the participation rate is higher among independent hospitals than for system-affiliated hospitals. As of PY2 (2020), 13 of the 65 now-eligible hospitals (20 percent) were participating in the Model, which included five CAHs and eight PPS hospitals. Nine of the 15 eligible independent hospitals (60 percent) and four of the 50 eligible system-affiliated hospitals (8 percent) are participating in the Model.[f] Based on conversations with health system leaders, the Commonwealth determined that system-affiliated hospitals perceived the Model as potentially conflicting with broader corporate strategies or other value-based initiatives in which they were participating. Also, since hospital systems already are able to allocate their pool of resources across the system to support smaller and less financially stable hospitals, the Model's global budget may be less appealing than it is to independent hospitals experiencing acute financial need.

Exhibit 2.1 provides an overview of the number of Pennsylvania 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 better with the participating CAHs' Model objectives.

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

	Cohort 1 Hospitals (N=5)		Cohort 2 Hospitals (N=8)		Eligible Nonparticipating Hospitals (N=52)		Total
	System	Independent	System	Independent	System	Independent	
Method I CAH	0	1	0	1	3	0	5
Method II CAH	1	1	0	1	5	1	9
PPS	1	1	2	4	38	5	51
Total	**2**	**3**	**2**	**6**	**46**	**6**	**65**

SOURCE: Medicare Cost Reports (FY2014-2019); Pennsylvania Rural Health Model documentation

NOTES: Numbers reflect participation status and eligibility in PY2 (2020). Tyrone Hospital, an independent Cohort 2 Method II CAH was acquired by Penn Highlands in November 2020.

[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 reduced to 14 as Monongahela Valley was acquired by Penn Highlands.

[g] A CAH may elect to be paid under the standard payment method (Method I), where outpatient professional services are billed to the Medicare Part B carrier, or under the optional payment method (Method II), which allows the CAH to receive cost-based payment for facility services, plus 115 percent 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), where the CAH bills on behalf of these professionals for the services they provide in hospital outpatient settings. These services include when a CAH physician reassigns outpatient billing for services to the CAH, for example, 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 Cohort 1 and Cohort 2 Hospitals

Overall, the hospitals participating in the Model in PY2 (2020) 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. 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, Cohort 2 hospitals were larger and in a better financial position when they joined the Model as compared to Cohort 1 hospitals, based on days cash on hand and net patient revenue. In PY2 (2020), participating hospitals' total Net Patient Revenue (NPR) was $773.83 million with Cohort 2 hospitals accounting for most of the participating hospitals' NPR. Medicare's share was 58 percent of the total NPR (both Medicare FFS and Medicare Advantage).[27] In terms of financial status, Cohort 1 hospitals had lower total margins across all baseline years (FY2013-FY2018) and, on average, had negative total margins in the years leading up to the Model. For a more detailed assessment of financial performance, see Chapter 4 in this report. In key informant interviews, some participating hospital leaders cited their suboptimal financial condition as a motivating factor for participation (see section 2.2 for more details).

Exhibit 2.2. Cohort 1 and 2 Hospitals Varied by Hospital Type, Size, and Financial Status

Cohort and Hospital	Affiliation	Type	Beds	NPR (Millions)†	Medicare NPR Share	Days Cash on Hand^
Cohort 1						
Barnes-Kasson	Independent	CAH	25	$18.24	42%	412
Endless Mountains	Independent	CAH	25	$20.41	52%	12
Geisinger Jersey Shore	System	CAH	25	$23.77	44%	N/A§
UPMC Kane	System	PPS	31	$18.60	52%	N/A§
Wayne Memorial	Independent	PPS	87	$84.61	42%	260
Cohort 2						
Armstrong County Memorial	Independent	PPS	147	$92.84	46%	107
Chan Soon-Shiong Medical Center	Independent	PPS	54	$34.42	48%	55
Fulton County Medical Center	Independent	CAH	21	$46.77	23%	198
Monongahela Valley	Independentα	PPS	200	$125.64	52%	180
Punxsutawney Area Hospital	Independent	PPS	49	$34.53	51%	250
Tyrone Hospital	Independentβ	CAH	25	$26.83	44%	101
Washington	System	PPS	160	$229.89	47%	235
Washington Greene	System	PPS	12	$17.28	41%	216

SOURCES: PARHM Cohort 1 and Cohort 2 hospital transformation plans (hospital affiliation, type, beds, NPR, days cash on hand); PHC4 Financial Analysis 2019

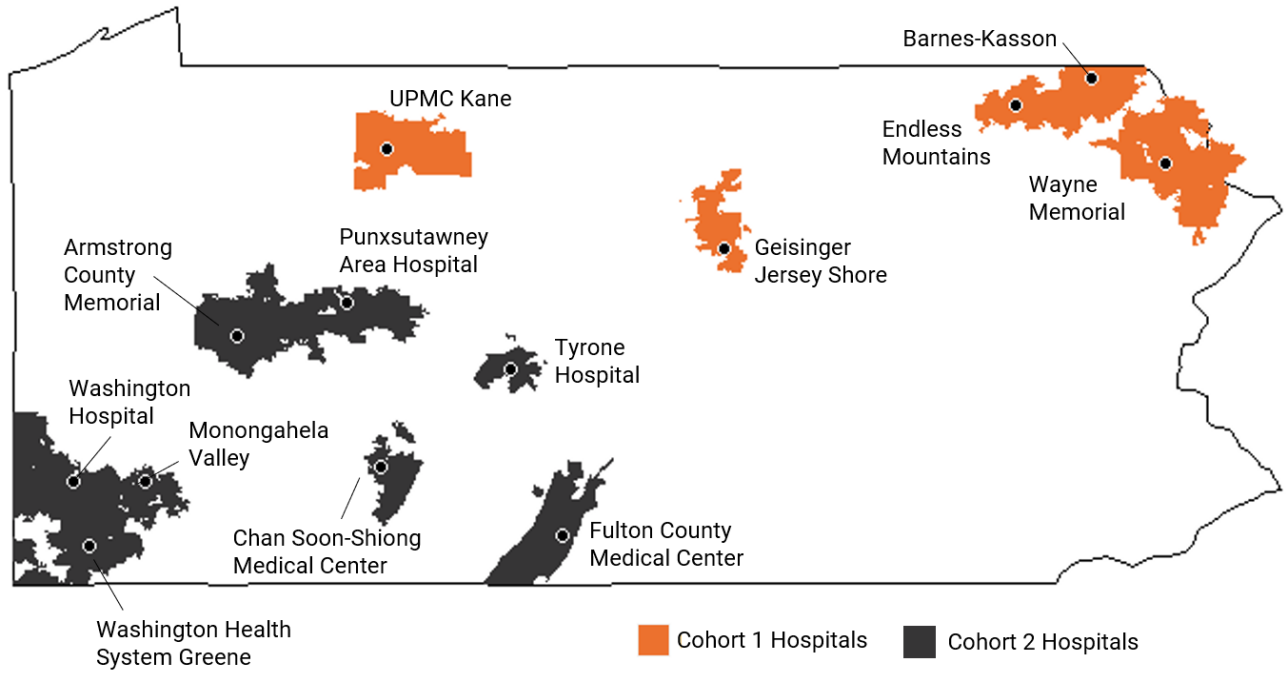
NOTES: † NPR is net patient revenue; 2019 data submitted as a part of PY2 updates to the Cohort 2 hospital transformation plans. Medicare NPR share includes FFS and Medicare Advantage beneficiaries. § Cash is held at the system level. ^CY 2020 Q1-Q2 data submitted as a part of PY2 (2020) updates to the Cohort 2 hospital transformation plans. αMonongahela Valley Hospital was acquired by Penn Highlands in October 2021. βTyrone Hospital was acquired by Penn Highlands in November 2020.

Characteristics of Cohort 1 and Cohort 2 Hospital Market Areas

To describe the geographic areas that Model hospitals serve 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 percent 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 C** 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 another, leading to contiguous and/or overlapping market areas; thus, some Commonwealth residents may be served by initiatives from more than one Model hospital. **Exhibit 2.3** depicts the market area of each hospital participating in the Model in PY2 (2020). Cohort 1 hospitals are located in the northern and northeastern parts of the Commonwealth; Cohort 2 hospitals are all located in the southwestern area. The market area for Wayne Memorial, a large PPS hospital in the northeast corner of the Commonwealth, also includes one ZIP code in New York.

Exhibit 2.3. Market Areas for Cohort 1 and Cohort 2 Hospitals



SOURCE: Medicare FFS Claims (CY2013-CY2017)

Overall, people in the communities served by the five Cohort 1 hospitals are older and more likely to be covered by Medicare compared to people served by Cohort 2 hospitals and eligible nonparticipating hospitals (Exhibit 2.4). As of 2019, 632,274 residents, including 120,424 Medicare-eligible residents, lived in the market areas of the eight Cohort 2 hospitals participating in the Model in PY2 (2020), and 166,343 residents, including 32,133 Medicare-eligible residents, lived in the market areas of the five Cohort 1 hospitals. The market areas of Cohort 1 hospitals had higher

unemployment compared to Cohort 2 hospitals (3.97% vs. 3.01%) but were less likely to contain households receiving Supplemental Nutrition Assistance Program (SNAP) benefits (10.86% vs. 14.82%).[28]

Exhibit 2.4. Residents in Cohort 1 Market Areas are Older and More Likely to Have Medicare Coverage than Cohort 2 and Eligible Nonparticipating Hospitals

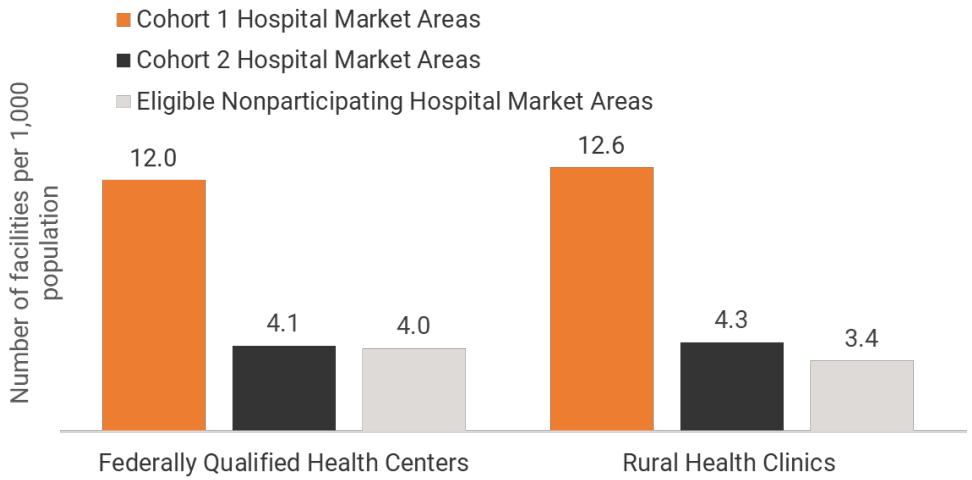
Characteristic and Health Insurance	Cohort 1 Hospital Market Areas	Cohort 2 Hospital Market Areas	Eligible Nonparticipating Hospital Market Areas	Pennsylvania
Sociodemographic Characteristics				
Median age	48*	45^	45	41
Age 65 years or older (%)	24.5*	21.5^	20.7	17.8
Female (%)	48.9*	50.2	49.7	51.0
Non-Hispanic White (%)	94.0	95.3*	93.4	76.4
Disabled (%)	17.9	17.9*	16.8	14.0
Veterans (%)	11.1*	9.7^	9.5	7.5
High school graduate (%)	90.9*	89.8	89.1	90.5
Income below poverty threshold (%)	11.7	12.3	12.6	12.4
Unemployed (%)	4.0*	3.0^	3.0	3.3
Households participating in SNAP (%)	10.9*	14.8^	13.6	13.3
Median household income	$56,454	$54,801	$53,537	$61,744
Health Insurance Coverage				
Total Medicare FFS beneficiaries	32,262*	68,651*	395,583	1,625,701
Medicare (%)	27.3*	24.4^	23.6	19.6
Medicare Advantage (% of Medicare)	28.37*	59.02*^	43.7	43.17
Dual eligible (%)	15.33	18.18	18.52	18.35
Uninsured (%)	5.6	6.0*	6.3	5.7
Medicaid (%)	18.4	21.3	21.1	19.5

SOURCE: American Community Survey (ACS) 2019 5-Year Estimates; Master Beneficiary Summary File, 2019

NOTE: Estimates are presented as average percent across all ZIP codes in the hospitals' market areas, with the exception of median age and median household income. An asterisk (*) indicates that an estimate is significantly different from the eligible nonparticipating hospitals at $p<0.05$. A caret (^) indicates a significant difference between Cohort 1 and Cohort 2 hospitals at $p<0.05$, using a Wilcox test to determine statistical significance. SNAP is the Supplemental Nutrition Assistance Program.

Areas served by Cohort 1 and Cohort 2 hospitals have more Federally Qualified Health Centers (FQHCs) and Rural Health Clinics (RHCs) relative to the market areas of eligible nonparticipating hospitals (**Exhibit 2.5**). Cohort 1 hospitals are located in more sparsely populated market areas than Cohort 2. Two Cohort 2 hospitals (Washington Hospital and Monongahela Valley Hospital) are located in urbanized areas, as defined by the U.S. Census Bureau and are not eligible for establishment of RHCs. While Cohort 1 market areas contain more of these facilities on a per-population basis, existence of these facilities in a hospital's market area does not mean that all patients can access them or ensure equal access across the entire market area; factors such as travel distance or limited appointment availability can be important barriers to access for patients.

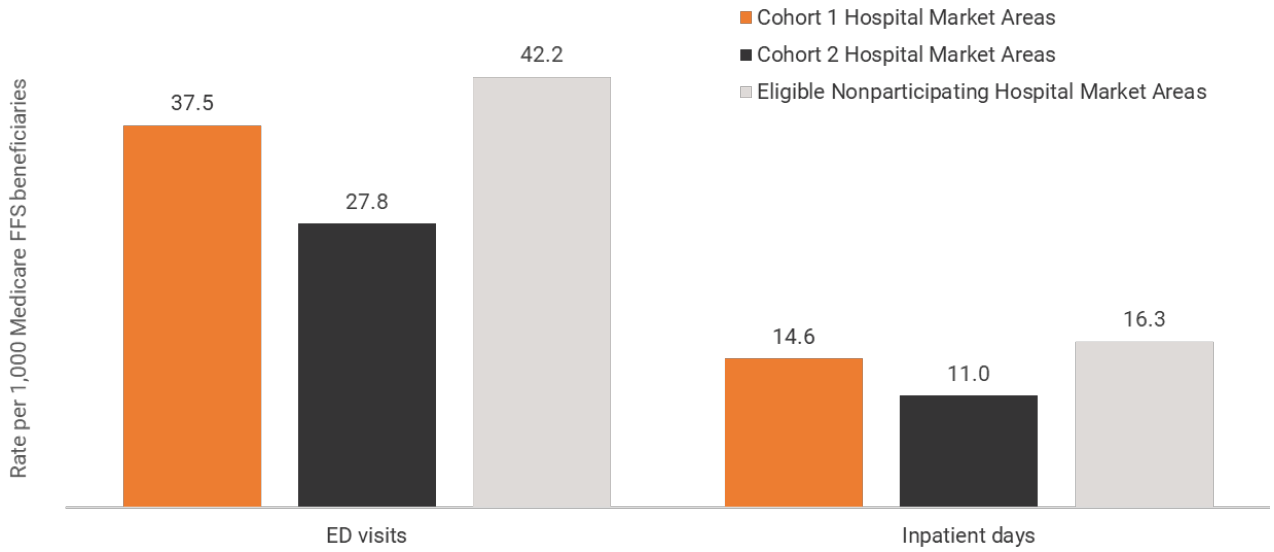
Exhibit 2.5. Cohort 1 Hospital Market Areas Contain More FQHCs and RHCs than Cohort 2 and Eligible Nonparticipating Hospital Market Areas



SOURCE: CMS Provider of Services File, December 2020
NOTE: Results are presented as number of facilities per 100,000 population in the market areas. Two Cohort 2 hospitals (Washington Hospital and Monongahela Valley Hospital) are located in urbanized areas and are not eligible for the RHC program.

Hospital-based service utilization is lower in Model participant market areas compared to nonparticipating eligible hospitals, as measured by ED visits and inpatient days per 1,000 Medicare FFS beneficiaries **(Exhibit 2.6**). This difference may reflect lower availability of acute care services in areas served by Model hospitals, more access barriers to existing resources (e.g., longer travel times), and/or patients in more rural areas choosing to receive care from larger hospitals in nearby areas.

Exhibit 2.6. The Rate of ED and Inpatient Medicare FFS Utilization in Cohort 1 and Cohort 2 Hospital Market Areas is Lower than Eligible Nonparticipating Hospitals



SOURCE: CMS Medicare Geographic Variation Public Use File, 2019
NOTE: Outcomes are presented as means per 1,000 Medicare FFS beneficiaries per year.

Cohort 1 hospitals had similar rates to eligible nonparticipating hospitals on avoidable admissions, as measured by the Agency for Healthcare Research and Quality's (AHRQ) Prevention Quality Indicators[29] (PQI; **Exhibit 2.7**). However, market areas served by Cohort 1 hospitals had overall higher rates of potentially avoidable admissions compared to Cohort 2 market areas. The differences between Cohort 1 and Cohort 2 hospitals may be associated with better access to higher quality outpatient care and post-discharge follow-up care in Cohort 2 market areas.

Exhibit 2.7. Cohort 1 Hospital Market Areas Have Higher Rates of Admissions from Acute and Chronic Conditions than Market Areas for Cohort 2 Hospitals

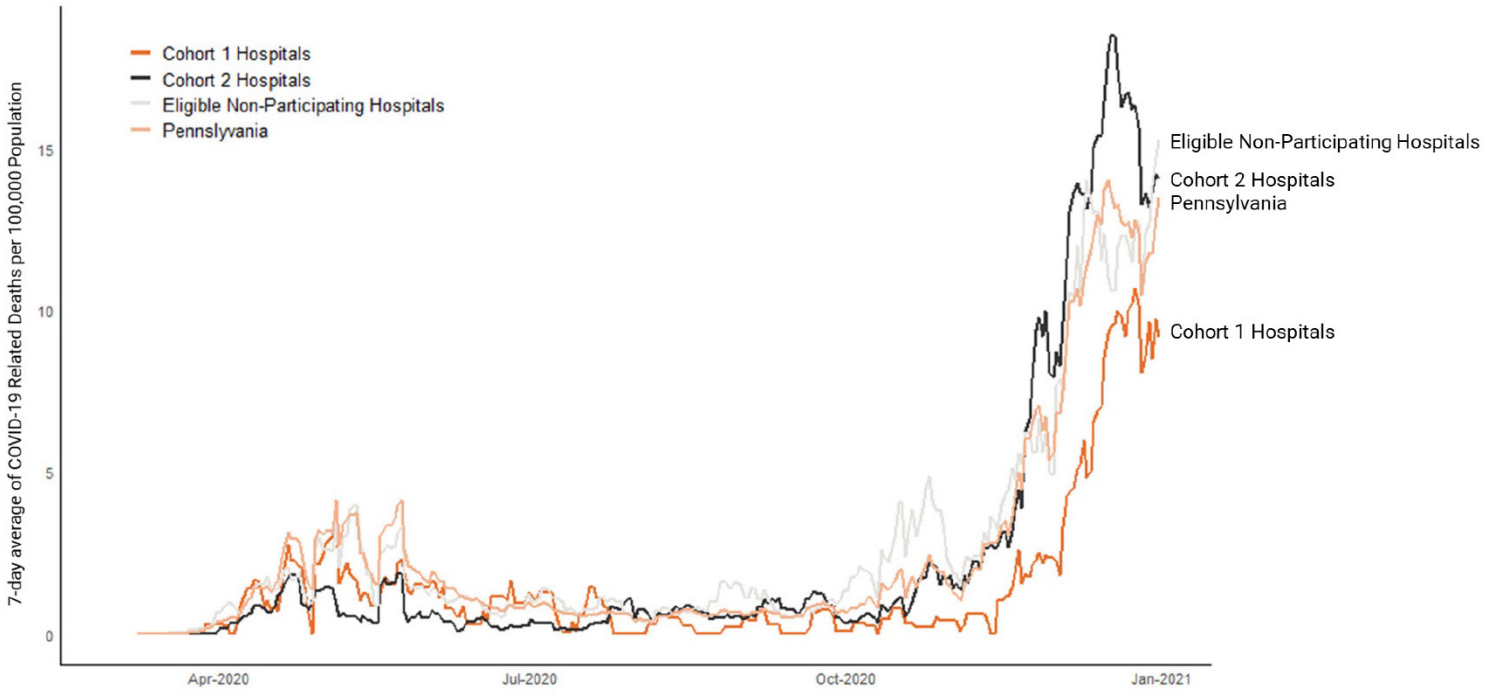
	Cohort 1 Hospital Market Areas	Cohort 2 Hospital Market Areas	Eligible Nonparticipating Hospital Market Areas
Composite PQI Admission Rates			
Overall	79.8	58.5*	78.3
Acute	24.6	16.0*	21.0
Chronic	55.2	42.5*	58.4
Diabetes	10.9	8.8*	11.1
Chronic Disease Admission Rates			
Hypertension	1.5	1.6*	2.3
Congestive heart failure	23.2	17.5*	23.7
Chronic obstructive pulmonary disease	31.5	23.5*	33.7

SOURCE: Healthcare Cost and Utilization Project – Pennsylvania, 2017

NOTE: Rates are presented per 100,000 population. An asterisk (*) indicates that an estimate is significantly different from the eligible nonparticipating hospitals at $p<0.05$.

Between March and December 2020, mortality rates from COVID-19 in the hospital market areas served by the hospital participants reflected nationwide trends, with a peak in mid- to late-spring and a second peak late in the year (**Exhibit 2.8**). Counties with Cohort 1 and eligible nonparticipating hospitals had lower rates of mortality related to COVID-19 compared to Cohort 2 hospitals. These differences may be driven by geographic and sociodemographic factors, as Cohort 2 hospitals are overall located in areas that more densely populated areas and are adjacent to urban areas (e.g., Pittsburgh) where COVID-19 was more prevalent.

Exhibit 2.8. Counties with Cohort 1 and Eligible Nonparticipating Hospitals Had Lower Rates of Death Related to COVID-19 in the End of 2020, Relative to Counties with Cohort 2 Hospitals



SOURCE: Pandemic Vulnerability Index data from March 1, 2020, through December 31, 2020: https://github.com/COVID19PVI/data. County-level COVID-19 data is sourced from USAFacts, which aggregates data from the Centers for Disease Control and Prevention and local and state health departments.

2.2 Hospital Decision to Participate

Most Cohort 2 hospitals reported that financial stability provided by the global budget was central to their decision to participate. This finding aligns with the first evaluation report that financial stability was one of the key drivers for Cohort 1 hospitals' decision to join the Model. Several of the Cohort 2 hospitals noted that prior to joining the Model their efforts were largely focused on addressing the financial challenges faced by their organizations and avoiding closure. Leaders across participating hospitals identified several factors that contributed to hospital financial distress, including declining rural populations, health professional shortages, and consumers bypassing rural hospitals to access care at larger hospitals in the region, as illustrated by one participating hospital leader's reflection on the vulnerability of rural hospitals:

> *I oftentimes will make the statement, what am I doing for population health? I am keeping the doors of this building open because we are so financially fragile that, if these doors close, people are now going to have to travel an hour and a half for care. Although we want to be visionary and want to be able to address those issues, part of that, for us, is just keeping the doors open.*

Participating hospital leaders attributed the predictable cash flow provided by the Model to giving them "*peace of mind*" and providing them with the opportunity to develop a larger and more sustainable population health strategy. One Cohort 2 hospital leader noted that the financial stability offered by the biweekly payments helped them employ additional care coordinators.

The global budget was more appealing to independent hospitals that lacked the financial resources and flexibility of a hospital system affiliation to provide a stable cash flow. Participating and nonparticipating hospital leaders believed that the Model was designed to offer financial stability to small and independent rural hospitals that needed consistent revenue streams. One implementation partner noted that system-affiliated hospitals are not concerned about closures because they are able to allocate costs across the health system and do not have the same immediate need for the financial stability offered by the Model as independent rural hospitals do.

Several participating payers stated that their position has always been that the Model should be limited to independent, nonprofit hospitals. One payer added that system-affiliated hospitals may choose not to participate in the Model to retain complete control over their care delivery processes, noting that, "*The stability that comes from being part of a larger delivery system is much more appealing than it is to do it through the state.*"

The Rural Health Redesign Center Organization 2020 Annual Report underscored health systems' concerns about the Model's proposed benefits, noting that some eligible system-owned hospitals did not find the value proposition convincing enough to pursue participation.[18] Another asserted that hospitals were more likely to join the Model when they were certain that the global budget would be financially beneficial and not conflict with their plans for revenue growth and expansion. Some system-owned hospitals viewed the program as being misaligned with their corporate growth strategies and other value-based initiatives either through Medicare or managed care plan initiatives.[18] Eighteen of the 39 hospitals that the Rural Health Redesign Center Organization tried to recruit in PY2 (2020) decided not to participate because the Model did not align with strategic efforts to expand FFS growth in their communities.[18] In contrast, the RHRCA staff felt this is a misconception, emphasizing that the Model holds as a fundamental principle the goal of fostering appropriate growth based on community need.

Many Cohort 2 hospitals aligned Model activities with their existing population health objectives. Cohort 2 hospital leadership noted that one of the factors that motivated them to join the Model was the fact that the health care delivery transformation goals identified by the Model complemented some of their existing goals and efforts. Participation provided them with the financial resources and TA to better articulate their population health objectives and targets and advance these efforts, as the quality director of a participating hospital noted:

> *The goals that we were trying to accomplish were things that we already wanted to do to some degree. It just gave us a bigger platform in order to move forward with things that we were thinking about or trying to see if we could accomplish in the future anyway. It was a nice marriage*.

One participating hospital leader stated that prior to joining the Model their hospital had begun to consider expanding its care coordination program, particularly by educating ED patients about utilizing the appropriate point of care. Participation in the Model gave them the TA and financial resources they needed to focus their efforts on achieving this goal. Another participating hospital leader mentioned that they had been planning to hire a population health nurse prior to joining the Model. Participation in the Model reinforced these population health objectives and motivated them to hire additional staff to advance these efforts.

Most Cohort 2 hospital leaders valued the opportunity to transform health care delivery through the Model. Several Cohort 2 hospital leaders believed the Model filled a need for a value-based payment approach that emphasizes better health outcomes, improvements in quality, and a decrease in utilization without severely impacting hospital finances. One hospital leader mentioned that participation in the Model was based on a recognition of the hospital's financial insecurity within the FFS payment model because the hospital is in a small, rural town with decreasing hospital utilization and a declining census. The hospital leader said, "*I believe we've got to come up with some idea that's better than what we're doing."*

One hospital CEO stated that the Model helps them stay focused on population health and community needs by encouraging the hospital to look beyond metrics such as preventing readmissions to actually meeting the needs of individual patients. Another hospital leader noted that the Model presented an approach that rewards them for population health and value-based care and allows them to "*improve quality, maintain and improve satisfaction, and decrease utilization"* without being financially hurt.

Three Cohort 2 hospitals noted that engaging with Cohort 1 hospitals was an important part of their decision-making process. Cohort 2 hospital leaders reported that the Commonwealth and the RHRCA encouraged to reach out to Cohort 1 hospital participants Even though Cohort 1 hospitals were in the early stages of participation, their positive experiences motivated other hospital leaders to participate in the Model. However, Cohort 2 hospitals reported not being able to get the information they needed about the potential financial implications of the model because Cohort 1 hospitals had not completed reconciliation at the time of recruitment.

Hospitals reported being invited to listen to biweekly calls between Cohort 1 hospitals and the Model team. One independent hospital leader stated:

> *They were still in the learning process of their first year, but we benefited from that because we were able to at least hear some of their questions and maybe some of their concerns. Then, that would bring questions to our mind that, 'Okay, maybe we need to have a clearer understanding of how this is going to work.'*

Another Cohort 2 hospital leader said that connecting with Cohort 1 hospital participants helped them recognize that Cohort 1 hospitals were seeing clear financial benefits with no significant disadvantages to participating.

Hospital leaders appreciated the support they received from the Commonwealth during the decision-making process. All Cohort 2 hospitals reported engaging in an exploration period before deciding to participate. Leaders across the hospitals noted that the RHRCA's support during this process was an important driver in their decision-making process.

> *I think that their energy was just wonderful. Yeah, from day one, I just feel like, when you're in a room with all of these executives, everybody's like, "Hey, I'm stretched too far. I can't add another thing to my plate." I think, because of their positive energy, everybody was—they were able to just blow through that, which I completely compliment them for.*

Hospital CEOs stated that the RHRCA team was responsive, informative, and accommodating; RHRCA staff worked with hospital leadership teams and boards to help them understand the Model. One hospital leader appreciated that the Commonwealth team also helped them educate the hospital's potential partners about the Model.

The level of physician engagement in the decision-making process continued to vary across hospitals. As discussed in the first evaluation report, hospitals adopted diverse engagement strategies to engage physicians that depended, in part, on their contractual arrangements (e.g., employed physicians, contracted physicians, or community-based physicians with admitting privileges). One hospital leader reported running into unexpected pushback from some physicians because the Model excluded professional services. Contracted physicians who bill separately from the participating hospitals were particularly concerned about a reduction in utilization and the resulting loss in revenue. One hospital suggested that the Model design would be less hospital-centric and more comprehensive if it were adapted to include physicians. They added that this adaptation would perhaps allow hospitals to address a range of issues in rural health care, including physician shortages.

2.3 Recruitment Activities in PY 2 (2020) for Cohort 3

The COVID-19 pandemic impeded Model recruitment efforts. Capacity to manage non-pandemic related initiatives was severely constrained in 2020. Focused on COVID-19 response activities and anticipating the time and effort required to support vaccine administration, hospitals initially recruited to participate in 2021 reported they could not take part in the onboarding and cancelled recruitment meetings due to resource limitations. The RHRCA also noted that interaction with potential hospital participants was limited to online communication during the pandemic. RHRCA representatives pointed out that ongoing relationships with eligible hospitals are "*foundational to the success of the Model,*" and these relationships can often be strengthened through in-person collaboration. In the end, a total of five additional hospitals joined the Model to form Cohort 3.

Hospitals recognized the vulnerabilities of the traditional FFS system after experiencing pandemic-related volume shifts. Initially, PY2 (2020) was planned to be the last year of recruitment for hospitals to join the Model. However, the Commonwealth and CMMI renegotiated the agreement because of the COVID-19 pandemic and associated recruitment challenges, and they added a fourth

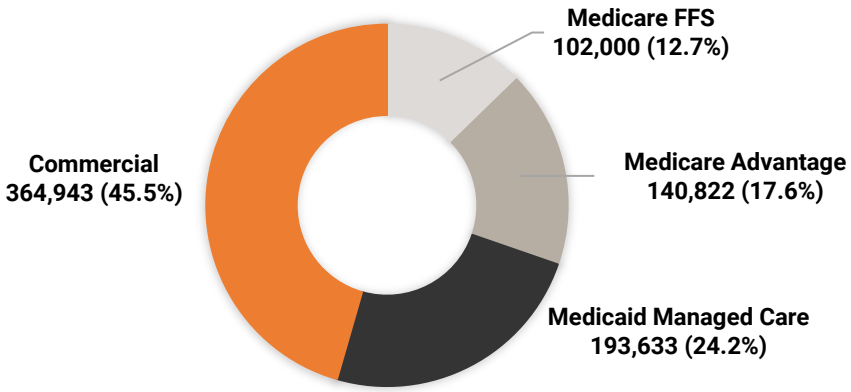
recruitment year. The 3rd Amended and Restated State Agreement required that for PY3 (2021) a minimum of 13 hospitals remain in the program."[4,5] The RHRCA noted that some eligible nonparticipating hospitals reported that the pandemic heightened their awareness of how truly vulnerable they are in a FFS environment. However, the RHRCA acknowledged and emphasized that the COVID-19 pandemic was not the only factor driving recruitment**.** All five hospitals that joined the Model in 2021 started onboarding in 2019 but chose not to sign participation agreements until 2020.[18]

The pace of hospital acquisition and consolidation activity in rural Pennsylvania has been high. The RHRCA reported struggling with recruitment issues due to the pace of mergers and acquisitions among the eligible hospitals. One participating payer confirmed "*all the hospitals that are left are owned by either the national providers or large delivery systems within Pennsylvania already.*" Between 2015 and 2020, the percentage of rural hospitals affiliated with a larger health system increased from 27 percent to 76 percent.[4] As of PY2 (2020), nine of the remaining 15 independent hospitals in the Commonwealth were participating in the Model.[26] Four of these independent hospitals were recruited to the Model during PY2 (2020) and began participating in the Model effective January 1, 2021 for PY3 (2021).[30] The Rural Health Redesign Center Organization noted in its 2020 Annual Report that of the two remaining independent hospitals, one is a CAH that operates primarily as a skilled nursing facility with very limited acute care activity, and the second was acquired by a for-profit venture group.[18]

2.4 Payer Participation

An important design feature of the Model is the potential for all-payer participation, which creates greater incentives and flexibility for hospitals to transform care. The estimated number of covered lives by payer in the Model in 2020 are shown in **Exhibit 2.9.**

Exhibit 2.9. Estimated Number of Covered Lives in the Model by Payer, PY2 (2020)



SOURCE: PARHM 2020 Annual Report

NOTE: Medicare Advantage and Medicaid managed care are provided through commercial payers. These estimates should be interpreted with caution because the Medicare FFS estimates differ from the other payers' estimates in the data source and the measure of geographic area. The Medicare FFS estimates come from CMMI monitoring data whereas the other payers' estimates come from participating payers' aggregate reporting. The Medicare FFS estimates are based on Rural Geographic Area (RGA) whereas the other payers' estimates are based on catchment area. Since catchment area is larger than RGA, it is likely that more than 102,000 Medicare FFS beneficiaries were in the Model in PY2.

Commercial payers cover privately insured individuals, contract with CMS to cover Medicare Advantage beneficiaries, and contract with the Commonwealth to cover Medicaid managed care beneficiaries. Over 47 percent of Pennsylvania Medicare beneficiaries are in Medicare Advantage,[31] and 97 percent[32] of Pennsylvania Medicaid beneficiaries are in managed care. Because of high Medicare Advantage and Medicaid managed care enrollment in Pennsylvania, commercial payers have the majority of covered lives in the Model (87 percent). Commercial payer participation is integral to the Model's success and sustainability.

Because of broad participation among the Commonwealth's major commercial payers in the Model, the global budget accounted for almost sixty percent of the participating hospitals' total patient revenue.[33][h] Five commercial payers participated in the Model in PY2 (2020) (Exhibit 2.10). With the exception of national carrier Aetna, all commercial payers are nonprofit, Pennsylvania-based plans. As noted in Chapter 1, two additional Medicaid managed care plans may be onboarded depending on the outcome of the Medicaid managed care rebid. With one additional commercial payer joining the Model in PY2 (2020), bringing the total to five, the percentage of eligible net patient revenue covered by the global budget for participating hospitals increased (from 59[i] percent in PY1 to 76 percent in PY2).[33] Global budgets accounted for over 90 percent of total eligible net patient revenue for one of the 13 participating hospitals in PY2 (2020). Additionally, at least three-fourths of total eligible net patient revenue was covered by the global budgets for six of the remaining 12 participating hospital participants.[33]

[h] The Model's Quarter 19 Progress Report for reporting period July 1, 2021 through September 30, 2021 served as the source for this data. This report contained preliminary data that was not validated by the Model's Implementation Monitoring Contractor. Additionally, the reported global budget revenue for PY2 (2020) does not account for settlement adjustments associated with the reconciliation process.

[i] The Model's scale is measured based on the proportion of the hospital participants' eligible revenue that is covered by the global budget. However, if revenue associated with all services provided by the hospital participants is taken into consideration, global budget payments account for a lower proportion of total revenue; global budgets accounted for 43 percent of total patient service revenue in PY1 (2019) for Cohort 1 participants and 64 percent in PY2 (2020) for Cohort 1 and 2 participants. The proportion of total revenue covered by the global budget is relevant because it indicates the extent to which the hospital participants still dependent on traditional reimbursement methods.

Exhibit 2.10. Characteristics of Participating Commercial Payers in PY1 (2019) to PY3 (2021)

Characteristic	Aetna	Gateway	Geisinger Health Plan	Highmark Blue Cross Blue Shield	UPMC Health Plan
Participation years	PY2, PY3	PY2, PY3	All	All	All
Geographic area	National	Regional	Regional	Regional	Regional
Integrated Health Systems†			X	X	X
Ownership Type					
For-profit	X				
Nonprofit		X	X	X	X
Product Lines Included in Model					
Commercial‡	X	N/A	X	X	X
Medicare Advantage	X	X	X	X	X
Medicaid Managed Care	X	X	X	Via affiliate, Gateway	X
Quality (NCQA rating)	4.0	4.0	4.0	3.5	4.5

SOURCES: Payer interviews for all characteristics except profit status (company websites) and quality (National Committee for Quality Assurance ratings for Pennsylvania commercial insurance plans).

NOTE: NCQA = National Committee for Quality Assurance. † In addition to operating as a payer in the Model, Geisinger and UPMC health systems each include one participating hospital (Geisinger Jersey Shore, UPMC Kane). ‡The types of insurance products included in the commercial product line vary by payer (e.g., inclusion of employer self-funded products).

Chapter 3: Implementation Experience

Key Takeaways

Model Design, Oversight, and Monitoring

- The creation of the RHRCA helped build trust among participating hospitals, payers, and implementation partners.
- While participating payers are committed to achieving Model goals, several shared concerns about continued participation due to resource demands and perceived financial risks.

Global Budget Implementation

- The global budget provided stable cash flow, which was particularly important during the early months of the COVID-19 pandemic when patient volume decreased.
- Monitoring the global budget was challenging for hospitals and payers due to the complexity, timing, and volume of data.
- Implementation partners cited the exclusion of hospital-based physician services in the Model as a limitation to transforming care.

Delivery System Transformation

- Hospitals are attempting to transform care by providing patient and staff education, assessing patient social needs, hiring dedicated staff, developing high-risk patient registries, and implementing formalized post-discharge follow-up processes.
- Hospitals are engaging various clinical and nonclinical community organizations to improve behavioral health services and food insecurity in their communities.
- Barriers to transformation in PY2 (2020) included COVID-19, limited resources to track and analyze patient data, and insufficient staffing.
- Payers were unclear on hospitals' progress and how implementation partners plan to hold hospitals accountable for transformation outcomes.

Quality, Access, and Hospital Performance

- Hospital participants reported needing real-time, actionable data at the patient level to enable coordination with other hospitals and outpatient settings and assist with efforts to improve care for high utilizers. However, most hospitals reported limited capacity and resources to process and analyze data.
- The RHRCA is working to address issues related to accessing population health data and is recruiting more staff to support hospital participants' data-processing activities.

In this chapter, we describe the experiences of participating hospitals and payers as well as Model implementation partners, including Commonwealth agencies and offices. The analysis in this chapter is based on interviews with implementation partners, payers, a sample of Cohort 1 and 2 hospitals, and community providers that are engaged with participating hospitals. We conducted interviews virtually from May to November 2021. We supplemented primary data collection with document review, including hospital transformation plans, RHRCA presentations, and quarterly and annual reports. Interviews with Cohort 1 hospitals focused on global budget reconciliation, and interviews with Cohort 2 hospitals focused on hospital and implementation partner activities and implementation experiences to date.

We report our findings thematically to protect the identity of interview participants. We use the term "TA" to reference the support that hospitals received from RHRCA staff and other technical experts listed in the call out box.

MODEL IMPLEMENTATION PARTNERS AND TECHNICAL EXPERTS

- DOH
- Department of Human Services (DHS)
- Pennsylvania Insurance Department (PID)
- RHRCA
- The Pennsylvania Office of Rural Health
- Other state officials
- Hospital and Healthsystem Association of Pennsylvania
- Healthcare Council of Western Pennsylvania
- The Pennsylvania Office of Rural Health
- Mathematica
- Rural Health Value
- Quality Insights
- McKinsey & Company
- Stroudwater Associates

COHORT 1 AND COHORT 2 HOSPITALS

- Barnes-Kasson
- Endless Mountain
- Geisinger Jersey Shore
- UPMC Kane
- Wayne Memorial
- Armstrong County Memorial Hospital
- Chan Soon-Shiong Medical Center
- Fulton County Medical Center
- Greene Hospital
- Monongahela Valley Hospital
- Punxsutawney Area Hospital
- Tyrone Hospital
- Washington Hospital

PARTICIPATING PAYERS

- Medicare
- Medicaid
- Commercial*

*The Chapter 3 themes are based on interviews with commercial payers, which include Medicare Advantage and Medicaid managed care plans.

3.1 Model Design, Oversight, and Monitoring

Participating hospitals and payers noted their continued commitment to the Model and appreciate the support from implementation partners and technical experts. However, participating payers shared concerns about resource demands, lack of compatibility with other commercial value-based payment initiatives, and perceived financial risks. Hospital participants appreciated receiving financial data from technical experts and some hospital leaders noted that the burden of reviewing these data has decreased overtime.

Model Design and Developments in PY2 (2020)

Most implementation partners agreed that the creation of the RHRCA enabled increased participant engagement and helped build trust among implementation partners, payers, and hospitals. The RHRCA Board includes membership and representation from hospital participants, commercial payers, Commonwealth agencies, and subject matter experts, ultimately providing each party a voice. Several implementation partners noted that the RHRCA helps manage relationships among participating entities. One implementation partner commented that "*the Authority has done an excellent job of navigating the tensions and the complications that exist between payers and providers,*" such as determining how to account for unplanned volume shifts with the year-end reconciliation process. Another implementation partner commented that hospitals are more willing to share data with the RHRCA than with the Commonwealth since the RHRCA is an independent entity.

Similarly, implementation partners spoke positively about the establishment of the Rural Health Redesign Center Organization, the nonprofit 501(C)(3) responsible for raising funds to ensure the sustainability of the RHRCA and the Model. One implementation partner stated that RHRCA/Rural Health Redesign Center Organization leadership can *"explain complicated concepts in an easy-to-understand way."* Likewise, several implementation partners commented that the RHRCA and Rural Health Redesign Center Organization boards[j] have a good relationship built on communication and continuity between the two groups. Having a strong relationship between the two boards can help the RHRCA and Rural Health Redesign Center Organization efficiently meet and address the needs of participants and payers invested in the Model. **Exhibit 3.1** provides the list of meetings held in 2020 with the two boards, the payers, and the hospital participants.

Exhibit 3.1. RHRCA Board, RHRCO Board, Payer, and Hospital Meetings

Meeting Type	2020 Meeting Schedule
RHRCA Board	Monthly, from May to December 2020
Rural Health Redesign Center Organization Board	Monthly, from June to October 2020
All Payer	February, April, June (2 in this month), July, September, October, and November 2020
All Provider (Hospital Participants)	Monthly, from January to December 2020 July 2020, All Provider Summit
All Payer and Provider	March, September, and December 2020

SOURCE: Rural Health Redesign Center Progress Reports.

[j] The Rural Health Redesign Center and RHRCA boards are comprised of different members. The Rural Health Redesign Center is governed by a five-member board whereas the RHRCA is governed by 20 representatives from the Commonwealth, participating payers, participating hospitals, and subject matter experts.

Payers continue to be committed to the Model and the goal of ensuring that rural populations have access to hospital services. Multiple payers acknowledged that the global payments sustained small, independent rural hospital participants during the early part of the COVID-19 pandemic when utilization declined dramatically. They also understood that the pandemic has hindered participants' care delivery and system transformation efforts. They described good relationships with implementation partners, including opportunities to candidly express concerns.

However, multiple participating payers also reported having internal discussions with leadership about the value proposition for continued participation. Most payers concluded that it was too soon to tell whether the Model is a good fit for them. The payers' primary concerns included:

- Higher-than-expected level of effort and resources to participate (mostly tied to the payment aspects of the Model); and
- Incompatibility with and disruption to existing commercial value-based payment initiatives

Some payers perceived that the Model has evolved from one that initially offered value to both payers and hospitals to one largely focused on the hospitals, and particularly the administration of the global budgets.

> *In the beginning this was posed to us as a way for payers to 1) help rural hospitals that needed help, 2) help our members living in those areas to get the care that they needed on a timely basis, and 3) help these hospitals transform to meet the needs of their community…The payers were going to financially help these hospitals, and over time there would be a benefit to the payer as well. The goalposts have moved a few times, and it's become more clear to us this is very much a hospital-centric program, and it's going to be at the expense of the payers.*

All payers expressed concerns about the level of effort required for participation and their inability to automate reporting requests because of frequent changes in the requirements and templates. Payers described labor intensive data pulls for implementation partners to administer the payment methodology and reconciliation process, including monthly statements with FFS claims for each hospital with which they have an agreement, claims extracts used to calculate unplanned volume shift adjustments, and demographic reports used to calculate payer-mix adjustments. Each payer noted that they have several staff involved in the Model, with one reporting that on a recent call, there were 12 staff members, including one working full-time on the Model. Several payers noted that it has become challenging to convince their leadership of the value of continued participation under these conditions.

> *We don't have a dedicated team for this. We have people that work on it, but we have other things on our plate, so internal resources have been an issue, and they have rigorous deadlines, too. There are deadlines all the time, and there are meetings all the time, and they often change templates, and then we have to revisit the templates, and then rerun things, so yeah, it's been labor-intensive.*

Another ongoing concern reported by payers is the Model's lack of flexibility to accommodate existing payment reform efforts. Payers are determining how the Model affects their existing value-based payment programs with providers—including both hospitals and physician organizations.

Several payers described existing value-based payment programs with physician organizations that are affiliated with the larger participating hospitals. In this instance, payers had concerns about the potential to financially reward both the physician organization and a participating hospital for hospital savings (from decreased utilization) attributed to the same covered population. One payer reported requiring the physician organization to choose between the two programs. However, they would have preferred that the Model had sufficient flexibility to allow programs to coexist.

Integrated health system payers noted that they already had value-based payment arrangements with rural hospitals within their systems and did not see a benefit to layering the Model on top of their existing program. One payer described the process of working through the relationship between the two programs as much more complicated than expected. This issue relates to payers' belief that the supports needed for transformation and financial stability for rural hospitals that are owned by health systems should be provided by the health systems, not through the Model.

While all participating payers support increased financial stability for rural hospitals, some payers perceived that they had *"financial exposure"* in the Model, particularly in the context of decreased utilization in PY2 (2020) due to the COVID-19 pandemic. With the participation of several relatively large hospitals in the Model, the overall eligible net patient revenue in PY2 (2020) was higher than some payers expected. Further, the clustering of Cohort 2 hospitals in the southwestern region created an uneven distribution of net patient revenue across payers' markets. Some payers noted challenges around financial planning due to uncertainty about the unplanned volume adjustments for reconciliation. Payers noted challenges with financial planning due to uncertainty about the impacts of adjustments, such as unplanned volume shifts, in the reconciliation process. Also, they did not understand how federal COVID-19 relief funding that hospitals received would be accounted for in reconciliation.[k]

Under the most recent Medicaid managed care rebid in Pennsylvania, all payers offering a Medicaid managed care plan will be required to participate in the Model.[l] Implementation partners noted there may be implications for onboarding new plans, with one implementation partner sharing concerns about the administrative burden involved with adding new Medicaid plans to the program. In a separate discussion, one technical expert commented on the potential alignment between the Model and Medicaid, stating *"There may be an opportunity to have the PARHM joint goals align with some Pennsylvania Medicaid directives…we're wondering if that might be a future joint goal for those payers that are participating in Medicaid and the PARHM."* The implementation partners' views suggest that the participation mandate may lead to a mix of complications and advantages.

[k] To address these concerns, the Commonwealth stated that COVID-19 related policy decisions were passed by the Board of Directors in 2021 after the interviews were conducted.

[l] In DHS MC agreement requirements (pg. 154), the agreement states that "*MCOs that pay greater than $500,000 to a hospital participating in the PA Rural Health Model, must offer to pay the participating hospital in the form of a global budget as established by the current Technical Specifications for Rural Hospital Global Budget as published by the Rural Health Redesign Center. Hospitals participating in the Rural Health Model are excluded from bundled payment arrangements, because this would make the hospital doubly liable for a member (in both the global budget and the bundled payment). Payments that are linked to the Rural Health Model count as a Global Payment.*"

Feedback on TA and Implementation Support

Implementation partners continued to provide positive feedback on TA and implementation support from the RHRCA. At the time of data collection, there were approximately five RHRCA staff supporting hospitals with global budget implementation, transformation planning, and other implementation activities. One implementation partner commented that the RHRCA would benefit from more staff to support Model implementation because subcontracting with technical experts can be expensive. Despite this staffing challenge, another implementation partner noted that RHRCA technical support has facilitated Model activities, such the development of transformation plans.

The 2020 annual report states that the Commonwealth will stop recruiting after PY3 and focus efforts on implementation, reflecting CMMI's decision to loosen recruitment targets.[18] Implementation partners appreciated CMMI's new direction to focus on implementation rather than a continued emphasis on recruitment moving forward.[18] The RHRCA focused heavily on participant recruitment during the first three performance years, which limited staff capacity to focus on Model implementation. While this new direction did not affect implementation experiences during PY2 (2020), implementation partners unanimously agreed that the new CMMI direction increased confidence in the Model.

Payers generally appreciated the technical experts that administer the global budgets and serve as the intermediary between payers and participating hospitals. However, all payers were frustrated by frequent changes in reporting templates, expectations, and processes. One payer noted that expectations have improved over time, and payers now have more time (30 days) to review requested changes, ask questions, and deliver the report or file back to technical experts. Some payers expressed concerns that the global budget methodology is complex, not concisely documented, or summarized in an accessible way. There are monthly payer meetings to provide payers the opportunities to raise concerns or confusion about the methodology (Exhibit 3.1). One of the challenges for technical experts is that they need more detailed data (e.g., what claims are included/excluded) from payers to support hospitals.

3.2 Global Budget Implementation

Implementation partners, participating hospitals, and participating payers commented on the complexity of the global budget and the time and effort required to develop and monitor global budgets. Global budgets provided stable cash flow during the initial months of the COVID-19 pandemic when patient volume decreased. However, hospital leadership concerns about the potential payback required following reconciliation limited investment in transformation activities.[m]

Global Budget Development

Implementation partners commonly cited the exclusion of physician services under the global budget as a challenge, particularly services for primary care. One implementation

[m] To address these concerns, the Commonwealth stated that COVID-19 related policy were passed by the Board of Directors in 2021 after the interviews were conducted.

partner emphasized how this exclusion limits the Model's potential for success, saying, "*Without the physicians being vested with incentives within this Model, you have to depend upon the good will and graces of the medical staff.*" Another suggested that the Model could benefit from a value-based arrangement that incentivizes providers in the community (e.g., Rural Health Clinics) outside of the hospital, emphasizing that "*any value-based arrangement is going to encourage decreasing preventable utilization.*" Some of the implementation partners viewed the exclusion of hospital-based physician services and community-based services in the Model as a limitation to transforming care.

The global budget concept is complex, and hospital leadership found technical experts particularly helpful as a neutral intermediary with payers. Technical experts provided education and TA to hospitals in developing global budgets. Cohort 2 hospitals conducted historical revenue assessments concurrent with payer assessments. Using payers' and hospitals' datasets, technical experts helped negotiate mutually acceptable global budgets. Hospitals also compared payer-provided data with their assessments and submitted any concerns to technical experts. The large volume of data took time for the hospitals to review and verify. Technical experts were responsive to questions and concerns, providing solutions that satisfied hospital leadership.

Cohort 2 hospitals noted that commercial payers sought to balance the burden of global budget development and implementation with the hospital revenue included in the global budget. For example, one Cohort 2 hospital leader commented that a payer chose not to include privately insured commercial enrollees in the global budget because annual payments to the hospital for that population was very low; this payer included Medicare Advantage beneficiaries in the hospital's global budget because they accounted for a much larger share of spending at the hospital.

Once the global budget was established, hospital-specific support shifted to collective TA for participating hospitals. Hospital leaders recommended that one-on-one support continue beyond the global budget development process into a hospital's first year of Model participation. There were bi-weekly provider calls for Cohort 1 and Cohort 2 participating hospitals throughout PY2 (2020)[34] and these have continued into PY3 (2021)[35]; hospitals also continue to receive support one-on-one support from technical experts to prepare for the reconciliation process.

Several payers were disillusioned by the time needed to solidify the global budget methodology, including adjustments in the reconciliation process. We still shouldn't be trying to figure out how changes to a global budget are being defined, or the methodology behind them. We shouldn't be changing every few months, every six months, or every year the reporting that we need to provide. . . and having to continually update our processes …. When will we finally figure out how this program is run?

Payers' observations on the complexity of the global budget methodology and the hospitals' needs for TA were consistent with Cohort 2 hospital reports. Payers described receiving questions from hospitals about their monthly statements, acknowledging this was to be expected given small rural hospitals' limited resources and experience with claims data.

Global Budget Implementation and Monitoring

The Model enabled hospitals to focus on needed service expansion. Implementation partners commented on examples of hospital growth under the Model. One hospital's participation allowed the RHRCA to test and demonstrate that growth is achievable through the Model if there is appropriate utilization within the community. At least one hospital expanded cancer treatment services after justifying community need. The Model ensured that these hospitals' global budgets included associated drug costs, showing the Model can accommodate hospital growth and transformation.

The global budget continued to provide hospitals flexibility throughout the COVID-19 pandemic. The global budget helped keep hospitals open and "*whole*" as hospital revenue was not as sensitive to utilization shifts during the pandemic. Another implementation partner commented that some nonparticipating hospitals saw the value of the Model during the COVID-19 pandemic, suggesting that hospitals outside the Model were financially burdened by the pandemic.

Another challenge was helping hospitals and payers shift their mindset from FFS to a global budget payment system. One implementation partner discussed the challenge of shifting hospitals and payers to strategize and operate with global budgets instead of their traditional FFS incentive environment. Global budgets required payers and hospitals to collaborate and use data in a new way. A key issue for implementation partners was to establish a new approach to payer and hospital collaboration:

> *We have this financial incentive. It's global budget, but, once you get to the adjustments that they are asking to do, both on the payer side and the hospital side, inevitably, they are comparing the adjustments to the fee-for-service environment…That's been the biggest challenge, to see how to figure out the balance between how much work we ask from payers and how much work we expect hospitals to do on their own.*

Reflecting further on the global budget, the implementation partner expressed a desire to see more commitment to the Model's overall vision and the greater community good, "*balancing the accuracy and doing some adjustments to global budgets with the long-term vision and the goal.*" The implementation partner was concerned that hospital participants remained siloed and focused on their own interests instead of community needs.

The global budget provided stable cash flow, facilitating reliable financial and operational planning. Similar to the Cohort 1 hospitals, Cohort 2 hospitals appreciated fixed biweekly Medicare payments and float payments from commercial payers to meet ongoing financial obligations. At the same time, Cohort 2 hospitals noted risks with the global budget. For example, one hospital leader pointed out if the large employer in a small community changes insurance providers, it could greatly affect the global budget. Another Cohort 2 PPS hospital leader cited concerns about global budgets keeping pace with increasing costs and inflation in future years, saying, *"My concern going forward, though, is outside of major service line expansion, it's essentially capped."* Cohort 1 hospitals echoed similar concerns about increased workforce costs and rising inflation exceeding annual increases in payer contracts.

Cohort 1 and 2 hospital leaders appreciated the stable cash flow during the initial months of the COVID-19 pandemic when volume decreased. The global budgets shielded many hospitals from utilization and revenue fluctuations during the COVID-19 pandemic, with regular global budget payments providing steady funding. Additional emergency supplemental funding, including the Provider Relief Fund and the Paycheck Protection Program, also helped hospitals meet payroll costs—the major source of hospital expenditures. One hospital leader noted the importance of the global budget during COVID-19,

> *It [the global budget] really helped. I think that if we had not been in that Model, I'm not sure you'd be talking to me today, to be honest with you. I think it really helped us stabilize our finances. That was the whole goal going in. Of course, we got some assistance from the federal government and the state government, so that helped as well, but yeah, it really, I think, helped us stay stable and be able to continue to meet our financial obligations.*

Cohort 2 hospitals experienced challenges monitoring the global budget. Hospitals receive monthly reports from commercial payers with payment data based on projected volume. The large data volume takes time to review and verify. Two hospital leaders struggled to validate data from commercial payers because they received data for all payments to the hospital, but not all of the payers' products were included in their hospitals' global budgets, requiring the hospitals to clean up the data to analyze their global budgets. One hospital leader also noted the need to filter out physician fees billed through the hospital, which are not included in the global budget.

Two Cohort 2 hospital leaders reported they are unsure of their overall financial position at any moment in time because the claims run-out period and reviews result in a time lag in documenting hospital financial performance. At the time of a May 2021 interview, one hospital leader had received commercial payer data with a five-month lag time. Hospital leaders recognized the claims run-out period as a necessary part of the Model, but as one leader commented, *"Trying to, every month, figure out what's sitting in AR [accounts receivable] compared to the global budget is difficult. There's a lot of estimation."*

Payers characterized the global budget (including reconciliation) as the major focus of their involvement in Model discussions, disappointing those that expected greater focus on care delivery transformation. Global budget discussions consumed a lot of time and energy and, in the view of some payers, dominated RHRCA Board discussions and other meetings. Other topics, such as transformation plan updates, PAUs, clinical resources, and developing a payer/provider transformation goal were included as agenda items for payer/provider meetings.[18] Payers understand that a certain level of iteration about the global budget methodology is to be expected as part of a model project. However, most payers considered the changes to be excessive and costly.

Reconciliation of PY1 (2019) Global Budgets

The following section includes data from both Cohort 1 and Cohort 2 hospitals interviewed as part of the 2021 qualitative data collection.

Reconciliation continued to be a work in progress with a learning curve across Model participants and implementation partners. One implementation partner commented that some parties are more satisfied with the reconciliation process compared to others, explaining, "*That's just the nature of depending on where the numbers fall for you and what you think about it*." Similarly, several implementation partners noted the first reconciliation process identified problems requiring methodology changes. Despite differing viewpoints and challenges with the global budget methodology, another implementation partner shared that "*We do see a common commitment to getting [reconciliation] to making sense [and] not just serving what works better for [each respective party.]*"

Challenges in completing the reconciliation process within the planned timeframe were primarily due to delayed access to claims data and working with multiple payers to compile data. Reconciliation for PY1 (2019) was completed near the end of PY2 (2020). A technical expert reported that obstacles to performing in a timely and efficient manner included access only to summary data rather than detailed claims data. Working with multiple payers and teams to collect the data was time consuming, and required data cleaning further prolonged the process causing delays in the first reconciliation round:

> *We had data cleanup, so we collect summary data from commercial payers, and it is one of the biggest challenges of the program that we don't have access to claims data, and working with different payers, different teams, to get a clean data took a while…Then, since this was the first reconciliation and we had such challenges with the data, it took us more than what we planned.*

Cohort 1 hospitals commented that the first reconciliation was a learning process but were satisfied with the outcome. Cohort 1 hospitals reviewed data provided by technical experts, comparing the data with their own estimates. Cohort 1 hospitals had many questions during the first reconciliation and submitted questions to technical experts. Once the reconciliation process was complete, hospitals were satisfied in that the outcomes aligned with their expectations. The process was simpler for CAHs, as Medicare payments were reconciled to cost-based reimbursement, using a similar form as used prior to the Model. Cohort 1 hospitals were optimistic that the reconciliation process would be more efficient in the future.

Despite satisfaction with final PY1 (2019) reconciliation, Cohort 1 hospitals were cautious about future performance years. Cohort 1 hospitals monitored global budgets, relying partially on estimation due to retrospective adjustments calculated during the reconciliation process. Cohort 1 hospitals were not able to estimate unplanned volume shift adjustment, creating uncertainty about total annual revenue. As a result, hospitals were hesitant to invest surplus funds from PY1 (2019) in delivery system transformation because it was unclear if the unplanned volume shift would result in a surplus or loss the following year. One Cohort 1 hospital set aside surplus funds after PY1 (2019) reconciliation for potential payback to payers in future Model years.

Cohort 1 and 2 hospital leaders were concerned about reconciliation for PY2 (2020) because of the effects of decreased patient volume from the COVID-19 pandemic and supplemental emergency

COVID-19 funding.[n] Global budgets were determined by net patient revenue prior to the pandemic. Hospitals experienced large, unexpected decreases in volume during the early months of the pandemic. While hospitals continuously monitored the global budget payments received against expected reconciliation, PPS hospital leaders were still concerned about potential paybacks to Medicare and commercial payers after reconciliation. Two hospitals noted that they have set funds aside for potential paybacks after reconciliation.

Hospitals worked closely with their auditors to track all supplemental funding, including Provider Relief Funds, Paycheck Protection Program funds, and supplemental Commonwealth funding. Hospital leaders were concerned that supplemental funds may be considered duplicative of global budget payments. One hospital leader commented, *"You've got to have your own funds set aside for it and a whole reconciliation beforehand. To your point, so you make sure you don't spend the money when they'll suddenly turn around and ask for it back. That would be the only advice."*

For two Cohort 2 hospitals, the Medicare FFS portion of their global budgets included duplicate payments for items that were already reimbursed outside the Model. These unexpected payments under the global budget caused uncertainty about whether the hospital would have to return funds to Medicare during the reconciliation process, but the issue was unresolved at the time of the interview.

The four commercial payers that had completed the 2019 reconciliation had mixed observations about the process. Two payers reported a relatively smooth experience, while two others described a lengthier and more complicated process. Another payer was not involved in the 2019 reconciliation because it joined the Model in PY2 (2020).

Multiple payers raised concerns about adjustments, particularly those for unplanned volume shifts and planned service line changes. The technical experts calculate these adjustments, and the algorithms are not very transparent to the payers, making it difficult to forecast potential liability and creating uncertainty. One payer described a significant level of effort associated with running final adjustment data on unplanned volume shifts because the specifications are complex and change frequently.

3.3 Delivery System Transformation

The Model aims to improve the value and quality of care in rural hospitals by supporting hospital investments in prevention, quality improvement, and community-based services. Participating hospitals developed transformation plans outlining their approach to care delivery redesign. Tailored to the needs of the local community, these plans focus on addressing rural health disparities and high costs through robust chronic disease management, improved care coordination, and PAU reduction. Hospitals, participating payers, and implementation partners shared their perspectives on delivery system transformation, highlighting both the challenges and successes to adopting a community-based, cost-conscious, and quality-driven approach to care redesign under the Model.

[n] Following completion of interviews, the RHRCA and CMMI decided to delay PY2 (2020) reconciliation by one year, and plan to reconcile both PY2 (2020) and PY3 (2021) at end of 2022 to include an assessment of COVID-19 impact.

Hospital Transformation Plan Development

Cohort 2 hospitals, with support from technical experts, developed transformation goals by combining the Model's strategic priorities and local community needs. **However, lack of upfront funds to invest in staff, planning, and implementation—apart from prospective global budget payments—hindered transformation plan development for two hospitals.** One hospital leader mentioned that they *"looked at information in the Community Health Needs Assessment [CHNA] and really tried to focus on [the most pressing] issues [but] had no money to invest and very few resources"* noting that they felt *"strapped."* Another hospital leader noted that "*as a small hospital without a planning staff, it can be really hard to interconnect and align Model goals with executive and community health goals.*" Similarly, another hospital staff member remarked:

> *I love when I'm talking to people in a large system, and [they ask], 'How many people are on your team?' It's two, not 40. 'Who works with risk management?' Me. 'Who works with physician recruiting?' Me. 'Who works in the OR?' Me. In rural communities, we are really trimmed down in the number of staff we have, and so people wearing multiple hats can create some challenges.*

Cohort 2 hospitals utilized the CHNA to identify community priorities and inform transformation planning. Three hospitals identified chronic disease management as an urgent community need. Substance use disorders were a primary concern for four hospitals, while two hospitals noted insufficient behavioral health services as a key area for improvement. Additionally, two hospitals underscored obesity among both children and adults as a population health concern in their communities.[36]

Cohort 2 hospitals primarily focused on improving care coordination/management and reducing PAU in their transformation plans. Hospitals planned to reduce PAU through improved care coordination, health education, and tracking and intervening of high utilizers. Similar to Cohort 1 hospitals, Cohort 2 hospitals focused primarily on congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), and diabetes because these chronic conditions typically result in high utilization. CAHs also included behavioral health program implementation as a primary transformation goal.

Hospital Transformation

Cohort 2 hospitals made concerted efforts to reduce PAU through transformation activities (**Exhibit 3.2**). Hospitals sought to achieve avoidable utilization reduction through the following approaches: 1) providing patient and staff education, 2) tracking social risk factors and health-related social needs, 3) hiring dedicated staff to lead transformation activities, 4) developing high-risk patient registries, and 5) implementing formalized post-discharge follow-up processes. Some hospitals also engaged various clinical and nonclinical community organizations to improve substance use disorder and mental health care services and address food insecurity in their communities**.** Hospitals reported that delays stemming from the ongoing COVID-19 pandemic, resources to track and analyze data, and insufficient staffing continue to be significant barriers to care delivery transformation.

Exhibit 3.2. Cohort 2 Hospital Transformation Activities

Transformation Activities	Number Cohort 2 Hospitals (n=5)
Disease/Patient Management	
Hired Dedicated Staff	3
Developing High-Risk Patient Registry	3
Providing Patient or Staff Education	3
Tracking health-related social needs and risk factors	4
Care Coordination	
Conducting Post-Discharge Follow Up	5
Community Engagement	
Enhancing Behavioral Health Services	3
Addressing Food Insecurity	3
Service Line Changes[1]	4

SOURCE: Cohort 2 qualitative interviews and hospital transformation plans.

NOTE: This table reflects the cumulative transformation summary of five Cohort 2 hospitals that participated in the 2021 virtual site visits.

[1]Information about service line changes were gathered from the hospital transformation plans. Service line changes included both additions (general surgery, otorhinolaryngology, drug infusion) and expansions (obstetrics and gynecology).

Cohort 2 hospitals hired staff and/or developed patient registries to manage and track patients with chronic conditions. One hospital hired a population health navigator to identify, track, and support high utilizers of care. Through a retrospective review of patient data in the hospital ED logs, the population health navigator was building a high-risk patient registry and supporting identified patients through follow-up calls and education. Two other hospitals hired a clinical social worker to help connect high-need patients to community resources and reduce ED utilization. Another hospital developed a patient registry to identify and track patients with CHF; the hospital reviews this registry frequently to add or target additional comorbidities to improve care coordination and reduce avoidable utilization.

Some Cohort 2 hospitals were also addressing CHF in their communities. One hospital was implementing a standardized tool[37] to improve discharge planning for CHF patients. Two other hospitals established a multidisciplinary CHF post-discharge clinic to provide coordinated care and reduce readmissions. One clinic is led by two nurse navigators and a cardiologist and offers a range of services, including nutrition and social services. The hospital cited the clinic as a major accomplishment under the Model, with staff noting that the Model enabled them to establish the clinic quickly and improve care coordination for CHF patients. Before joining the Model, the hospital *"did not have an immediate, multidisciplinary [pathway] to care coordination, but through their participation [they are] able to take care to the next level."* The hospital staff member noted that "*when patients are flagged [as having CHF] in our electronic health record, we know to do things differently in the ED. We involve the [nurse] navigator from the CHF clinic [who] establishes a relationship with the patient [and] coaches them [post-discharge]."*

Additionally, the hospital is attempting to reduce CHF admissions through adoption of standardized clinical protocols when CHF patients present to the ED. For example, some patients after screening are directed to the clinic immediately if their symptoms can be managed through diuretic care without emergency intervention. The success of these efforts was emphasized by one hospital staff member, who noted that the hospital *"continues to report decreases in readmission and overall mortality with regard to the [CHF] cohort."* Also, through this expansion of the CHF program to an outpatient setting, the clinic is not only accepting patient referrals from acute care but from community providers as well. Thus, the Model has supported coordination across care settings and encouraged hospitals and community providers to collaborate.

> *The [CHF] program started as an inpatient pathway. [Through the Model], we took it to the next generation [and developed] the outpatient pathway. We figured out a way to work with all our doctors…not just those on the employed medical record, but also the community doctors. We did not have an [outpatient] clinic and had a lot of difficulty figuring out a way to implement it. The Model has enabled us to do that.*

Some hospitals invested in patient and/or staff education to improve staff-patient communication and provide continuing social determinants of health (SDOH) education to staff to support Model-related goals. One hospital implemented a health literacy program for older adults (≥65 years) admitted for inpatient care. To further support this effort, the hospital applied for and was awarded a grant focused on addressing health literacy and SDOH that they learned about through the RHRCA. A respondent from this hospital noted that they were grateful to have been put in contact with the funding institution given the few resources the hospital had available to implement their transformation. The grant facilitated internal staff education and training, including managers and nurses, to ensure spoken language and written materials are culturally competent and individualized to each patient. One hospital staff member noted, *"Our staff has done different [training] to approach patients, [paying mind to] the verbiage they use [and the] different methods in which they teach."* The hospital attributed improvement in patient satisfaction scores to better patient communication. Lastly, two hospitals began educating patients with OUD on treatment options, including medication-assisted treatment (MAT) with buprenorphine.

Most Cohort 2 hospitals began formally tracking social risk factors and health-related social needs, with some using a standardized social risk assessment tool to identify patient needs and tailor care transformation activities accordingly. One hospital noted that before participation in the Model, information about health-related social needs was delivered by "*word of mouth.*" Since joining the Model, the hospital has implemented the Protocol for Responding to and Assessing Patient Assets, Risks, and Experiences (PRAPARE) tool[38] to collect data on drivers of poor health outcomes for their patients. Now, *"if a patient mentions [issues with] transportation, paying for medications, food access, shelter, etc., an alert is sent to the patient advocate."* The patient advocate then consults with the patient and connects them to pertinent services in the community to address their need(s). As part of its transformation goals, the hospital is primarily focusing on collecting social risk factor data on their patients with CHF to coordinate care and reduce PAU for this high-utilizer population. Similarly, another hospital reported using the PRAPARE tool *"much more since joining the Model,"* commenting on how the tool has increased patient referrals to community-based services (e.g., food

delivery). The hospital integrated the PRAPARE tool into its electronic health record, enabling alerts to the population health navigator if a patient presents with a specific social need(s). Greater analysis and tracking of social risks helped the hospital address patients' social needs.

Cohort 2 hospitals focused on either improving or formalizing post-discharge follow-up processes to improve care coordination. One hospital began incorporating standing patient appointments for post-discharge follow up with primary care providers to reduce wait times. This enabled the hospital to proactively schedule follow-up appointments with patients before discharging them from the ED. The hospital is also piloting a program with a small group of insurers to reduce readmissions. The pilot program will involve follow-up phone calls to patients and connecting them to community providers based on their specific need(s). Similarly, another Cohort 2 hospital hired a population health navigator to help with transformation activities including outreaching to all high-risk, high utilizers to schedule follow-up primary care appointments.

Some Cohort 2 hospitals implemented telehealth to reduce avoidable ED utilization. Two hospitals launched a telehealth program to use primarily with patients in skilled nursing facilities. The hospitals aim to conduct consultations via virtual platforms to reduce unnecessary trips to the ED and minimize the need for already scarce transportation services between facilities. The hospitals also were working to improve SUD/OUD care delivery during the pandemic through a telemedicine program with county authorities to conduct virtual warm hand-offs of patients needing community-based treatment. Another hospital reported that its "*home care population has a [higher rate of ED usage] than the national average"* and was *"[hoping to] decrease usage by bringing services to patients in the community*." According to one hospital staff member, many home care patients do not need to go to the ED but want interaction with and treatment from a physician instead of home health nurses. Therefore, the hospital is implementing a telehealth program to facilitate connections between physicians and home care patients to reduce ED visits.

Four Cohort 2 hospitals engaged community-based organizations to facilitate transformation efforts to improve behavioral health access, address food insecurity, and reduce avoidable ED utilization. One hospital implemented a blood screening program in partnership with a local civic organization to build a comprehensive registry of high-risk patients. For instance, the screening results can provide information on cancer, diabetes, and overall heart health. The blood test results will play a key role in accelerating care to at-risk individuals; by identifying chronic health conditions early, the hospital hopes to connect community members to primary care providers and provide education on managing their conditions. By looping in primary care, the hospital hopes to reduce unnecessary ED utilization.

Another hospital worked with a local family practice and county authorities to implement the Screening, Brief Intervention, and Referral to Treatment tool[39] through transformation work to facilitate access to community-based behavioral health care and reduce ED utilization. When patients with a mental health emergency present at the ED, they undergo a physical evaluation to ensure they are stable and not in need of immediate inpatient services. Following the brief screening by the onsite crisis center, patients are referred for specialty treatment at an outpatient facility, ensuring those at risk of mental and/or physical harm to themselves are treated in a timely manner.

In addition, the hospital hired a population health navigator with close ties to community-based organizations, which has helped strengthen local partnerships. Notably, the hospital reported connecting more patients to community-based services since hiring the population health navigator.

Two hospitals worked closely with the county to implement a telemedicine program to facilitate virtual warm hand-offs of patients with SUD during the COVID-19 pandemic. The hospitals reported this collaborative effort was successful, noting that the community organization was *"proactively reaching out on a regular basis to implement the program."* The hospitals have also made progress on other SUD treatment goals, including expanding their long-term residential 90-day MAT program at an inpatient treatment facility (particularly for pregnant women) and implementing a syringe exchange program.

Three Cohort 2 hospitals also addressed food insecurity in their communities through partnerships with local nonprofit organizations that provide high-quality and nutritious foods to people in need. For instance, one hospital recognized the difficulty patients requiring kidney dialysis face in accessing and purchasing healthy food. As such, the hospital began working with a local food delivery nonprofit to provide food delivery services for these patients.

The ongoing COVID-19 pandemic continued to be a transformation barrier for Cohort 2 hospitals. All interviewed Cohort 2 hospitals reported delays in transformation activities and community engagement because of the pandemic. For instance, one hospital planned to engage local public schools in nutrition and wellness programs designed to reduce childhood obesity. However, due to school shutdowns and lack of viable virtual platforms, the hospital was unable to pursue this transformation goal. Additionally, despite one hospital's attempt to strengthen behavioral health care through quarterly group meetings with community-based behavioral health organizations, COVID-19 interfered with these efforts and slowed engagement. Notably, COVID-19 was reported to have accelerated adoption of telehealth services for three hospitals.

Hospitals need more resources and ongoing technical support to implement transformation plans successfully. One implementation partner shared that hospital administrators were *"extremely pleased"* with how the Model was operating and agreed that hospital transformation plans are key to success. However, the implementation partner also acknowledged that *"[hospital transformation plans are] where things are the weakest right now,"* explaining that the plans are conservative and not transformational. The stakeholder emphasized the need for increased TA for transformation planning and a potential change in expectations.

Similarly, a technical expert was critical of the limited resources and coaching support provided to hospitals to achieve transformation plan goals. The technical expert's understanding was that the original Model design provided more resources for hospitals to implement transformation goals, including ongoing coaching and help to begin addressing health-related social needs, such as lack of transportation and food insecurity. While the RHRCA had to reduce some of the ongoing TA due to funding reductions in 2020, the RHRCA also temporarily halted ongoing support in 2020 at the request of hospitals due to the COVID-19 pandemic. At the time of the interviews, the technical expert reported that coaching entailed assisting hospitals with creating a plan and then meeting yearly to update the plan.

Commercial payers lacked a "sight line" into hospitals' progress and accountability on transformation goals. Payers understood that COVID-19 diverted hospitals' attention from transformation activities but remain unclear on how implementation partners plan to measure hospitals' progress toward transformation or hold them accountable for outcomes. Several payers expressed interest in receiving more information on transformation progress, but one noted limited capability to focus on transformation activities because the Model's payment aspects already require significant staff time.[o]

> *I do look forward to seeing more outcomes published in the future around the hospitals, the potentially avoidable utilization managed through disease management programs, provision of mental health services, and the social determinants piece. . . I just don't feel like we've had a great line of sight into how things are tracking on those fronts.*

Payers also noted some barriers to fully engaging with the hospitals around transformation. One payer suggested that hospitals may be reluctant to share details of their transformation efforts with other hospitals and payers (several of which also own hospitals) because of concerns about sharing competitive information.

Some payers questioned whether a hospital-focused model is the correct approach to care delivery transformation in rural areas. They believe health systems and other market factors, such as consolidation, are already driving this transformation or that physician groups are better positioned to influence population health. Other payers conceded that it is too soon to tell whether the Model will be successful.

> *Are they [payer's members] better cared for because of this program? I just don't think we have enough data to be able to know that yet.*

3.4 Assessing Quality, Access, and Hospital Performance in the Model

The original Model design included mechanisms to monitor and measure the quality of care provided by participating hospitals: 1) an All-Payer Quality Program, 2) the quality metrics outlined in the CMMI contract with the Commonwealth, and 3) a monitoring plan.

[o] The RHRCA presented preliminary Model results including both financial and quality of care at a Board of Directors meeting in November of 2021 (after the payer interviews were conducted).

All-Payer Quality Program. As part of the Commonwealth's agreement with CMMI, the RHRCA was required to develop an All-Payer Quality Program. However, the All-Payer Quality program was discontinued due to a resource shortage, and it was determined that Medicare quality programs would remain in place during the Model. The work undertaken for the All-Payer Quality Program informed the renegotiation of the statewide quality measures.

Quality Measures and Monitoring. The Model aims to test "whether care delivery transformation in conjunction with hospital global budgets improves health outcomes and quality of care for Pennsylvania's rural residents." In PY1 (2019), the Commonwealth began collecting HEDIS data from commercial payers, and in PY2 (2020), all five participating commercial payers submitted HEDIS quality data, both baseline and current data. At the end of PY2 (2020), the RHRCA, payers, providers, and CMMI agreed on Model quality metrics to measure population health outcomes. These measures include five HEDIS, one PQI and two National Quality Forum (NQF) measures (see **Statewide Quality Measures**). The Model target requires the mean performance rate for rural geographic areas to close the gap with the national rural, non-Pennsylvania mean performance rate.[40]

STATEWIDE QUALITY MEASURES

- Plan All-Cause Readmission (HEDIS)
- Hospital-Wide All-Cause Readmission (NQF)
- Inpatient and ED Visits for Ambulatory Sensitive Conditions (PQI)
- Use of Pharmacotherapy for Opioid Use Disorder (NQF)
- Pharmacotherapy for Opioid Use Disorder (HEDIS)
- Risk of Continued Opioid Use (HEDIS)
- Rate of Adults with Preventive Care Visits (HEDIS)
- Follow Up after ED Visits for Patients with Multiple Chronic Conditions (HEDIS)

The CMMI implementation contractor developed monitoring reports with Medicare FFS data to assess quality and ensure that the Model does not have unintended consequences related to access to care. These dashboards were made available to participating hospitals.

Pennsylvania does not have an all-payer claims database. Commercial payers therefore report aggregate data to the Commonwealth on an annual basis.

Hospital and Implementation Partner Perspectives on Assessing Quality

Hospital participants reported needing real-time actionable, patient-level data to achieve transformation goals. Several hospitals identified the need for patient-level data to enable coordination with other hospitals and outpatient settings and assist with efforts to improve care for high utilizers. One hospital care coordinator believed it would be helpful to work with payers to identify high-risk patients who may be "*doctor shopping*" or "*self-medicating*," noting that "*We could intervene much sooner if we can see better where all that they've been; we don't know where they've been other than when they come to our emergency room.*"

Most hospitals reported limited capacity and resources to analyze data. Several hospitals noted tracking and extracting data manually for care coordination purposes. One hospital mentioned putting substantial effort into "*manual data mining*" to synthesize information and identify patients

who need follow-up calls. Implementation partners also said that hospitals reported needing additional support in analyzing and processing claims data, confirming what one hospital CEO stated:

> *We don't have a whole lot of—being small and independent and financially strapped at the hospital, we don't have a whole lot of internal tools for data collection.*

Implementation partners recognized actionable data at the hospital level needs to identify utilization patterns as close to real time as possible. They also noted that Pennsylvania lacks the infrastructure that other states may have to provide this level of information to hospitals. The implementation partners also identified additional barriers to the exchange of actionable data, including that most existing value-based payment efforts are aligned with primary care and payers' reluctance to share TCOC and other utilization data with hospitals, because of privacy concerns and payment rate confidentiality.

One implementation partner also noted that even if hospitals receive timely data, most do not have the resources or capacity to manage or process the files. The RHRCA planned to recruit more staff internally to support hospital participants' data-processing activities.

The RHRCA was working to address issues related to accessing population health data and data sharing among the authority, payers, and hospitals. Implementation partners commented that hospitals do not have access to timely utilization data, which subsequently hinders hospital transformation efforts. Implementation partners reported the need for alignment between hospitals and payers regarding data to achieve transformation goals and decrease avoidable utilization, noting that while hospitals submit data through an episodic claim-based system, they do not have access to a "*population-health-based system"* that helps them track patient pathways. They added that if payers provided hospitals with a patient's risk score, for instance, it could help them track a patient's disease state over time, which could help them develop a targeted intervention.

Payers concurred that it was too soon for them to gauge whether quality of care has improved under the program.[p] Similar to the transformation plans, payers have not been able to focus on quality because of the level of effort related to payment. Payers submit HEDIS data for participating hospitals to the implementation partners, but they do not engage with the hospitals directly to monitor the quality measures or report associated outcomes.

[p] As noted previously, the RHRCA presented preliminary findings on quality of care at a Board of Directors meeting that followed the payer interviews.

Chapter 4: Descriptive Assessment of Financial Performance and Interim Medicare Spending

Key Takeaways

Measure Domains and Data Sources

- Financial performance measures are based on Medicare cost report data (FY2013-FY2018).
- Medicare FFS interim payment and utilization measures are based on Medicare cost report data (FY2013-FY2018), Medicare Parts A and B claims (CY2013-CY2020), and Model Global Budget Payment documents (PY1 and PY2).
- Model settlement amounts (i.e., final reconciled payments) are based on the Model's tentative settlement worksheets from PY1 (2019).
- The descriptive results in this report provide context on the financial performance and utilization associated with the Cohort 1 hospitals during the baseline period and will inform subsequent analysis of impact. The results are not an assessment of the Model's reach (i.e., scale target performance), impact on the financial viability of participating hospitals, or Medicare utilization and spending.

Financial Performance in the Baseline Period

- The financial viability of most participating CAHs deteriorated during the baseline period (FY2013-FY2018); insolvency risk increased and liquidity levels remained persistently low.
- On average, Cohort 2 hospitals were marginally less financially distressed than Cohort 1 hospitals, which may have contributed to their delayed participation.

Trends in Interim Medicare Payments and Utilization

- Decline in inpatient volume at most of the participating hospitals and low levels of liquidity at participating CAHs may have made fixed, biweekly global budget payments an attractive reimbursement alternative.
- The COVID-19 pandemic's effects on interim Medicare FFS biweekly payments demonstrate the benefits of fixed biweekly payments in generating predictable cash flow for participating hospitals.
- Differences between the global budget payment and reported costs resulted in larger than usual variability in settlement adjustments during the reconciliation period.

The evaluation aims to assess quantitatively the Model's impact on the financial viability of participating hospitals, health care spending, and utilization, as well as access to care and health outcomes for the population served by participating hospitals. Because of the limited reach of the Model—13 of the 65 eligible hospitals participated in the Model during PY2 (2020)—and related implications to evaluability,[q] we conducted an exploratory, descriptive analysis of the Model hospitals' financial and utilization outcomes. Findings from this preliminary analysis will inform our understanding of the factors motivating participation as well as the change in utilization and service mix during the early implementation phase of the Model.

In this report, we present descriptive data on the preliminary, exploratory analysis of financial performance, interim Medicare FFS reimbursement, and utilization during the baseline period (2013-2018), PY1 (2019), and PY2 (2020) for the Cohort 1 and Cohort 2 hospitals.[r] This report does not include descriptive data on spending and utilization for the Medicaid population due to limitations of data quality and availability; future reports will include these analyses.

This section presents the methods informing the quantitative assessment and is followed by the descriptive assessment of the financial performance outcomes sourced from the Medicare cost reports. Then, we cover Medicare spending and utilization outcomes sourced from Medicare FFS claims. Finally, we review the Model's global budget payment program documents.

4.1 Methods

The exploratory, descriptive assessment of baseline trends in outcomes includes the five Cohort 1 hospitals and eight Cohort 2 hospitals. The period of analysis is six baseline years (2013-2018) and the first performance year for each respective cohort—PY1 (2019) for Cohort 1 and PY2 (2020) for Cohort 2. In addition to descriptively assessing model-wide trends, we also stratified the analysis based on the participating hospitals reimbursement methodology—inpatient and outpatient PPS or cost-based CAH reimbursement.

In most exhibits, trends for participants are shown alongside those of eligible nonparticipating hospitals. These are hospitals that meet the conditions for participating in the Model but elected not to participate. This group, as described in further detail in chapter 2, is comprised of 44 PPS and 9 CAHs located throughout the state. They serve as a benchmark for descriptively assessing how financial and care utilization measures differ between those that elected to participate and those that did not at baseline, which may provide insight into hospitals' decision-making processes around Model participation. They do not, however, serve as a comparison group for evaluating the impact of the model. There may be characteristics that impact both the desire to join the model as well as the outcomes shown for which we do not control.

[q] Based on findings from the power analysis, the current level of participation results in a study population size that is insufficient to detect an impact of 5 percent or lower on outcomes that are relevant to PHARM.

[r] We included six years of data in the baseline period to provide insights on the long-term financial trajectory of the participating hospitals. We may consider a shorter baseline time period to assess the Model's impact on outcomes.

Exhibit 4.1 presents the measure domains and measures included in the descriptive assessment and the associated data sources.[s] The Medicare cost reports served as the data source for the financial performance measures. **Appendix Exhibit C.4** presents the cost report worksheets and data elements that were used to construct each of the financial performance measures. Medicare FFS spending and utilization measures were compiled from the Medicare FFS claims in the CMS Chronic Conditions Warehouse Virtual Research Data Center. **Appendix Exhibit C.5** presents additional details on specifications for the claims-based measures.

Exhibit 4.1. Measure Domains, Measures, and Data Sources

Domain: Financial Performance

Sub-Domain	Measures	Data Sources
Profitability	■ Total Margin ■ Operating Margin	Medicare Cost Reports (FY2013-FY2018)
Liquidity	■ Days Cash on Hand ■ Days in Gross Accounts Receivable	
Capital Structure	■ Debt Service Coverage Ratio ■ Long-Term Debt to Capitalization	
Cost Structure	■ Average Age of Plant ■ Salaries to Net Patient Revenue ■ Total Costs for Hospital-Based Services ■ Total Inpatient Costs ■ Outpatient Costs	
Revenue Structure	■ Payer Mix	

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

Sub-Domain	Measures	Data Sources
Medicare FFS Reimbursement	■ Interim Medicare FFS Payment for Global Budget-Covered Services ■ Interim Medicare FFS Payment for Hospital Inpatient Services ■ Interim Medicare FFS Payment for Hospital Outpatient Services ■ Interim Medicare FFS Payment for Professional Services ■ PY1 (2019) Global Budget Payments	Medicare Parts A and B Claims (CY2013-CY2019)
Medicare FFS Reimbursement	■ Preliminary Cost-Based Reimbursement for Global Budget-Covered Services	Medicare Cost Reports (FY2013-FY2018)

[s] This report only includes a descriptive assessment of trends for the financial performance and Medicare spending and utilization measure domains. The assessment of population health, access, and quality of care outcomes for the population served by the Model participants will be included in future reports after the analysis associated with attributing RGAs and the target populations to the Model participants is completed.

Sub-Domain	Measures	Data Sources
Variability in Medicare FFS Reimbursement	▪ Variability in Biweekly, Interim Medicare FFS Reimbursement	Medicare Parts A and B Claims (CY2013-CY2019)
	▪ Variability in Final Cost-Based Reimbursement Settlement Adjustments	Medicare Cost Reports (FY2013-FY2018)
Change in Service Mix	▪ Change in Inpatient Service Mix ▪ Change in Hospital-Wide Service Mix	Medicare Parts A and B Claims (CY2013-CY2019)

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

Key Limitations

The results of the analysis below cannot be attributed solely to the Model. As this is a descriptive assessment, rather than an impact assessment, we are solely observing the trends in outcomes of interest, not isolating the impact of the Model on those outcomes.

Since the onset of the COVID-19 pandemic coincided with PY2 (2020) of the Model, the change in health care utilization trends during this period should be interpreted with caution.

The small number of hospital types and cohorts also present limitations. There are two CAHs in Cohort 2, and three CAHs and two PPS hospitals in Cohort 1. These small groups of hospitals are, in some ways, quite heterogeneous which can make for noisy trends in outcomes. Unless otherwise noted, the results shown in this chapter reflect outcomes where there was a clear trend without a substantial outlier or divergence within the group. Individual outliers that drive trends are noted.

Hospital mergers and acquisitions also complicates the interpretation of our analyses. During the baseline period, 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 reflected as inflection points in our outcomes trends for these hospitals. While no Cohort 2 hospitals were acquired during the baseline period, 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 baseline period but acquired by the Penn Highlands System in 2020 and 2021, respectively.

The differences between the measures in our two domains should also be noted. While a hospital's financial performance measures reflect facility wide costs and revenues, measures based on interim Medicare FFS claims solely reflect spending and utilization for the Medicare FFS population. We do not offer insight into the trends in the hospitals' services provided to Medicare Advantage beneficiaries, Medicaid beneficiaries, privately insured, or self-paying patients. Similarly, we do account for the component of spending on behalf of Medicare FFS beneficiaries for which Medicare Parts A&B are not responsible (e.g., the portion of a stay paid for by Medicaid for a dually eligible beneficiary).

The Model's performance is assessed on a calendar year basis. However, the data in Medicare cost reports are reported on a fiscal year (FY) basis; the definition of fiscal year varies by hospital. As a result, the financial performance outcomes for FY2018 overlap with both baseline year (2018) and PY1 (2019). Medicare FFS claims-based spending and utilization measures are reported on a calendar year basis.

Some data quality issues in FFS claims and cost reports posed a barrier to analysis for some participating hospitals and eligible non-participants. These included missing data, such as a lack of published cost reports for a given hospital in particular years. Additionally, certain data points were extreme outliers, such as total margins for a given year reaching >150% in 2017 while hovering near 0 for all other years. Rather than attempt to develop imputation methods to correct for these issues, which would have been challenging given the limited number of data points available, we chose to drop hospitals with anomalous and missing data. To the extent that this missingness is non-random, it may diminish the representativeness of the results.

Lastly, because final reconciled Medicare reimbursement data for the analytical period were unavailable at the time of this analysis, the results in this report are based on trends in interim Medicare reimbursementfor the Cohort 1 and 2 CAHs and PPS hospitals and Medicare Cost Report settlement adjustments for Cohort 1 CAHs.[t]

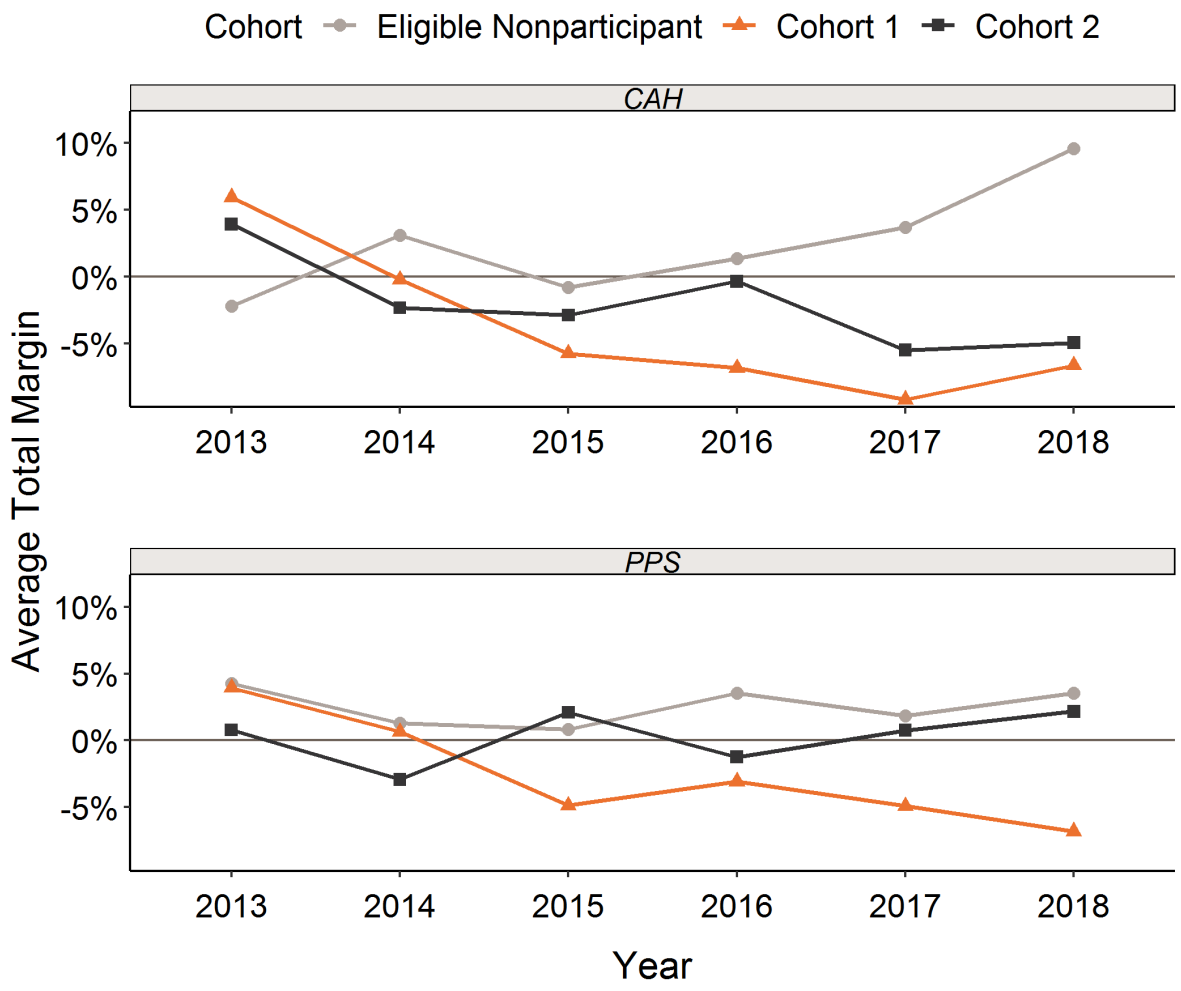
4.2 Descriptive Assessment of Financial Performance in the Baseline Period

To provide context for understanding the participating hospitals' financial motivations, 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. We stratified the analysis by participation cohort to assess if early participants (i.e., Cohort 1) were likely to be at a higher risk of financial distress. Additionally, we stratified the analysis based on reimbursement method (CAH and PPS) to account for differences in the global budget methodology and the resulting incentives.[u]

The financial viability of most participating CAHs deteriorated during the baseline period. On average, Cohort 2 hospitals were marginally less financially distressed than their Cohort 1 counterparts. During the baseline period, total margins (**Exhibit 4.2**)—an indicator of a hospital's overall financial strength and ability to generate profits and resources required to invest in facilities, staff, and infrastructure—declined for Cohort 1 and 2 CAHs and Cohort 1 PPS hospitals. Margins were, on average, negative for both cohorts for much of the period, particularly toward the end of the baseline period before Model introduction (with the exception of Cohort 2 PPS hospitals). Cohort 2 PPS hospitals, on average, saw a slight trend toward increased (and positive) margins.

[t] Since it can take over two years after the end of the fiscal year to determine the final settlement adjustments, there is significant lag in the data on cost-based reimbursement for participating CAHs.
[u] The fixed, prospective global budget payments are reconciled to costs for participating CAHs after the end of each performance period.

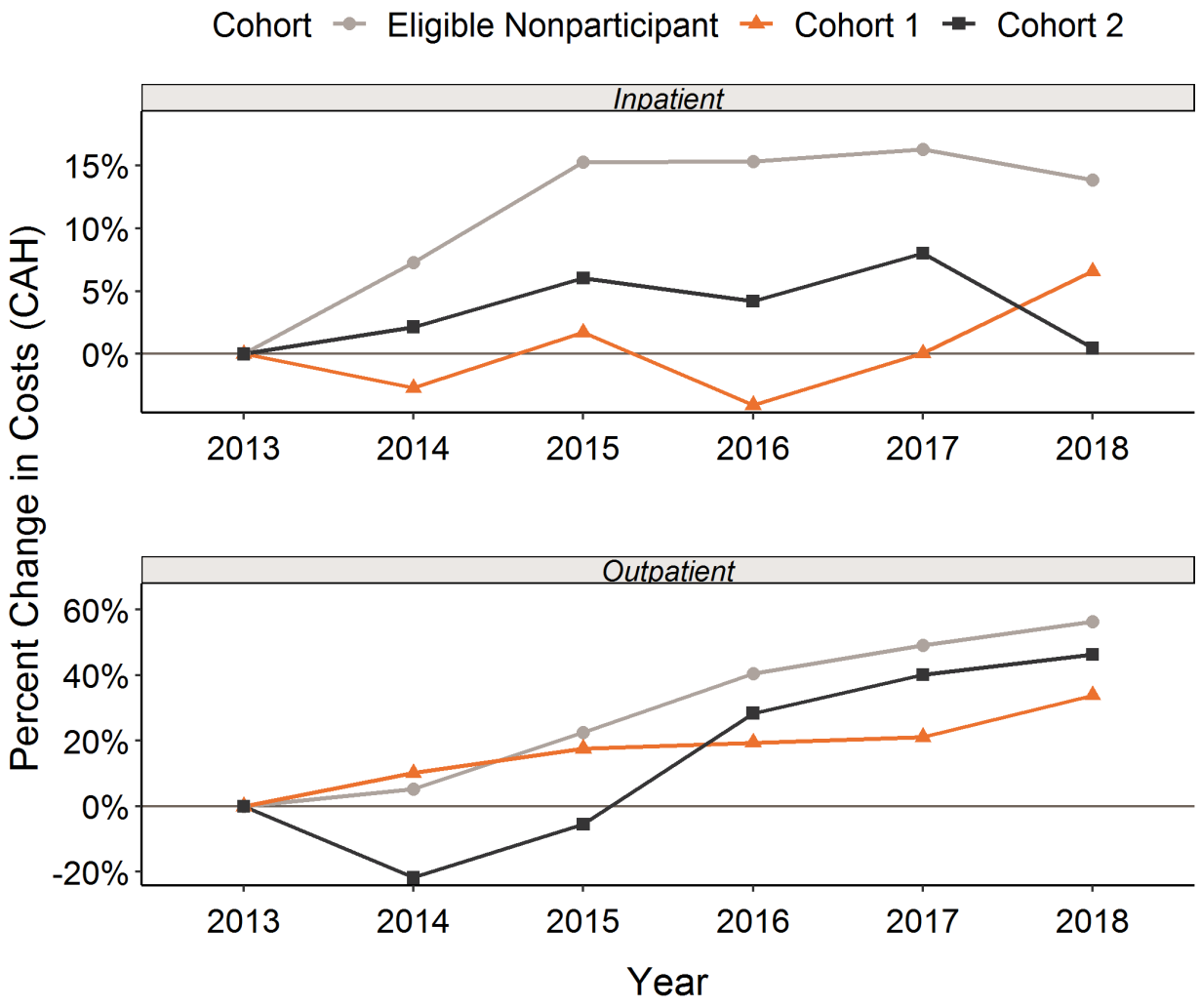
Exhibit 4.2. Total Margins Declined During the Baseline Period (2013-2018) for Cohort 1 and 2 Critical Access Hospitals (CAHs) and Cohort 2 Prospective Payment System (PPS) hospitals



SOURCE: Medicare Cost Reports (FY2013-FY2018)
NOTES: Trends reflect group averages. Two eligible nonparticipating hospitals, Guthrie Medical Center and Penn Highlands Elk, were omitted from this figure due to missing and/or anomalous data.

Participating CAHs in both cohorts saw increasing outpatient costs and limited growth in inpatient costs (Exhibit 4.3). The trends likely reflect a shift from inpatient services toward outpatient services, which saw cost growth as a result.

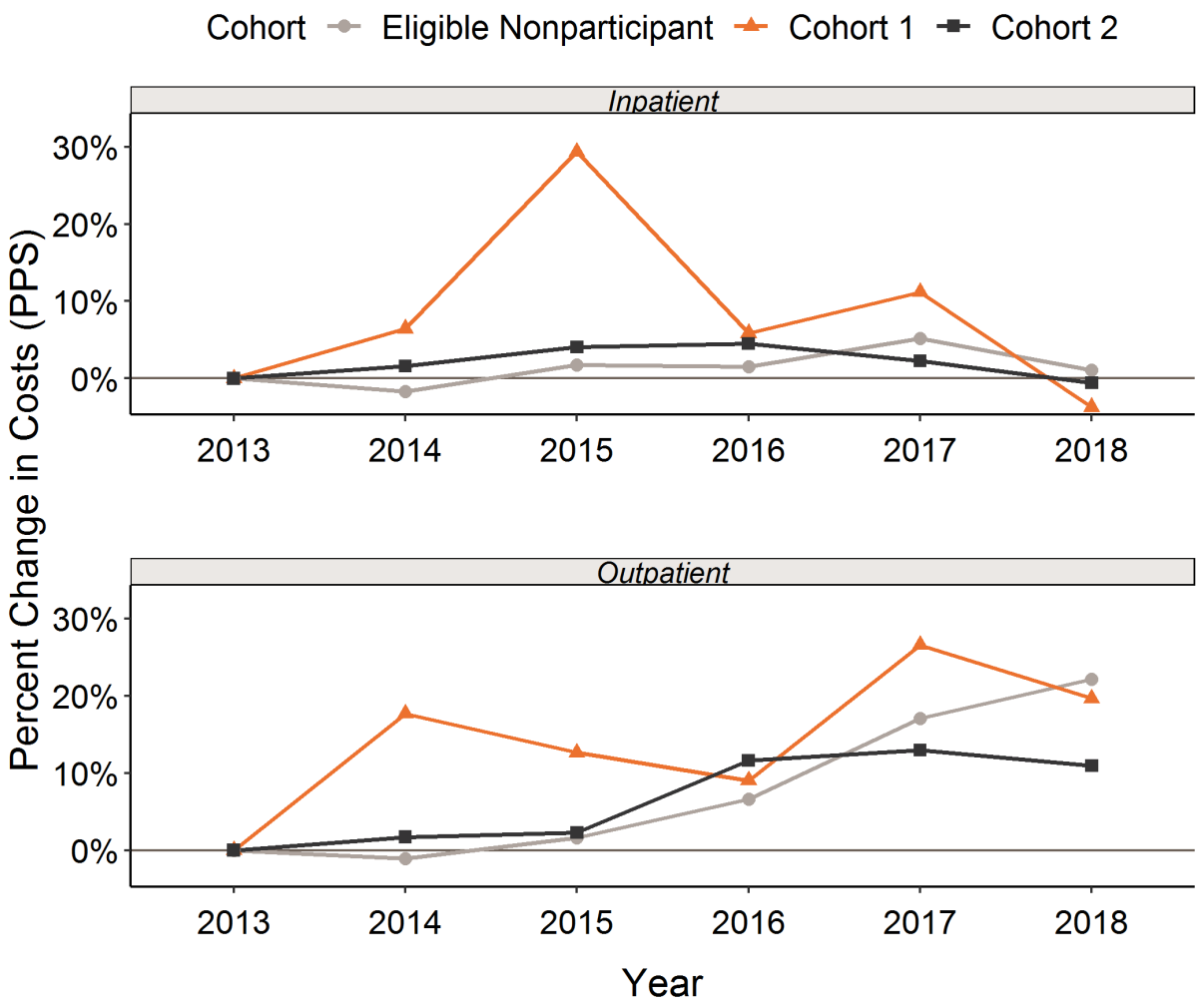
Exhibit 4.3. Participating Critical Access Hospitals (CAHs) Saw Limited Growth in Inpatient Costs During the Baseline Period (2013-2018)



SOURCE: Medicare Cost Reports (FY2013-FY2018)
NOTES: Trends reflect group averages. One eligible nonparticipating hospital, Penn Highlands Elk, was omitted from this figure due to missing data. Percentage changes reported are cumulative change relative to the base year (2013).

Cohort 1 PPS hospitals had volatile inpatient costs during the baseline period (Exhibit 4.4). Among participating PPS hospitals, there was a leveling out of inpatient costs and growth in outpatient costs during the baseline period. Overall, as was the case for CAHs, the trends reflect a shift from inpatient services to outpatient services.

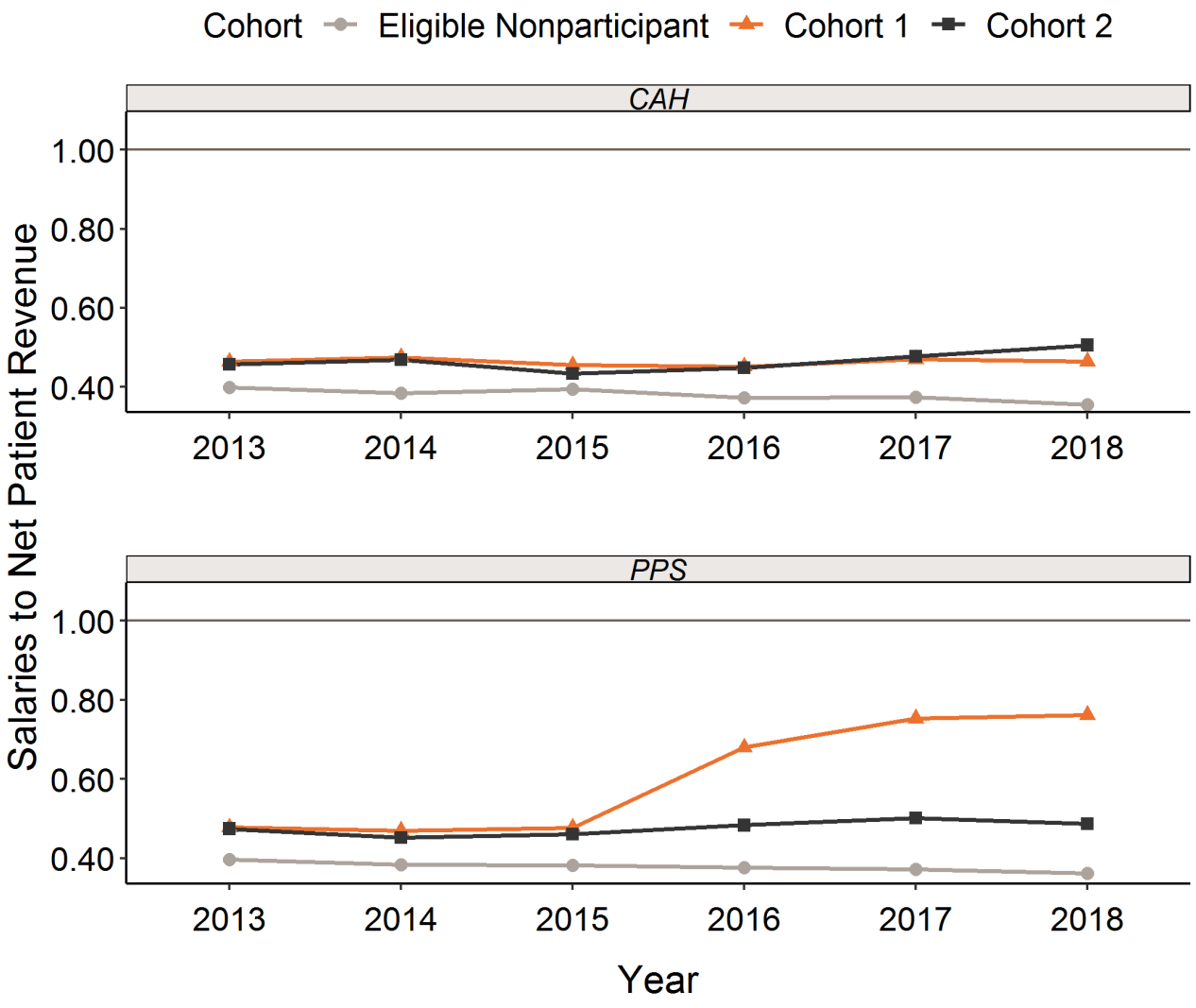
Exhibit 4.4. Participating Prospective Payment System (PPS) Hospitals Had Volatile Inpatient Costs During the Baseline Period (2013-2018)



SOURCE: Medicare Cost Reports (FY2013-FY2018)
NOTES: Trends reflect group averages. One eligible nonparticipating hospital, Guthrie Medical Center, was omitted from this figure due to anomalous data. Another, Warren General Hospital, was omitted from the outpatient series (but not the inpatient series) due to anomalous data. Percentage changes reported are cumulative change relative to the base year (2013).

Participating hospitals had persistently high personnel costs relative to revenue (Exhibit 4.5). Salaries to net patient revenue—an indicator of the staffing efficiency of a hospital—remained persistently high during the baseline period for most participating hospitals. The acquisition of Kane Community Hospital by UPMC during the baseline period contributed to the measurable increase in personnel costs for Cohort 1 PPS hospitals. Personnel costs are a major component of overall hospital expenditures, especially for low-volume CAHs that must meet staffing standards to comply with CAH Conditions of Participation (CoPs). The degree to which salaries are fixed costs as opposed to variable costs, particularly in a market with declining patient volume, may have impacted the financial performance of the hospital participants.

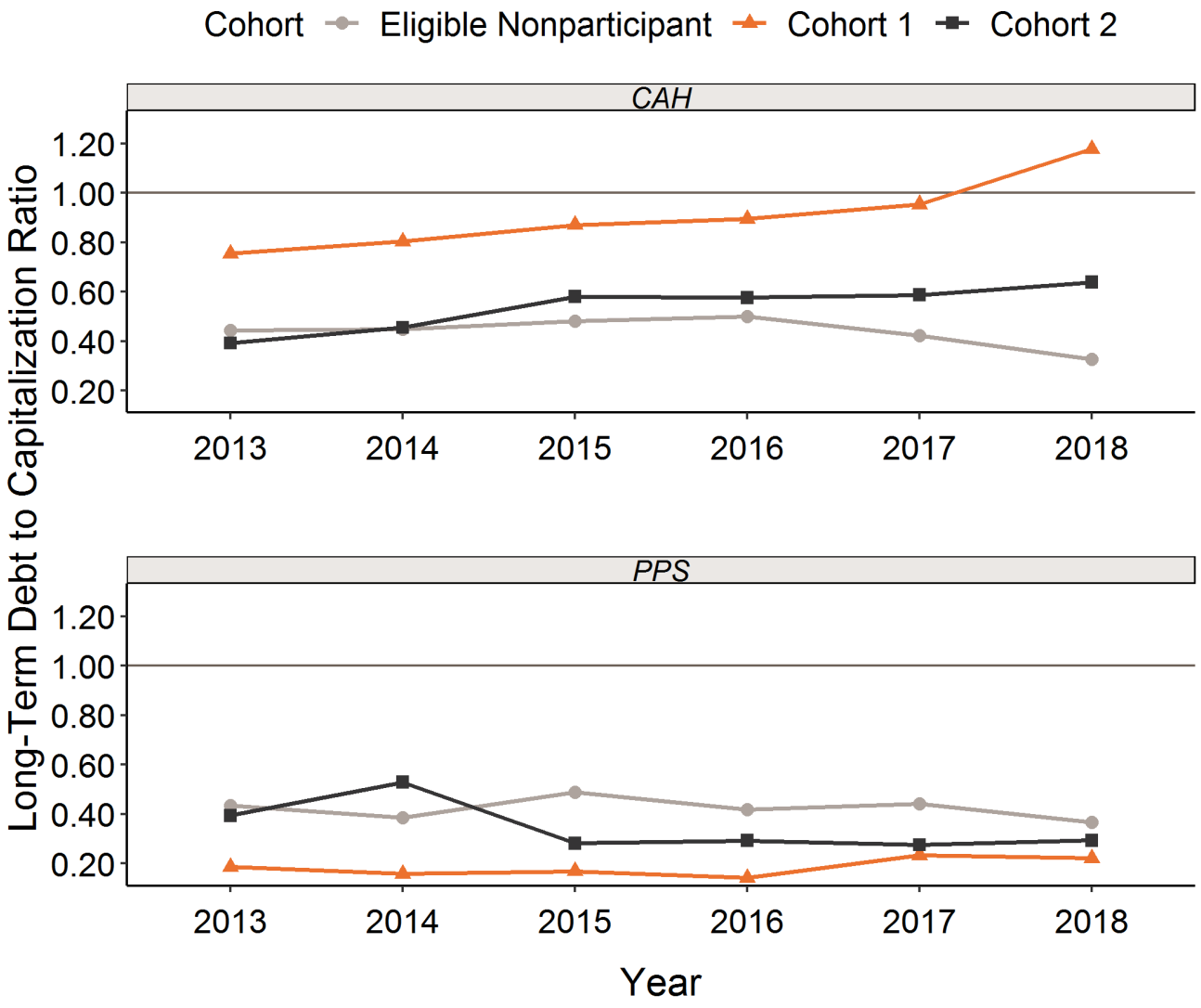
Exhibit 4.5. Personnel Costs Relative to Revenue Remained Persistently High During the Baseline Period (2013-2018) for Participating Hospitals



SOURCE: Medicare Cost Reports (FY2013-FY2018)
NOTES: Trends reflect group averages. Two eligible nonparticipating hospitals, Guthrie Medical Center and Penn Highlands Elk, were omitted due to missing values and data validity concerns in the series.

Financial solvency of participating CAHs worsened during the baseline period (Exhibit 4.6). The long-term debt to capitalization ratio—a measure of financial solvency—increased for participating CAHs during the baseline period, particularly for Cohort 1 CAHs. Participating CAHs relied increasingly on debt rather than equity to finance their assets, which resulted in higher financial leverage and increased risk of insolvency. Solvency was less of an issue for participating PPS hospitals, which saw lower and less volatile levels of debt relative to capitalization .

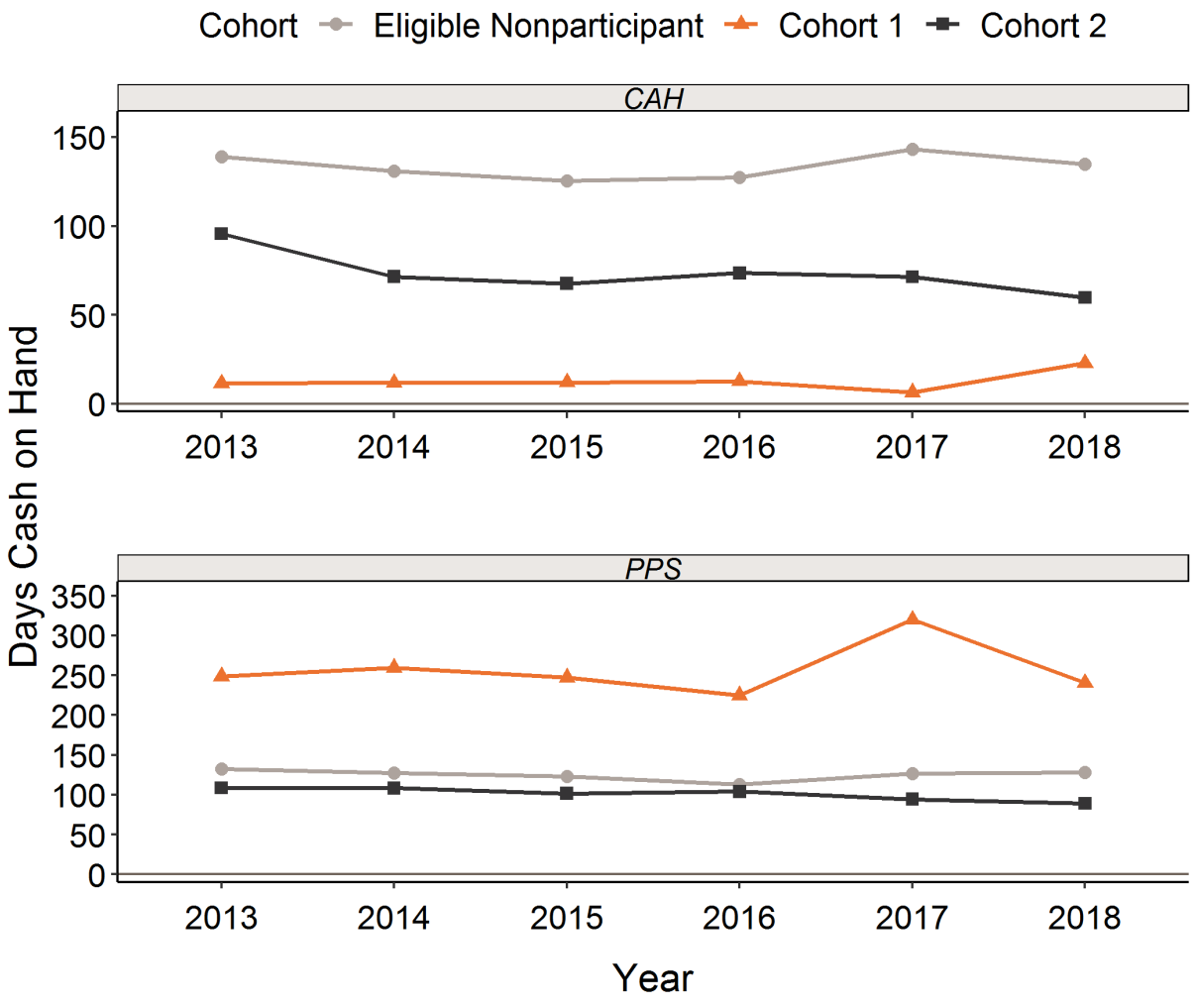
Exhibit 4.6. Financial Solvency of Participating Critical Access Hospitals (CAHs) Worsened During the Baseline Period (2013-2018)



SOURCE: Medicare Cost Reports (FY2013-FY2018)
NOTES: Trends reflect group averages. Two eligible nonparticipating hospitals, Blue Mountain Hospital and Bucktail Medical Center, were omitted from this figure due to significant outliers present in the series.

Liquidity of participating CAHs remained persistently low throughout the baseline period (Exhibit 4.7). Participating CAHs, especially those in Cohort 1, had persistently lower levels of days cash on hand—a measure of cash flow relative to the size of the expenses—relative to non-participating CAHs. The low levels of liquidity may have constrained participating CAHs' ability to meet short-term financial obligations and make debt payments during the baseline period. On average, Cohort 2 and non-participating PPS hospitals had similar levels of days cash on hand during the baseline period, while Cohort 1 PPS hospitals had higher levels of days cash on hand, driven primarily by Wayne Memorial Hospital, a large, financially stable hospital.

Exhibit 4.7. Liquidity of Participating Critical Access Hospitals Remained Persistently Low Throughout the Baseline Period

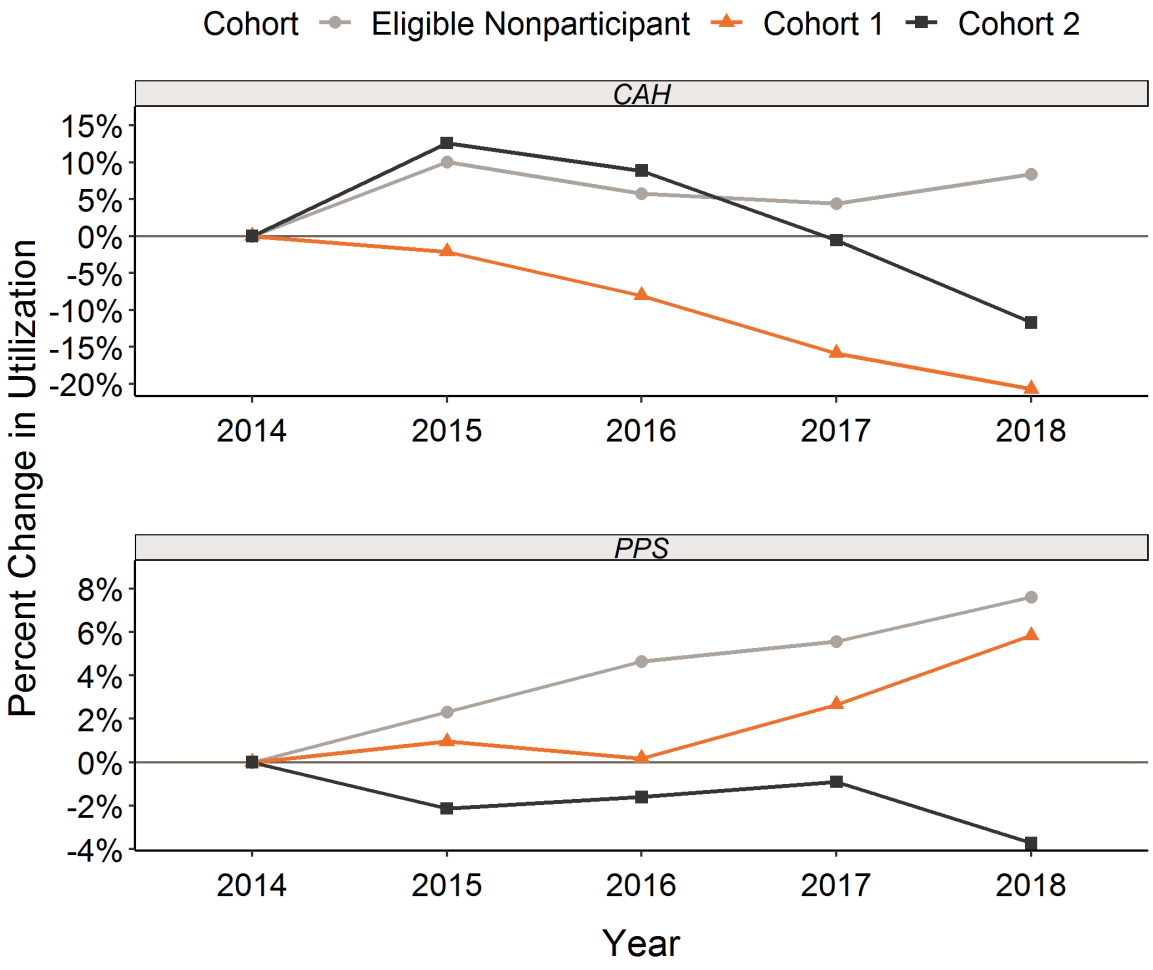


SOURCE: Medicare Cost Reports (FY2013-FY2018)
NOTES: Trends reflect group averages. Two eligible nonparticipating hospitals, Guthrie Medical Center and Penn Highlands Elk, were omitted from this figure due to missing and/or anomalous data.

4.3 Descriptive Assessment of Trends in Interim Medicare FFS Payments and Utilization

Interim Medicare FFS Payments during the baseline period (2014-2018) declined for Cohort 1 and 2 CAHs and increased for Cohort 1 PPS hospitals (Exhibit 4.8). During the baseline period, interim Medicare FFS payments declined for Cohort 1 and 2 CAHs. While Cohort 1 CAHs saw declining reimbursements for all years of the baseline period, Cohort 2 CAHs had initial gains from 2014 to 2015 that were attenuated by 2018. Cohort 1 PPS hospitals maintained modest gains from 2014 to 2018, while Cohort 2 PPS hospitals saw a slight decline over the baseline period.

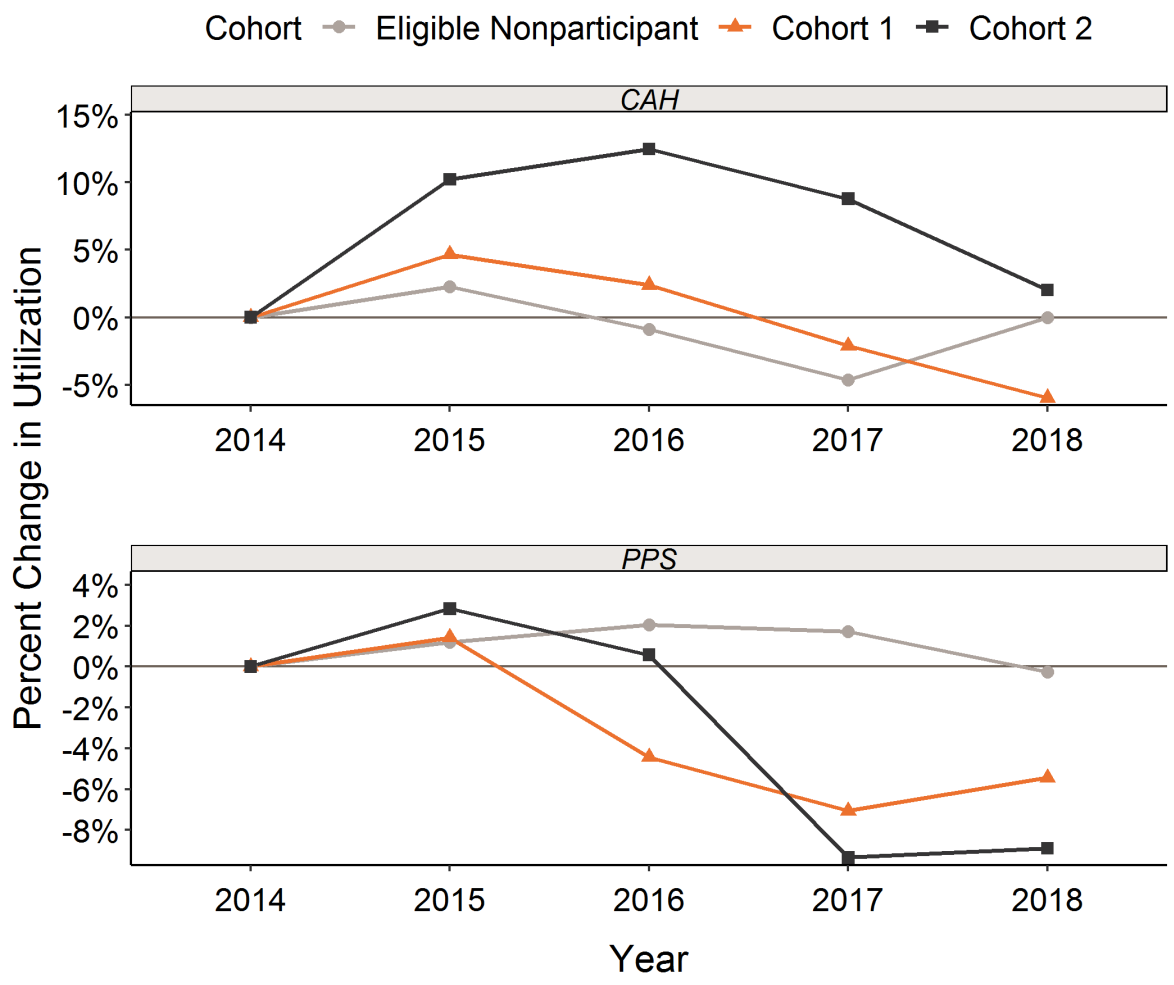
Exhibit 4.8. Interim Medicare FFS Payments during the Baseline Period (2014-2018) declined for Cohort 1 & 2 Critical Access Hospitals participants and increased for Cohort 1 Prospective Payment System hospital participants



SOURCE: Medicare FFS Claims (CY2014-CY2018). Utilization is measured as interim FFS Medicare spending.
NOTES: Trends reflect group averages. Two eligible nonparticipating hospitals, Titusville Area Hospital and Penn Highlands Elk, were omitted from this figure due to missing and volatile data. Percentage changes reported are cumulative change relative to the base year (2014).

Reimbursement for professional services rendered in most of the participating hospitals declined in the baseline period, particularly toward the end of the baseline period before Model introduction (Exhibit 4.9). Although the global budget does not include physician professional services rendered in hospital inpatient and outpatient settings, trends in reimbursement for these services during the baseline period provide insights on whether the incentives of the practitioners to support participation aligned with the incentives of the participating hospitals. Because the global budget does not shield practitioners from the declining trend in professional services utilization and revenue, the payments to practitioners continue to incentivize volume over value.

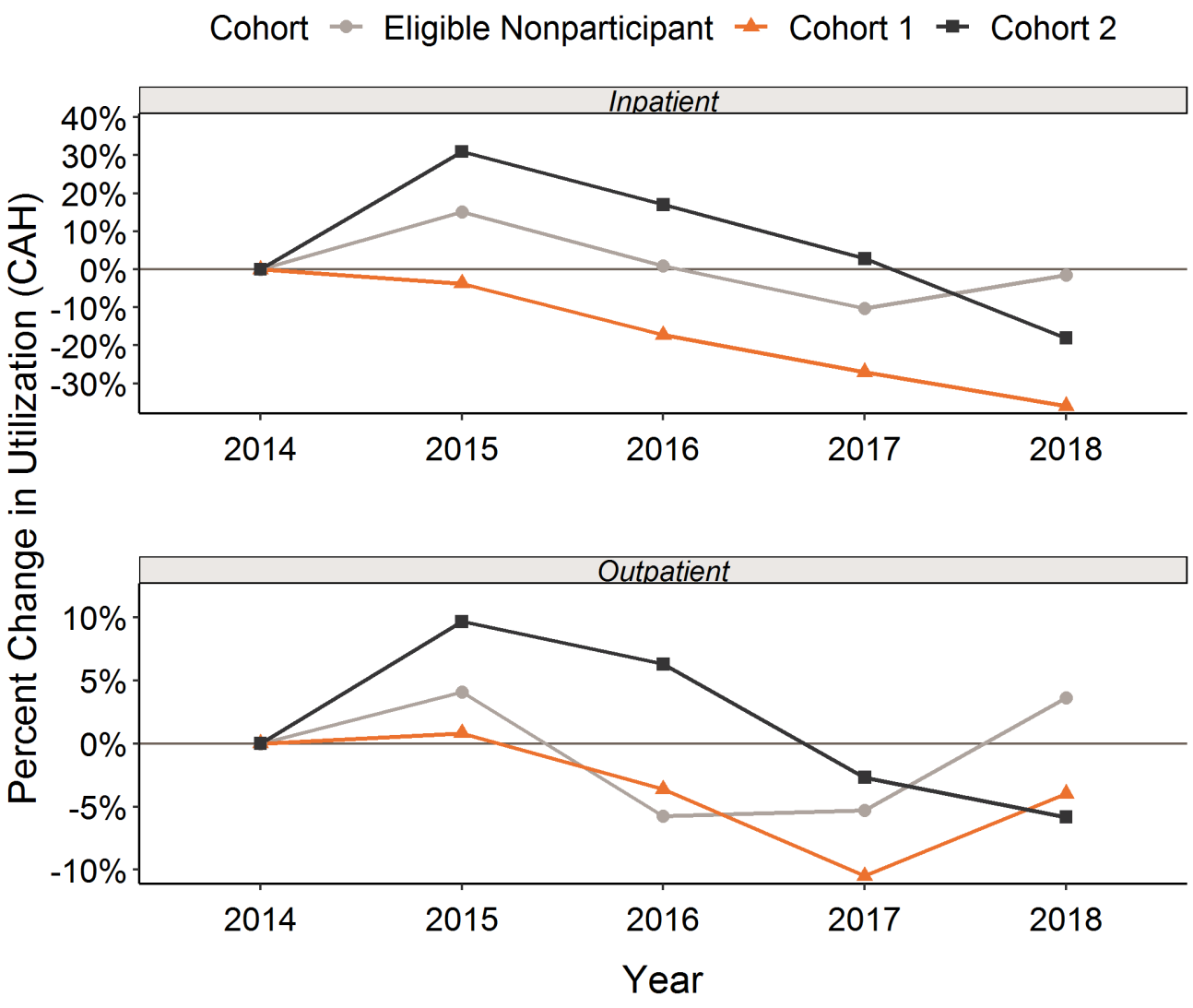
Exhibit 4.9. Utilization During the Baseline Period (2014-2018): Reimbursement for Professional Services Rendered in Most Participating Hospitals Declined Toward the End of the Baseline Period



SOURCE: Medicare FFS Claims (CY2014-CY2018)
NOTES: Trends reflect group averages. Two eligible nonparticipating hospitals, Titusville Area Hospital and Penn Highlands Elk, were omitted due to missing and volatile data. Percentage changes reported are cumulative change relative to the base year (2014). Utilization is measured as interim FFS Medicare spending.

All participating CAHs had declining inpatient and outpatient utilization by the end of the base period (Exhibit 4.10). Participating Cohort 1 and 2 CAHs experienced declines in both inpatient and outpatient utilization. While the rates of change in inpatient and outpatient utilization in Cohort 2 are essentially parallel to those in Cohort 1 between 2015 and 2017, the increase in utilization in Cohort 2 hospitals from 2014 to 2015 buffered their eventual decline. Cohort 1 hospitals experienced an uptick in outpatient utilization between CY2017 and CY2018. Eligible nonparticipating hospitals mostly trended between Cohort 1 and Cohort 2 hospitals.

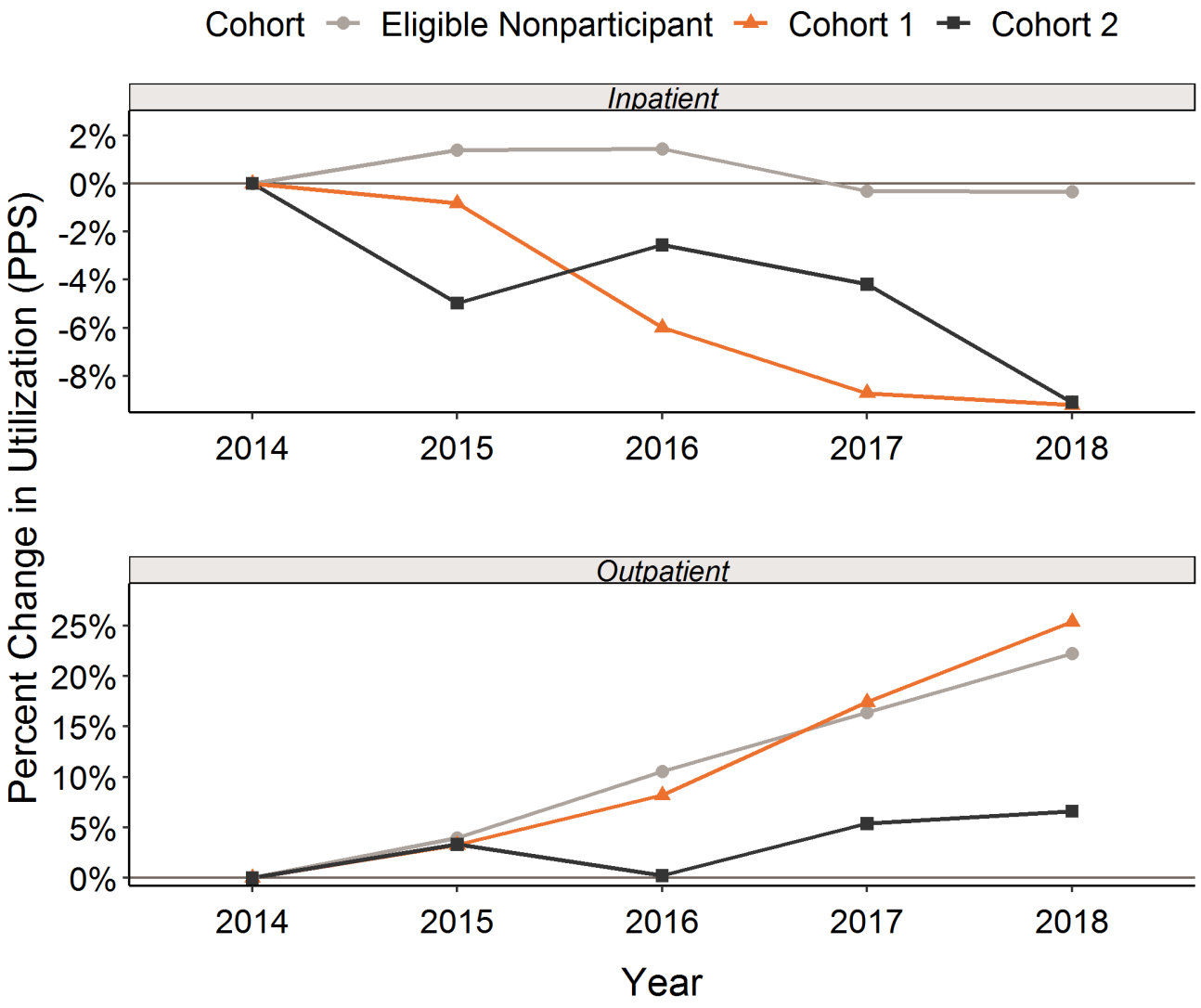
Exhibit 4.10. Utilization of Global Budget-Covered Services Among Critical Access Hospitals (CAHs) Generally Declined



SOURCE: Medicare FFS Claims (CY2014-CY2018)
NOTES: Trends reflect group averages. Two eligible nonparticipating hospitals, Titusville Area Hospital and Penn Highlands Elk, were omitted due to missing and volatile data. Percentage changes reported are cumulative change relative to the base year (2014). Utilization is measured as interim FFS Medicare spending.

While participating PPS hospitals in both cohorts experienced declines in inpatient utilization similar to participating CAHs, they had positive gains in outpatient utilization (Exhibit 4.11). Participating PPS hospitals in both cohorts had similar declines in inpatient utilization across the base period, while outpatient utilization increased. Eligible nonparticipating hospitals saw mostly unchanged inpatient utilization but experienced similar growth in outpatient utilization as Cohort 1 hospitals.

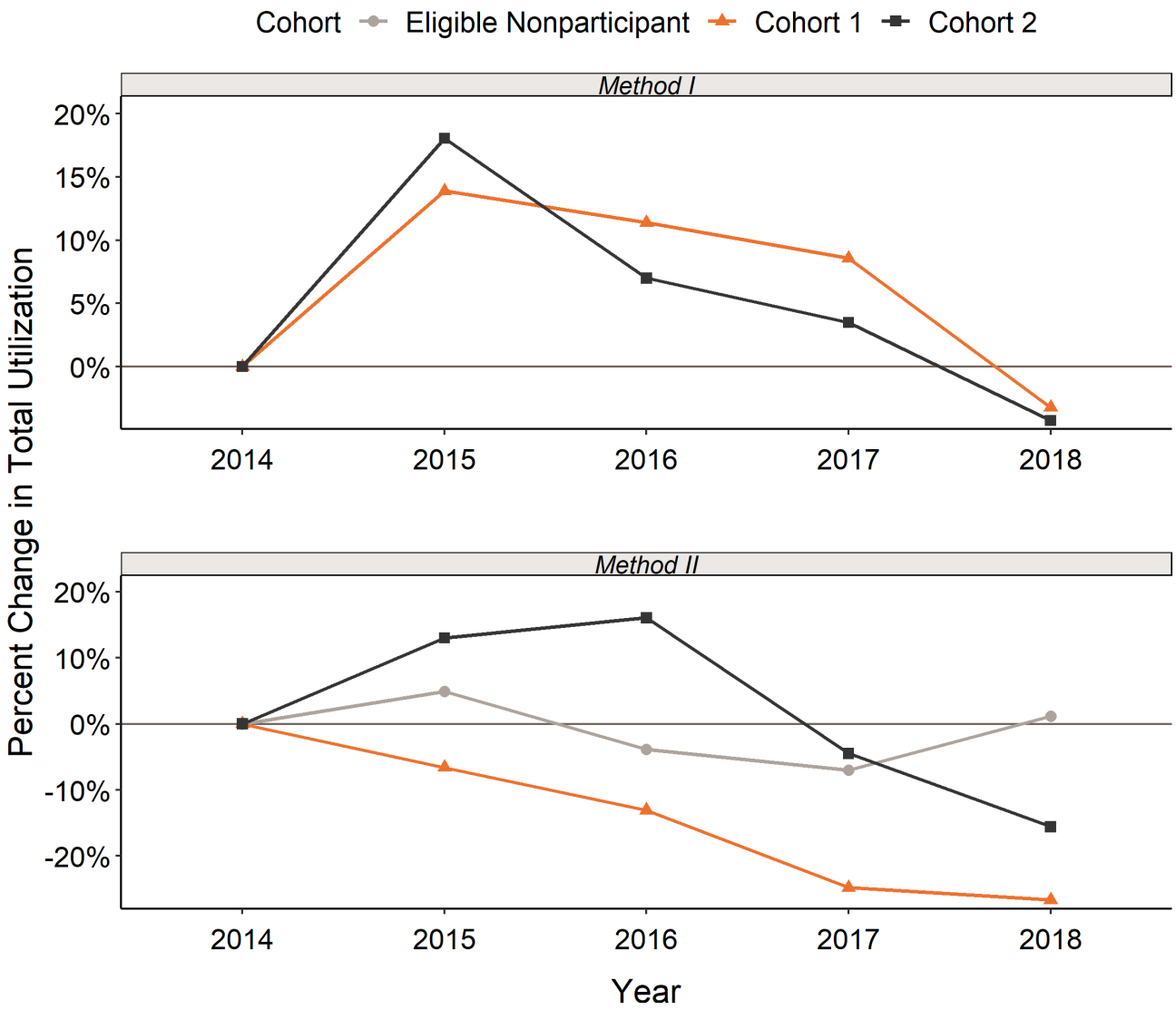
Exhibit 4.11. Utilization of Inpatient Global Budget-Covered Services Among Prospective Payment System (PPS) Hospitals Declined While Utilization of Outpatient Services Increased



SOURCE: Medicare FFS Claims (CY2014-CY2018)
NOTES: Trends reflect group averages. Percentage changes reported are cumulative change relative to the base year (2014). Utilization is measured as interim FFS Medicare spending.

The Cohort 1 and 2 Method II CAHs saw the greatest declines in utilization of global budget-covered services by the end of the baseline period (Exhibit 4.12). Cohort 1 Method II CAHs saw large declines in utilization across the base period, while Cohort 2 Method II CAHs had initial gains that fell to approximately 85 percent of 2014 levels by 2018. Utilization for Method II CAHs of the eligible nonparticipating hospitals trended between Cohort 1 and 2 hospitals until 2018, when it exceeded participating hospitals. Participating Method I CAHs experienced little change in utilization across the base period while nonparticipating Method I CAHs saw large increases in utilization.

Exhibit 4.12. Utilization of Global Budget-Covered Services, Parts A & B, Declined for Participating Critical Access Hospitals (CAHs) of Either Reimbursement Method

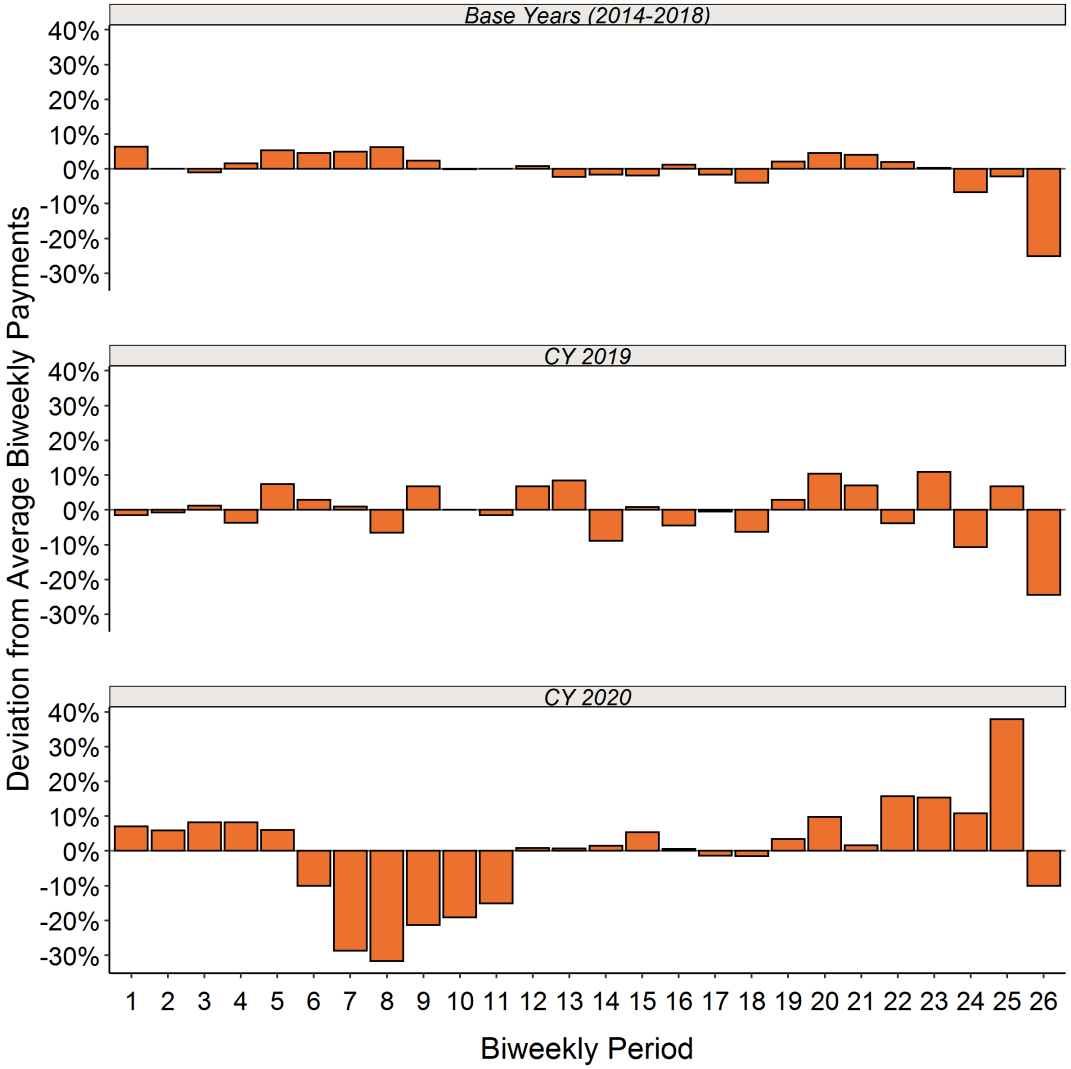


SOURCE: Medicare FFS Claims (CY2014-CY2018)
NOTES: Trends reflect group averages. Four eligible nonparticipating hospitals, Titusville Area Hospital, Bucktail Medical Center, Conemaugh Meyersdale Medical Center, and Corry Memorial Hospital, along with one participating hospital, Geisinger Jersey Shore Hospital were omitted due to a switch in reimbursement method during the baseline period. Only a single eligible nonparticipant hospital was a method I CAH. To avoid presenting a single hospital as if it were a trend representative of a group, this series was omitted in the exhibit. Percentage changes reported are cumulative change relative to the base year (2014). Utilization is measured as interim FFS Medicare spending.

The COVID-19 pandemic's effects on interim Medicare FFS biweekly payments demonstrate the benefits of fixed biweekly payments in generating predictable cash flow (Exhibit 4.13). The steep declines in Medicare FFS volume during the second quarter of 2020 reflect the reduction in elective care due to the public health emergency as well as the Commonwealth's directive to postpone or cancel elective surgeries.[41] The spike at the end of CY2020 coincides with a large increase in COVID-related inpatient stays. Since global budget payments to participating CAHs are reconciled to cost-based reimbursement after each performance period, a significant deviation between costs and global budget revenue could result in increased variance in settlement amounts during the reconciliation process. For Cohort 1 CAHs, the settlement adjustments increased from 0.9-3.7 percent during the baseline period to -5.5 percent after reconciling the PY1 (2019) payments to reported allowable costs (i.e., participating CAHs paid back as much as 5.5 percent of their total annual reimbursement) (see Appendix Exhibit D.4).[v]

[v] Reconciliation data was not yet available for PY2 (2020) when this report was drafted.

Exhibit 4.13. Variability in Interim Medicare FFS Payments Differ Year over Year from BY2018 to PY2019 and PY2020 as the Onset of the Public Health Emergency Led to Shifts in Practice



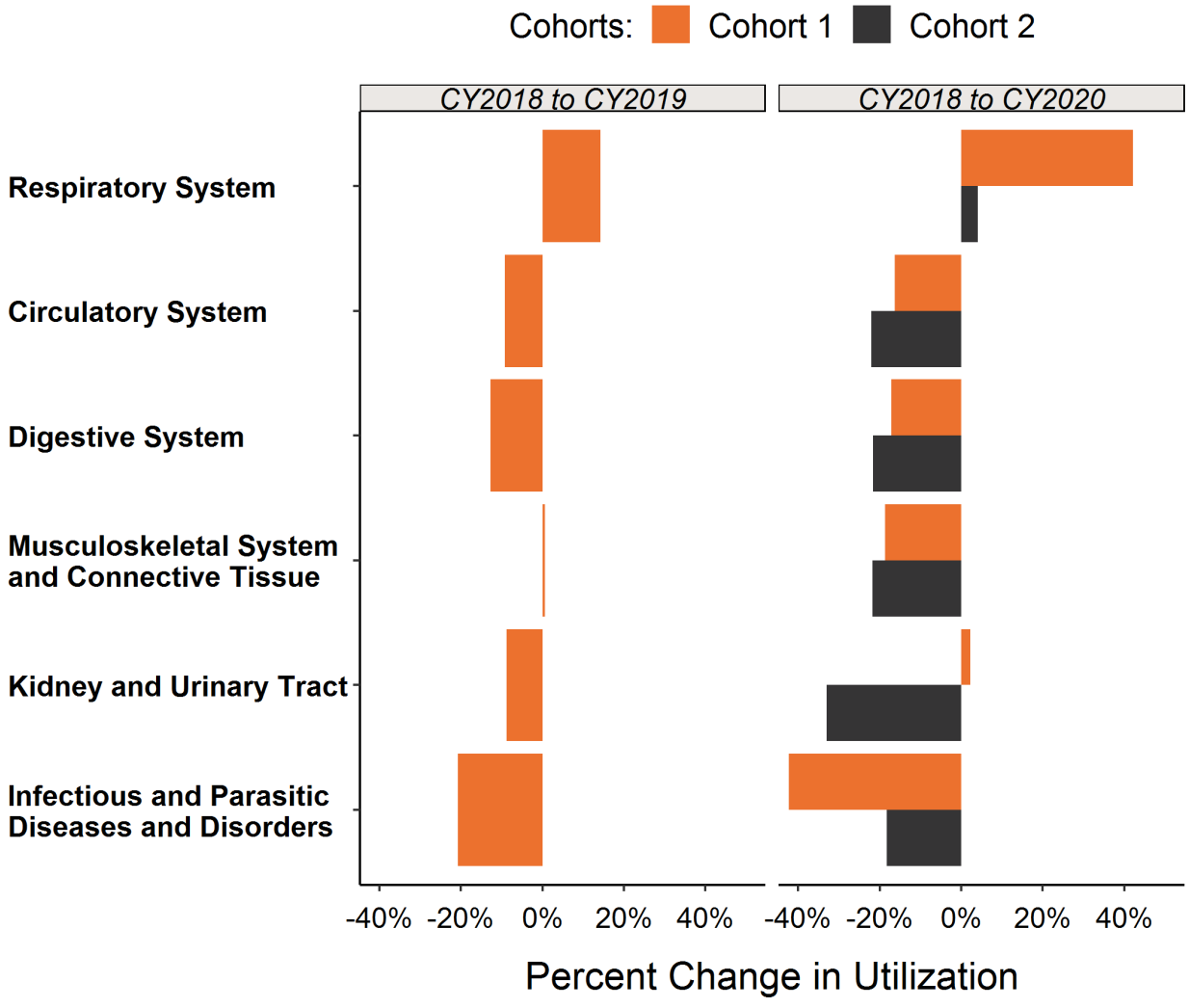
SOURCE: Medicare FFS Claims (CY2014-CY2018)
NOTES: The exhibit presents deviation from the average of total biweekly payments to participating hospitals. Positive deviations reflect higher than average payments during the biweekly period. Negative deviations reflect lower than average payments during the biweekly period.

During PY1 (2019) and PY2 (2020), global budget payments exceeded the interim Medicare reimbursement amounts that participating hospitals would have been paid under the PPS and cost-based reimbursement methods.[w] With the exception of Wayne Memorial Hospital (a Cohort 1 PPS hospital), global budget payments exceeded the interim FFS payments that participant hospitals would have received under PPS or cost-based reimbursement. See Appendix Exhibit D.1 for financial performance and interim Medicare FFS payment data for Cohort 1 and 2 hospitals.

[w] Interim payments in this report represent biweekly amounts paid out. Final reconciled Medicare reimbursement data for all the years in the analysis period were unavailable at the time of this analysis.

Changes in service-mix utilization, in conjunction with the variability in Medicare FFS volume suggest that the changes in service mix had less to do with hospital transformation plan initiatives and more likely were the result of exogenous factors, specifically the pandemic (Exhibit 4.14). This utilization shift is especially evident in Cohort 1 hospitals between CY2018 and CY2020 (PY2) as the growth in inpatient utilization for respiratory system cases is tied to the COVID-19 public health emergency. Beyond the changes in respiratory care, we observed little change in service mix after participants joined the model, constituting a lack of evidence for transformation-driven service line changes due to the change from FFS reimbursement to global budgets. This is, however, a descriptive assessment of service mix and exogenous factors for which we did not control such as the pandemic may have obscured our ability to observe changes to service mix due to Model participation that did occur.

Exhibit 4.14. Medicare FFS Claims: Change in Service Mix of Interim Medicare FFS Payments from CY2018 to PY1 CY2019 (PY1) and CY2020 (PY2) Driven Largely by the Public Health Emergency



SOURCE: Medicare FFS Claims (CY2018-CY2020)
NOTES: Only Major Diagnostic Categories (MDCs) accounting for at least 5% of total inpatient reimbursement are included.

Chapter 5: Discussion

The second year of the Pennsylvania Rural Health Model brought challenges both expected and unprecedented. The COVID-19 public health emergency strained all hospitals in the country and the Commonwealth on top of the pre-existing pressures on rural critical access and acute care hospitals like those participating in PARHM. These difficult times highlighted both the strengths and potential weaknesses in the Model and necessitated additional refinements to support participating hospitals and payers.

Pennsylvania hospitals faced an unprecedented health care challenge responding to the COVID-19 public health emergency that began in March 2020.Yet the Commonwealth retained all five PY1 (2019) participating hospitals and added eight to the Model in PY2 (2020), bringing the total to 13 hospitals. This met the hospital participation scale target in the amended agreement between CMMI and the Commonwealth.

The 13 participating hospitals varied based on affiliation, reimbursement method, size, and financial status. Hospitals joining for 2020 (Cohort 2) served areas that are more densely populated, have lower rates of ED visits and inpatient days for Medicare patients, and have greater access to outpatient and specialty care than Cohort 1 hospitals. These hospitals also tended to have a better overall financial situation, which may be why they did not join for the first year of the Model. Three of the Cohort 2 hospitals are not located in rural areas based on FORHP designations, which may have implications for scalability of this Model to other rural areas of the country.

The Commonwealth also retained all PY1 (2019) participating payers into PY2 (2020). One additional commercial payer joined the Model in PY2, bringing the total to five, representing privately insured individuals, Medicare Advantage beneficiaries, and Medicaid managed care beneficiaries. All five payers remained in the Model for PY3 (2021), however no new payers joined.

Hospitals express strong commitment to the Model. Hospital leaders continued to express strong commitment to the Model across the first two cohorts. The diversity in hospital size, affiliation, and financial status among Cohort 1 and Cohort 2 hospitals demonstrates the Model's appeal to a range of rural hospitals. The participation rate is higher among eligible independent rural hospitals than system-affiliated hospitals. Independent hospitals' motivation to participate was driven in large part by financial concerns but other factors such as the desire to transform care and innovate also motivated participation. Implementation partners, Cohort 2 hospitals, and payers reported that the global budget payment approach is more appealing to independent hospitals that lack the financial support of affiliation with a larger health system. Additionally, while Cohort 2 hospitals decided to participate in PY2 (2020) before the pandemic's onset, the pandemic highlighted FFS payment vulnerabilities associated with unexpected shifts in patient volume and potential served as motivation for additional hospitals to consider joining the Model. The Model reportedly helped some participating rural hospitals attain greater financial stability and remain open in PY2 (2020).

Recruitment faces challenges. Key differences between participating Cohort 1 and Cohort 2 hospitals may explain, in part, the decision of some hospitals to delay participation until PY2 (2020). Overall, Cohort 2 hospitals were larger and in better financial shape when they joined the Model, as measured by days of cash on hand and net patient revenue. Some of the health-system affiliated hospitals in Cohorts 1 and 2 decided to join the Model in advance of their affiliation with larger health systems. The value proposition of this Model may not be as attractive to hospitals affiliated with health systems as it was for those that decided to join when they were still independent. These observed differences among participating hospitals may have implications for Model scalability. For example, Model participation may be less appealing to more financially stable hospitals serving more densely populated areas (e.g., suburban areas). In communities with more effective community-based care, there also may be fewer opportunities to reduce potentially avoidable utilization of hospital services.

Implementation partners also noted that the continued pace of hospital mergers and acquisitions in the Commonwealth negatively impacted hospital recruitment for Cohort 2 and Cohort 3. Between 2015 and 2020, two eligible rural hospitals closed (including one independent hospital), and 33 of the 49 independent hospitals eligible for Model participation were acquired by health systems, leaving only 15 eligible independent hospitals at the end of PY1 (2019).[26] Some participating payers and system-affiliated hospital leaders also reported that the Model conflicts with other commercial value-based payment (VBP) initiatives, which may continue to impede recruitment for future hospital cohorts. In some cases, the commercial plans already had existing VBP programs in place with Model participants or affiliated provider organizations, and many expressed interest in making the Model more flexible to complement rather than overlap with these arrangements.

Payers have concerns regarding the Model's sustainability and dislike the administrative burden. While CMS is a key implementation partner and funder, commercial payers play an important role in the Model's success. Private payers make up the largest share of covered lives including commercial insurance, Medicare Advantage, and Medicaid managed care plans (total: 88 percent in Model)[33]. Some commercial payers reported concerns about the Model's administrative burden, especially adapting to continued iterations of the global budget methodology. Commercial payers may need more updates on Model progress and greater involvement in decision-making about methodology changes and reporting requirements beyond regular all-payer meetings (**Exhibit 3.1**). Payers also have representation on the RHRCA Board of Directors, and as noted, some of the COVID-19 and methodology related decisions occurred after the timing of our interviews in PY2 (2020). Implementation partners may want to consider how targeted TA and administrative streamlining might better support payers (as well as hospitals). Similarly, greater transparency of methodological issues and hospitals' progress in meeting care delivery transformation goals may encourage payer retention. Implementation partners should consider how to make the Model more attractive to commercial payers concerned about financial exposure and the reconciliation process, particularly in the context of the pandemic.

RHRCA serves as convener and mediator of diverse perspectives. The RHRCA, an independent entity established by legislation,[12] played an important role as a trust-building entity in PY2 (2020), as it assumed responsibility for governing the Model, recruiting hospitals, and approving global

budgets. The presence of the independent, nonprofit entity—which includes a 20-member board of representatives from the Commonwealth, payers, and hospitals, as well as subject matter experts appointed by the governor and members appointed by legislative leaders—facilitates transparency and helps bridge diverse perspectives among implementation partners. While the RHRCA does not have the history and expansive role of similar entities have in other states,[42,43] Model participants value the expertise of the RHRCA team and continued TA from implementation partners, including the relationships and trust built with RHRCA staff. However, the RHRCA faces financing challenges, due in part to reductions in funding from CMMI when the Commonwealth did not meet the original PY2 (2020) scale targets/hospital recruitment goal. The RHRCA has funds to support some foundational activities but is not funded to support one-on-one TA and the full spectrum of hospital and payer implementation activities. Given the complexity of the Model and limited staff capacity of some participants, hospitals may benefit from more one-on-one TA related to global budgets, support with transformation plan implementation, collecting and sharing timely quality measures, and using data for quality improvement.

Global budgets helped stabilize hospital finances during the pandemic. Global budgets played an important role in supporting hospital financial stability as the COVID-19 pandemic disrupted normal business operations. Hospitals initially experienced steep declines in inpatient utilization as elective procedures and services were halted and then a spike in utilization at the end of 2020 as COVID-related inpatient stays increased. Fixed biweekly payments from Medicare and float payments from commercial payers reduced the financial impact of lost revenue during the pandemic. However, hospital leaders worried about global budgets keeping pace with increased costs and inflation in the future. The pandemic highlighted the benefits of global budgets to keep hospital doors open during precipitous volume fluctuations, but during a period of regular utilization--without the associated PAU reduction--PPS hospitals may be taking on more risk.

Global budgets do not represent the entire net patient revenue for hospitals, which may limit the Model's capacity to transform care delivery. One additional commercial payer joining the Model in PY2 (2020), bringing the total to five. Preliminary estimates included in the program monitoring reports showed that the percentage of eligible net patient revenue covered by the global budget for participating hospitals increased from 59 percent in PY1 to 76 percent in PY2.[33] Global budgets accounted for over 90 percent of total eligible net patient revenue for five of the 13 participating hospitals in PY2 (2020).[33]

Because some services, such as clinical services are not included in the global budget, global budget payments account for 64 percent of total patient service revenue.[33] Implementation partners and payers noted that the exclusion of these services may prevent the Model from meeting its goal to improve population health outcomes. Many of the transformation activities in this Model focus on conditions that could be more effectively managed in ambulatory care settings, which highlights the need for closer involvement of community-based clinicians and other social service providers.

The reconciliation process generated concern and frustration for hospitals and commercial payers. Cohort 2 hospital leaders were concerned about reconciliation of global budgets for PY2 (2020) and potentially needing to return money to Medicare and commercial payers. Some hospitals set aside

reserves to prepare for reconciliation. In addition, other participating hospitals were reluctant to invest global budget funds in hospital transformation efforts not knowing whether they would have to return the funds following reconciliation. Following each performance year, the reconciliation process adjusts for differences in the prospective global budget and actual services provided by each hospital in accordance with the global budget methodology. Adjustments for all payers include unplanned volume shifts, payer mix shifts, and planned changes to service lines. In addition, CAHs reconcile Medicare FFS payments to cost-based reimbursement, as before the Model. The pandemic heightened hospital leaders' concerns about the PY2 (2020) reconciliation because they were unsure how COVID-related utilization fluctuations and emergency supplemental funding would be accounted for in the reconciliation process. Separately, commercial payers were concerned about moving targets related to the methodology and lack of transparency. Some believed that hospitals would benefit more than payers from this process, particularly in the context of the pandemic.

Hospital transformation activities gained traction, but many initiatives remain aspirational. Hospitals pursued transformation activities in PY2 (2020), and they made some progress when they were able to dedicate staff time and resources. Activities included implementing formalized post-discharge follow up with patients and tracking high-risk patients. Some hospitals hired additional dedicated staff to improve care coordination, address health-related social needs, and develop patient registries for conditions of interest.

More generally, Model participation has encouraged a more holistic assessment of patients' health and socioeconomic needs through risk assessment tools and continuing education to staff and patients. For example, several Cohort 2 hospitals enhanced collaboration with community providers to manage patients with chronic conditions, improve access to behavioral health services along the care continuum, and address health-related social needs, such as food insecurity, which the pandemic exacerbated. However, COVID-19 posed new challenges and delayed some transformation activities in PY2 (2020). Delays in transformation will cause further postponements in the Model's efforts to achieve associated improvements in quality and cost outcomes.

Some hospitals noted insufficient staffing to implement transformation activities and persistent workforce challenges related to recruiting and retaining staff (e.g., nurses), especially during the pandemic.[44,45] The Model did not provide hospitals with upfront funds to invest in transformation activities, so hospitals made conservative decisions about how they dedicated staff time or funds from the global budget payments. Hospitals that were most successful in advancing their transformation initiatives hired dedicated staff to lead and implement Model initiatives. Some hospitals reported needing additional funding for staff resources to conduct some care transformation activities. A complex Model requires substantial investment in ongoing TA and associated staff resources to operationalize care transformation. Implementation partners commented that TA for care transformation primarily was devoted to developing the hospital transformation plans rather than helping hospitals operationalize and achieve transformation plan goals.

Some participating hospitals have limited expertise, staff capacity, and resources to track and analyze patient data in key transformation areas of interest. The lack of data infrastructure for timely

data collection, reporting, and analysis was also a limiting factor for a Model with a population health focus. At the time of the interviews, hospitals did not receive quality measure data or dashboards to enable them to track progress on population health measures. While Medicare makes available some population health data, only a portion of those attributed to the Model are Medicare FFS beneficiaries. For patients covered by commercial insurance, hospitals only receive data that payers are willing to share, which may not be enough to permit hospitals a global view of their patient population. Market competition between hospitals and payers is still a concern and may be a reason that payers choose to be less transparent and are reluctant to share data with one another. A multi-payer model in a state without an all-payer claims database needs to dedicate resources to align measures and share timely data with participants.

Model sustainability is an important consideration for participants and implementation partners. CMS support is key to Model sustainability, both because of its role in the Model's design and implementation and the large proportion of spending focused on Medicare FFS and Medicare Advantage beneficiaries included in the Model. Commercial payers recognized the importance of hospital financial stability to maintaining access to essential health services in rural communities. However, they remained concerned about *"financial exposure"* in the Model and ongoing participation given the substantial payments they made to hospitals in 2020 above what they would have paid under FFS. Hospitals noted tangible progress toward transformation goals, but they also stressed that adopting and successfully implementing strategies to improve population health takes time—often without reductions in potentially avoidable utilization (PAU) or other improved outcomes in the near term. As such, some hospitals were still in the pilot stages of transformation activities.

Participating hospitals and payers, as well implementation partners, worked hard in PY2 (2020) to overcome seemingly intractable challenges, laying the groundwork for the Model to continue testing how to sustain access to care for Pennsylvania's rural residents. Although the pandemic complicated Model implementation, it also provided an opportunity for hospitals and payers to redouble efforts to shift from FFS to value-based payment to meet the health care needs of rural residents.

Future evaluation reports will dig deeper to reveal a fuller picture of the factors and players involved in hospital transformation to improve the health and well-being of rural Pennsylvania. Through interviews with rural Medicare beneficiaries and analysis of workforce and administrative data, future evaluations will explore how the Model affects workforce recruitment and retention and access to care in rural Pennsylvania.

References

1. Centers for Medicare & Medicaid Services. Pennsylvania Rural Health Model. https://innovation.cms.gov/innovation-models/pa-rural-health-model
2. Pennsylvania Department of Health. *Pennsylvania Rural Health Model Pre-Implementation Report*.; 2018.
3. Commonwealth of Pennsylvania, Centers for Medicare and Medicaid Services. First Amended and Restated Pennsylvania Rural Health Model State Agreement. Published online 2018.
4. Commonwealth of Pennsylvania, Centers for Medicare & Medicaid Services. *Second Amended and Restated Pennsylvania Rural Health Model State Agreement*.; 2020.
5. Centers for Medicare & Medicaid Services. PARHM COVID-19 Response Letter. Published online May 2020.
6. Centers for Medicare & Medicaid Services. The Statewide Quality Measures and Target. Published online 2020.
7. Centers for Medicare & Medicaid Services. Critical Access Hospital. Published online March 2021:11.
8. Gale JA. State Approaches to the Certification of Necessary Providers In the Rural Hospital Flexibility Program. Published online 2002:23.
9. Centers for Medicare & Medicaid Services. PARHM Detail Business Requirements. Published online 2019.
10. Rural Health Value. Technical Assistance for Hospitals Applying to the Pennsylvania Rural Health Model — A CMMI-Sponsored Rural Hospital Global Budget Model. Published online 2019. https://ruralhealthvalue.public-health.uiowa.edu/files/PARHM%20Model.pdf
11. Lewin Group. Lewin Continues To Assist CMMI For Health Care State Innovation. Accessed December 28, 2020. http://www.lewin.com/about-us/news/continue-cmmi-innovation.html
12. Baker, Ward K, Ward J. *An Act Establishing the Pennsylvania Rural Health Redesign Center Authority*. https://www.legis.state.pa.us/CFDOCS/Legis/PN/Public/btCheck.cfm?txtType=PDF&sessYr=2019&sessInd=0&billBody=S&billTyp=B&billNbr=0314&pn=0292
13. Pennsylvania Department of Health. Pennsylvania Rural Health Model. Department of Health. Accessed December 7, 2021. https://www.health.pa.gov:443/topics/Health-Innovation/Pages/Rural-Health.aspx

14. Pennsylvania Department of Health. *Pennsylvania Rural Health Model 2019 Annual Report*.; 2020.

15. Pennsylvania Department of Health. *Rural Health Redesign Center Quarter 17 Progress Report: Rural Health Model April 30, 2021*.; 2021.

16. Centers for Medicare & Medicaid Services. Coronavirus Waivers. Published 2021. Accessed December 7, 2021. https://www.cms.gov/about-cms/emergency-preparedness-response-operations/current-emergencies/coronavirus-waivers

17. Centers for Medicare & Medicaid Services. *Description of Telehealth Benefit Enhancement Under Consideration for the Pennsylvania Rural Health Model*.; 2020.

18. Rural Health Redesign Center. *2020 Annual Report*.; 2021.

19. Pennsylvania Health Law Project. Department of Human Services Announces Health Plans Selected for HealthChoices Program and Some Plans Protest. Published July 2020. Accessed December 7, 2021. https://www.phlp.org/en/news/department-of-human-services-announces-health-plans-selected-for-healthchoices-program-and-some-plans-protest

20. Creswell JW, Clark VP, Gutmann M, Hanson W. *Advanced Mixed Methods Research Designs In Handbook on Mixed Methods in the Behavioral and Social Sciences, Ed. A. Tashakkori and C. Teddlie, 209–40*. Thousand Oaks, CA: Sage; 2003.

21. Dedoose. Dedoose. Accessed January 20, 2021. https://www.dedoose.com/

22. Patton MQ. *Qualitative Research & Evaluation Methods.* 3rd edition. Sage; 2002.

23. Lofland J, Snow D, Anderson L, Lofland L. *Analyzing Social Settings: A Guide to Qualitative Observation and Analysis*. 4th edition. Wadsworth; 2006.

24. The Center for Rural Pennsylvania. Rural Urban Definitions. Published 2014. Accessed December 22, 2020. https://www.rural.palegislature.us/demographics_rural_urban.html

25. Federal Office of Rural Health Policy. Defining Rural Population. Official web site of the U.S. Health Resources & Services Administration. Published April 28, 2017. Accessed December 8, 2021. https://www.hrsa.gov/rural-health/about-us/definition/index.html

26. Pennsylvania Department of Health, Rural Health Redesign Center Authority. *Pennsylvania Rural Health Model: Corrective Action Plan*.; 2020.

27. Pennsylvania Health Care Cost Containment Council. *Financial Analysis 2020: General Acute Care Hospitals. An Annual Report on the Financial Health of Pennsylvania Hospitals*.; 2020.

28. Health Resources & Services Administration. 2019 Area Health Resources Files. Accessed December 7, 2021. https://data.hrsa.gov/data/download

29. Agency for Healthcare Research and Quality. Prevention Quality Indicators (PQI) Overview. Accessed December 7, 2021. https://qualityindicators.ahrq.gov/Modules/pqi_resources.aspx#techspecs

30. Cohort 3 Hospitals. *Hospital Transformation Plans*.; 2020.

31. Centers for Medicare & Medicaid Services. *MA State/County Penetration - November 2021*.; 2021.

32. Pennsylvania Department of Health. *Medical Assistance and Children's Health Insurance Program Managed Care Quality Strategy*.; 2020.

33. Pennsylvania Department of Health. *Rural Health Redesign Center Quarter 19 Progress Report: Rural Health Model October 29, 2021*.; 2021.

34. Pennsylvania Department of Health. *Rural Health Redesign Center Quarter 16 Progress Report: Rural Health Model January 30, 2021*.; 2021.

35. Pennsylvania Department of Health. *Rural Health Redesign Center Quarter 20 Progress Report: Rural Health Model January 28, 2022*.; 2022.

36. Cohort 2 Hospitals. *Hospital Transformation Plans*.; 2019.

37. National Rural Health Resource Center. Reducing Avoidable Readmissions Effectively (RARE). Accessed December 8, 2021. https://www.ruralcenter.org/resource-library/reducing-avoidable-readmissions-effectively-rare

38. National Association of Community Health Centers. PRAPARE. NACHC. Accessed January 4, 2021. https://www.nachc.org/research-and-data/prapare/

39. University of Missouri-Kansas City, School of Nursing and Health Studies. SBIRT Screening, Brief Intervention, and Referral to Treatment for Substance Use. Accessed December 8, 2021. https://www.sbirt.care/

40. Rural Health Redesign Center. *Pennsylvania Rural Health Model 2021 Monitoring Plan*.; 2021.

41. Guidance on Hospitals' Response to COVID-19. Published online March 2020.

42. Health Services Cost Review Commission. Health Services Cost Review Commission | About Us. Accessed December 8, 2021. https://hscrc.maryland.gov/Pages/About-Us.aspx

43. Green Mountain Care Board. About GMCB. Accessed December 8, 2021. https://gmcboard.vermont.gov/board

44. Wright A. Rural Hospitals Can't Find the Nurses They Need to Fight COVID. Published September 2021. Accessed December 8, 2021. https://pew.org/3Dw86s9

45. Miranda L. Rural hospitals losing hundreds of staff to high-paid traveling nurse jobs. NBC News. Published September 2021. Accessed December 8, 2021. https://www.nbcnews.com/business/business-news/rural-hospitals-losing-hundreds-staff-high-paid-traveling-nurse-jobs-n1279199