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Evaluation of the State Innovation Models (SIM) Initiative Round 2

Model Test Final Report

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List of Exhibits

Acronym List

ACA	Affordable Care Act
ACE	Adverse Childhood Event
ACH	Accountable Community of Health
ACN	Accountable Care Network
ACO	accountable care organization
ACP	Accountable Care Program
ACS	American Community Survey
ACSC	ambulatory care sensitive conditions
ADD	attention deficit disorder
ADHD	attention deficit/hyperactivity disorder
ADK	Adirondack
ADT	admission, discharge, and transfer
AE	Accountable Entity
AHCO	Accountable Hospital Care Organization
AHEC	Area Health Education Center
AHRF	Area Health Resources Files
AHRQ	Agency for Healthcare Research and Quality
AIM	Analytics, Interoperability, and Measurement
AIRA	Artificially Intelligent Risk Adjustment
AMA	American Medical Association
AMH	Advanced Medical Home
AN	Advanced Network
APACO	Advance Payment Accountable Care Organization
APC	Advanced Primary Care
APCD	all-payer claims database
APCO	Accountable Primary Care Organization
APD	All Payer Database
APM	alternative payment model
AR	Arkansas
ARM	Analytics, Research, and Measurement
ASC	Accountable Systems of Care
AY	Award Year
AY4	Award Year 4
BCBS	Blue Cross Blue Shield
BH	behavioral health
BHH	behavioral health home
BHI	behavioral health integration
BHO	behavioral health organization
BHTC	Behavioral Health Transformation Collaboratives
BMI	body mass index
BRFSS	Behavioral Risk Factor Surveillance System
BY	baseline year
C3	Community and Clinical Care
CAB	Community Advisory Board
CAH	critical access hospital
CBO	community-based organization
CBSA	core-based statistical area
CCIP	Community and Clinical Integration Program
CCT	care coordination tool
CCTP	Community-based Care Transitions Program

CDAS	Core Data Analytics Solution
CDPS	Chronic Illness and Disability Payment System
CEP	Consumer Engagement Platform
CFAI	Capitated Financial Alignment Initiative
CFR	Code of Federal Regulations
CG	comparison group
CHA	County Health Assessment
CHC	County Health Council
CHEMS	community health emergency medical services
CHF	Colorado Health Foundation
CHIP	Children's Health Insurance Program
CHIR	Community Health Innovation Region
CHITA	clinical health information technology advisor
CHR	Community Health Record
CHSP	Compendium of U.S. Health Systems Performance
CHT	Community Health Team
CHW	community health worker
CHWAB	CHW Advisory Body
CI	confidence interval
CIC	Community Investment Council
CIN	Clinically Integrated Network
CMHC	community mental health center
CMMI	Center for Medicare and Medicaid Innovation
CMS	Centers for Medicare & Medicaid Services
CO	Colorado
CoCM	Collaborative Care Model
COE	Centers of Excellence
CONNIE	Connecticut Information Exchange
COPD	chronic obstructive pulmonary disease
COVID-19	coronavirus disease 2019
CP	CarePrecise
CPC	Comprehensive Primary Care
CPC+	Comprehensive Primary Care Plus
CPCi	Comprehensive Primary Care initiative
C-PCPS	Characteristics of Primary Care Practice Sites
CPT	Current Procedural Terminology
CQM	clinical quality measure
C-section	cesarean section
CT	Connecticut
CTC	Care Transformation Collaborative
CY	calendar year
DCHI	Delaware Center for Health Innovation
DDD	difference-in-difference-in-differences
DE	Delaware
DEFAC	Delaware Economic and Financial Advisory Council
DHHS	Department of Health and Human Services
DHIN	Delaware Health Information Network
DHS	Department of Human Services
DHSS	Department of Health and Social Services
D-in-D	difference-in-differences
DMMA	Division of Medicaid and Medical Assistance

DOH	Department of Health
DPH	Department of Public Health
DSME	diabetes self-management and education
DSP	direct service provider
DSRIP	Delivery System Reform Incentive Payment
DSS	Department of Social Services
ECF	Employment and Community First
ECHO	Extension for Community Healthcare Outcomes
eCQM	electronic clinical quality measure
ED	emergency department
EELM	ECHO and ECHO-like models
EHR	electronic health record
EMR	Electronic Medical Record
EMS	emergency medical services
ENS	Event Notification System
EOC	episode of care
EOHHS	Executive Office of Health and Human Services
ER	emergency room
ERC	enhanced respiratory care
ESRD	end-stage renal disease
FFS	fee for service
FORHP	Federal Office of Rural Health Policy
FQHC	Federally Qualified Health Center
FY	fiscal year
GBS	group B streptococcus
GED	General Educational Diploma
GME	graduate medical education
HbA1c	hemoglobin A1c
HCA	Health Care Authority
HCBS	home- and community-based services
HCC	Health Care Commission
HCCD	Health Care Claims Database
HCD	Healthy Communities Delaware
HCIA	Health Care Innovation Awards
HCO	health care organization
HCPLAN	Health Care Payment Learning & Action Network
HCUP	Healthcare Cost and Utilization Project
health IT	health information technology
HEC	Health Enhancement Community
HEDA	Health Equity Data Analytics
HEDIS	Healthcare Effectiveness Data and Information Set
HEZ	health equity zone
HHI	Herfindahl-Hirschman Index
HIC ACS	Health Insurance Coverage from the American Community Survey
HIE	health information exchange
HILN	Health Innovation Leadership Network
HITECH	Health Information Technology for Economic and Clinical Health
HIV	human immunodeficiency virus
HJR 7	House Joint Resolution 7
HL	Health Link
HMIS	Homeless Management Information System

HN	Healthy Neighborhoods
HPIO	Health Policy Institute of Ohio
HPV	human papillomavirus
HRSA	Health Resources and Services Administration
HRSN	health-related social need
HTCI	Healthcare Transformation Council of Idaho
Hub	Practice Transformation Support Hub
IA	Iowa
IAPD	Implementation Advanced Planning Document
IBH	integrated behavioral health
ICD	International Classification of Diseases
ID	Idaho
IDHE	Idaho Health Data Exchange
IDHS	Iowa Department of Human Services
IDHW	Idaho Department of Health and Welfare
IDPH	Iowa Department of Public Health
IG	intervention group
IHC	Idaho Healthcare Coalition
IHDE	Idaho Health Data Exchange
IHIN	Iowa Health Information Network
IMC	Integrated Managed Care
IME	Iowa Medicaid Enterprise
IMHC	Idaho Medical Home Collaborative
IOM	Institute of Medicine
IP	inpatient
IPA	Independent Physician Association
IPTW	inverse probability of treatment weighting
IT	information technology
K–12	kindergarten through 12th grade
KFF	Kaiser Family Foundation
KS	Kansas
KY	Kentucky
LAN	Learning & Action Network
LPHA	local public health agency
LTSS	long-term services and supports
m	million
MA	Massachusetts
MACRA	Medicare Access and CHIP Reauthorization Act of 2015
MAPCP	Multi-Payer Advanced Primary Care Practice
MARA	Milliman Advanced Risk Adjuster
MAT	medication-assisted treatment
MAX	Medicaid Analytic eXtract
MAX-T	MAX file produced with state T-MSIS data
MCO	managed care organization
MDHHS	Michigan Department of Health and Human Services
MDM	Master Data Management
MDPPS	Medicare Data on Physician Practice and Specialty
ME	Maine
MEI	Medicare Economic Index
MEPD	Medicaid Emergency Psychiatric Demonstration
MFFSFAI	Managed Fee-for-Service Financial Alignment Initiative
MH	mental health

MI	Michigan
MiHIN	Michigan Health Information Network
MIPCD	Medicaid Incentives for Prevention of Chronic Diseases
MiPCT	Michigan Primary Care Transformation
MIPS	Merit-Based Incentive Payment System
MLR	medical loss ratio
MLTSS	managed care long-term services and supports
MMCO	Medicare-Medicaid Coordination Office
MMIS	Medicaid Management Information System
MOOC	massive open online course
MOU	memorandum of understanding
MSA	Metropolitan Statistical Area
MSS	Multi-Stakeholder Symposiums
MSSP	Medicare Shared Savings Program
N/A	not applicable
NAIC	National Association of Insurance Commissioners
NASHP	National Academy for State Health Policy
NC	North Central
NCHS	National Center for Health Statistics
NCQA	National Committee for Quality Assurance
n.d.	no date
nd	no data
NDC	National Drug Code
NF	nursing facility
NP	nurse practitioner
NP/PA	nurse practitioner/physician assistant
NPI	National Provider Identifier
NPPES	National Plan and Provider Enumeration System
NQF	National Quality Forum
NS	not significant
NY	New York
NYS	New York State
NYS PCMH	New York State Patient-Centered Medical Home
NYSDFS	New York State Department of Financial Services
NYSDOH	New York State Department of Health
NYSPTN	New York State Practice Transformation Network
OB/GYN	obstetrician-gynecologist
ODM	Ohio Department of Medicaid
OeHI	Office of eHealth Innovation
OFM	Office of Financial Management
OH	Ohio
OH CPC	Ohio Comprehensive Primary Care
OHA	Office of the Healthcare Advocate
OHI	Office of the Health Insurance Commissioner
OHPI	Office of Healthcare Policy Initiatives
OHS	Office of Health Strategy
OHT	Office of Health Transformation
OLS	ordinary least squares
OQPS	Office of Quality and Patient Safety
OR	Oregon

ORC	Ohio Revised Code
P4IPH	Plan for Improving Population Health
P4P	pay for performance
P4V	pay for value
PA	physician assistant
PACO	Pioneer Accountable Care Organization
PAP	principal accountable provider
PBPM	per beneficiary per month
PCM	Primary Care Modernization
PCMH	Patient-Centered Medical Home
PCMH+	Person-Centered Medical Home Plus
PCMH-Kids	Patient-Centered Medical Home-Kids
PCP	primary care provider
PCRC	Primary Care Reform Collaborative
PDA	Patient Decision Aids
PDSA	Plan-Do-Study-Act
PE	participating entity
PEBB	Public Employees Benefits Board
PECOS	Provider Enrollment, Chain, and Ownership System
PediPRN	Pediatric Psychiatry Resource Network
PF	practice facilitator
PGP	Physician Group Practice
PH	population health
PHA	public health agency
PHD	Public Health District
PIP	Performance Incentive Plan
PM1	Payment Model 1
PMCC	Performance Measures Coordinating Committee
PMPM	per member per month
PPPM	per person per month
Project ECHO	Project Extension for Community Healthcare Outcomes
Project LIFT	Project Linking Interventions for Total Population Health
PSHVN	Puget Sound High Value Network
PSI	Prevention Service Initiative
PT	practice transformation
PTA	Practice Transformation Agent
PTI	Practice Transformation Initiative
PTO	Practice Transformation Organization
Q	quarter
QCA	qualitative comparative analysis
QE	qualified entities
QI	quality improvement
QIS	quality improvement score
QPP	Quality Payment Program
QuILTSS	Quality Improvement in Long-Term Services and Supports
RAE	Regional Accountable Entity
RC	Regional Collaborative
ResDAC	Research Data Assistance Center
RFP	Request for Proposal
RHC	rural health clinic
RHIO	regional health information organization
RI	Rhode Island
RIDOH	Rhode Island Department of Health

ROI	return on investment
ROMC	Regional Oversight Management Committee
RWJF	Robert Wood Johnson Foundation
SAD	seasonal affective disorder
SAMHSA	Substance Abuse and Mental Health Services Administration
SB	Senate Bill
SBIRT	Screening, Brief Intervention, and Referral to Treatment
SC	South Carolina
SD	standard deviation
SDoH	social determinants of health
SE	standard error
SEBB	School Employees Benefits Board
SEBC	State Employees Benefits Committee
SEBO	State Employees Benefits Office
Sentinel Network	Washington Health Network Workforce Sentinel Network
SHA	State Health Assessment
SHADAC	State Health Access Data Assistance Center
SHIN-NY	Statewide Health Information Network for New York
SHIP	State Health Care Innovation Plan
SIM	State Innovation Model, State Innovation Models
SMI	serious mental illness
SOR	State Opioid Response
SOS	System of Support
SPA	state plan amendment
SPLIT	Shared Practice Learning and Improvement Tool
SSD	Social Services Directory
SSP	shared savings program
SUD	substance use disorder
SW	Southwest
SWAN	Statewide Alert Notification
TA	technical assistance
TAF	Transformed Medicaid Statistical Information System Analytic Files
TCC	total cost of care
TCPI	Transforming Clinical Practice Initiative
TDH	Tennessee Department of Health
THA	Tennessee Hospital Association
TIN	Tax Identification Numbers
T-MSIS	Transformed Medicaid Statistical Information System
TN	Tennessee
TPA	third-party administrator
UCDFM	University of Colorado Department of Family Medicine
UDS	Uniform Data System
UHF	United Hospital Fund
UMP	Uniform Medical Plan
USSD	Unified Social Services Directory
UTI	urinary tract infection
UW	University of Washington
VBID	value-based insurance design
VBP	value-based payment
VIS	Value Index Score
VT	Vermont

WA	Washington
WA1	Washington Integrated Managed Care model
WA3	Washington Accountable Care Networks
WA-APCD	Washington All-Payer Claims Database
WRHAP	Washington Rural Health Access Preservation
Y	year
ZCTA	ZIP Code Tabulation Area

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Executive Summary

ES.1 The Goals of the State Innovation Models Initiative

The Center for Medicare and Medicaid Innovation (CMMI) Round 2 State Innovation Models (SIM) Initiative funded 11 Model Test states: Colorado, Connecticut, Delaware, Idaho, Iowa, Michigan, New York, Ohio, Rhode Island, Tennessee, and Washington. States used SIM Initiative funds to test innovative health care models and transform their health care systems to incentivize better care and lower costs. These 11 states implemented their Model Test awards by building on the State Health Care Innovation Plans (SHIPs) they developed with broad stakeholder input using SIM Round 1 Model Pre-Test or Model Design awards.

A primary goal of the SIM Initiative was to reach at least 80 percent of population, health care expenditures, or health care providers with care delivered in value-based payment (VBP) or alternative payment models (APMs). To promote these arrangements, states used policy levers to facilitate the spread of health care payment and service delivery models, adopted enabling strategies in support practice adoption of these models, and integrated population health into their transformation efforts.

ES.2 Key State Innovation Models Initiative Achievements

This evaluation describes the implementation efforts of the 11 Model Test states to transform health care delivery systems, drawn from documents, interviews, and focus groups that give voice to perspectives from state officials, health care providers, payers, community organizations, and health care consumers. The impact analysis identifies where changes in health care spending, health outcomes, quality of care, and population health occurred, using robust quantitative methods.

SIM Model Test states successfully:

- designed and implemented payment and delivery models that yielded favorable impacts on spending and utilization;
- increased the use of VBP models, particularly in Medicaid;
- invested in primary care transformation and behavioral health integration that increased provider capacity to provide quality care; and
- innovated in strategies to address health-related social needs (HRSNs) at the community and patient level, creating connections between clinical and community resources.

ES.2.1 Favorable impacts on spending and utilization

Each state created or expanded models to new providers, populations, and/or payers. States differed in their approach often due to their varied context and prior initiatives. Despite

these differences, favorable impacts were associated with SIM-implemented models across states as shown by the selected findings in ***Exhibit ES-1***. Some of the common payment and delivery models that states designed, supported, and expanded under the SIM Initiative and were examined for impact include the following:

- Primary care transformation, often through patient-centered medical home (PCMH) models, in six states;
- Behavioral health integration (BHI) with primary care in primary care practices (Colorado), community mental health centers (Tennessee), and within Medicaid health plans (Washington);
- Episode of care (EOC) models in Ohio and Tennessee (not shown in ***Exhibit ES-1)***;
- Accountable care organization (ACO) model for state employees (Washington).

First, changes in spending varied by the type of patients and programs implemented, with favorable changes for most models targeting primary care. In five states with PCMH models, there were relative decreases in total spending among patients of PCMH practices. States targeting "high risk" populations, such as those focusing on BHI, had relative increases in behavioral health spending. These spending findings suggest that patients may be seeking more appropriate care, which results in increases in spending as patients with high or unmet needs receive necessary services. Overall, the spending findings align with hypotheses and information collected during interviews and focus groups that suggest reduced utilization of high-cost acute services would lead to declines in overall spending.

Second, while there were not consistent impacts across models on inpatient admissions and readmissions, ED visits largely declined for patients in SIM-funded PCMHs and behavioral health integration models relative to comparison groups. These findings fit with stakeholder reports that programs promoted early identification of diseases, greater screening and referral, and improved integration or coordination between providers.

Exhibit ES-1. Delivery and payment models across SIM Round 2 states generally achieved favorable results across different populations, selected findings

	Total Spending	Inpatient Admissions	Emergency Department Visits	Readmissions
Patient-Centered Medical Homes				
CT PCMH+, Medicaid	Favorable, statistically significant	Not statistically different	Favorable, statistically significant	Favorable, statistically significant
DE PTI , Medicaid	Favorable, statistically significant	Not statistically different	Favorable, statistically significant	Not statistically different
ID PCMH, Medicaid	Favorable, statistically significant	Not statistically different	Not statistically different	Not statistically different
NY PCMH, commercial	Favorable, statistically significant	Favorable, statistically significant	Not statistically different	Not statistically different
OH CPC, Medicaid	Favorable, statistically significant	Favorable, statistically significant	Favorable, statistically significant	Favorable, statistically significant
RI PCMH-Kids, commercial	Unfavorable, statistically significant	Unfavorable, statistically significant	Not statistically different	Not applicable
RI PCMH-Kids, Medicaid	Not statistically different	Unfavorable, statistically significant	Unfavorable, statistically significant	Not applicable
Behavioral Health Integration				
CO IBH, commercial	Favorable, statistically significant	Favorable, statistically significant	Not statistically different	Not statistically different
CO IBH, Medicaid	Favorable, statistically significant	Favorable, statistically significant	Not statistically different	Not statistically different
CO BH, Medicare	Not statistically different	Not statistically different	Favorable, statistically significant	Not statistically different
TN HealthLink, Medicaid	Unfavorable, statistically significant	Unfavorable, statistically significant	Unfavorable, statistically significant	Favorable, statistically significant
WA IMC, Medicaid	Not statistically different	Not statistically different	Favorable, statistically significant	Not applicable
Accountable Care Organizations				
WA ACN, commercial	Not statistically different	Not statistically different	Favorable, statistically significant	Not applicable

Favorable, statistically significant; Unfavorable, statistically significant; Not statistically different; Not applicable

Notes: WA ACN focused on state employees.

For full results, and information on methodology and data sources, refer to ***Appendices A–L***.

ACN= Accountable Care Network; BHH = behavioral health home; CO = Colorado; CPC= comprehensive primary care; CT = Connecticut; DE = Delaware; IA = Iowa; IBH = integrated behavioral health; ID = Idaho; IMC = Integrated Managed Care; MI = Michigan; NY = New York; OH = Ohio; PCMH = patient-centered medical home; PTI = Practice Transformation Initiative; RI = Rhode Island; SIM = State Innovation Models; TN = Tennessee; WA = Washington.

ES.2.2 Increasing participation in value-based payment models

States increased provider participation in VBP through purchasing power under Medicaid and state-employee health plans, and by convening commercial payers toward aligning on VBP priorities. Medicaid was an important policy lever that states used to develop new VBP models, and to ensure they would be sustained beyond the SIM Initiative through Medicaid managed care organization (MCO) contracting. Stakeholder engagement with commercial payers was another important lever states used to drive more attention toward increasing the percent of care delivered under VBP models.

First, through Medicaid, states developed or supported Medicaid-only or multi-payer alignment on the PCMH, BHI, and EOC models described above. States also leveraged Medicaid MCO contracts to sustain and grow VBP models. Seven SIM states increased VBP use through Medicaid MCO contracting. Assigning MCOs an active role, as Tennessee did, may have increased providers' engagement with the model. In contrast, states in which MCOs played a less active role, as in Ohio, struggled more to promote their VBP models. Second, states used their purchasing power as large, self-insured payers, to change both plan and provider practices and foster broader health care changes, as in Washington (ACO model evaluated here), and other states (Tennessee and Delaware).

Additionally, most SIM Initiative states observed increased VBP model offerings among commercial insurers between 2014 and 2018. State government convening with commercial insurers under the auspices of states' SIM efforts to increase VBP enabled all stakeholders to adopt the common language developed by the Health Care Payment Learning & Action Network (HCPLAN) to discuss, plan for expanding, and measure VBP. Although several states could not measure the process in the way they often could with Medicaid, they were optimistic about the direction of change.

ES.2.3 Investing in primary care transformation and behavioral health integration

SIM states focused on primary care transformation, strengthening their primary care systems and expanding the reach of those systems. States sought to increase access to primary care among rural and/or high-needs populations and better integrate physical and behavioral health care.

Many states already had strong primary care systems, particularly PCMH models, so they were able to focus on expanding their programs, enhancing their capabilities, and targeting resources to address priority conditions, rather than solely testing model implementation or the effects of using alternative payment models in primary care. SIM funds strengthened support for primary care transformation and PCMH growth by providing direct technical assistance, enhancing care coordination payments, expanding clinical staff to include care coordinators,

social workers and community health workers (CHWs), and integrating health information technology (health IT).

In contrast to PCMHs and EOC models, payment models to support BHI were still in a relatively nascent stage at the start of the SIM Initiative. Stakeholders found BHI efforts were time- and resource-intensive. However, BHI was viewed by stakeholders as a significant contribution to patient-centered care and filling gaps in care. BHI focused on better linking patients to needed behavioral health care, and SIM-supported technical assistance also allowed primary care practices to identify and address patients' HRSNs, and improved integration allowed behavioral health providers to coordinate gaps in care.

Beyond supporting delivery transformation supported by a specific payment model, some states supported patient engagement and the capacity of rural providers within primary care. For example, Rhode Island, Tennessee, and Washington implemented decision aids in practices and/or helped providers become more comfortable with uncomfortable conversations and end-of-life decisions. Some states supported rural practices by improving the capabilities of local primary care providers, such as through peer-mentoring models in Idaho and New York, so that patients did not need to travel to see a specialist.

ES.2.4 Addressing community needs and patients' health-related social needs

SIM Model Test states also built infrastructure to address population health priorities by addressing HRSNs at the community and patient level. Six states (Connecticut, Delaware, Idaho, Iowa, Michigan, and Washington) made progress in engaging medical providers and provider groups to strengthen linkages between clinicians and social service providers and increase access to care for patients with behavioral health conditions. Michigan and Iowa also created systems for identification, screening, and referral of patients with HRSNs.

SIM-supported successes offer models and lessons to inform future efforts to address population health. First, to encourage providers to screen patients, providers need community resources to refer to and, ideally, an easy way of connecting patients to the resources. Community resources were not always sufficient to meet the HRSNs of all patients. However, population health architectures, CHWs, and Community Health Teams (CHTs) provided a bridge for patients and/or helped fill some gaps in care. Data analytic tools may also allow for practitioners to better manage and coordinate patients' care. Second, standardized, universal screening for HRSNs can identify high-cost or high-utilization patients. CHWs/CHTs can coordinate and help address HRSNs as part of patients' treatment plan. Screening for individual patients' health related social needs can also inform and build support community-level actions to address the root causes of social needs. Third, providers need to see a concrete benefit to implement or continue screening processes. Support for identifying and treating social needs grew as providers realized that addressing patients' needs allowed them to earn VBP rewards.

ES.3 Sustaining State Innovation Model Activities

SIM states succeeded in implementing new care delivery models and increasing VBP use, both of which sustained beyond the SIM award period. Medicaid and state employee payment models developed under the SIM Initiative became policy, often by leveraging Medicaid MCO and state employee health plan contracting to continue VBP efforts. While most states did not document that they had reached the goal of 80 percent of their population, providers, or spending in a VBP, the groundwork was laid for sustaining and continuing the progress.

Some SIM-funded investments, particularly in health IT systems and sharing health data, were often not sustained without additional dedicated funding. Throughout the SIM award period, states chose to shift course in response to efforts that were less successful, or in response to stakeholder feedback—and intentionally identified how to discontinue activities.

Population health initiatives, including population health architectures, CHWs, and CHTs, were highly valued by stakeholders as they helped with coordination and filling gaps in care. Based on this widespread support, many of the strategies and initiatives were sustained using available state levers.

ES.4 Implications of the State Innovation Models Initiative

States context prior to the SIM Initiative varied greatly, with different priorities and needs regarding health care transformation for each state. Many states built on existing models (e.g., PCMH). These states sustained prior transformation efforts and found ways to advance or expand their models. Other states had less experience with VBP or APMs and focused their funds on building new models or infrastructures.

The flexibility of the SIM award allowed states to complement ongoing state efforts and tailor SIM-supported activities to their populations. SIM funding allowed states to implement novel strategies, particularly behavioral health integration and population health efforts. These strategies required time and resources to implement, but stakeholders felt that efforts provided significant contributions to patient-centered care, care coordination or integration, and population health by filling gaps in care and addressing HRSNs.

The evaluation data on implementation successes, challenges, and stakeholder responses, combined with impact analysis of specific delivery and payment models, offers a guide to other states seeking to transform health care delivery.

Introduction

State governments have the potential to accelerate statewide health care system transformation and serve as laboratories for innovative health care models. In 2015, the Center for Medicare and Medicaid Innovation (CMMI) Round 2 State Innovation Models (SIM) Initiative funded 11 Model Test states: Colorado, Connecticut, Delaware, Idaho, Iowa, Michigan, New York, Ohio, Rhode Island, Tennessee, and Washington. Model Test states' activities under the SIM Initiative fell into four major categories: (1) using policy and regulatory levers to enable or facilitate the spread of innovative health care models, (2) integrating behavioral health and population health into transformation efforts, (3) engaging a broad range of stakeholders in the transformation efforts, and (4) leveraging existing efforts to improve health care delivery and outcomes.

All 11 states had previously received Round 1 Model Design or Pre-Test awards to work with CMMI to design State Health Care Innovation Plans. The SHIP delineated a state's strategy "to use all of the levers available to it to transform its health care delivery system through multi-payer payment reform and other state-led initiatives."[1] Collectively, these activities assisted states in meeting the SIM Initiative's primary objective to achieve at least 80 percent of care in a state—calculated on the basis of population, expenditures, or practices—in delivery arrangements that use value-based payment (VBP) or alternative payment models (APMs) to incentivize better care and lower costs.[2,3]

The Model Test awards were for four years. The first Award Year [AY1] was meant for states to further develop the strategies embodied in their SHIPs. The last three AYs were for the states to test their respective strategies. However, some states continued to develop and refine their SIM strategies past the designated test period to meet their evolving delivery system reform goals, leading CMMI to grant state requests to postpone the start of their SIM test periods.

Exhibit 1 shows the updated period of performance for each Model Test state. Three of the Round 2 Model Test states completed their test periods on January 31, 2019, as originally planned. The remaining eight states were granted no-cost extensions, enabling them to end their test period later than planned.

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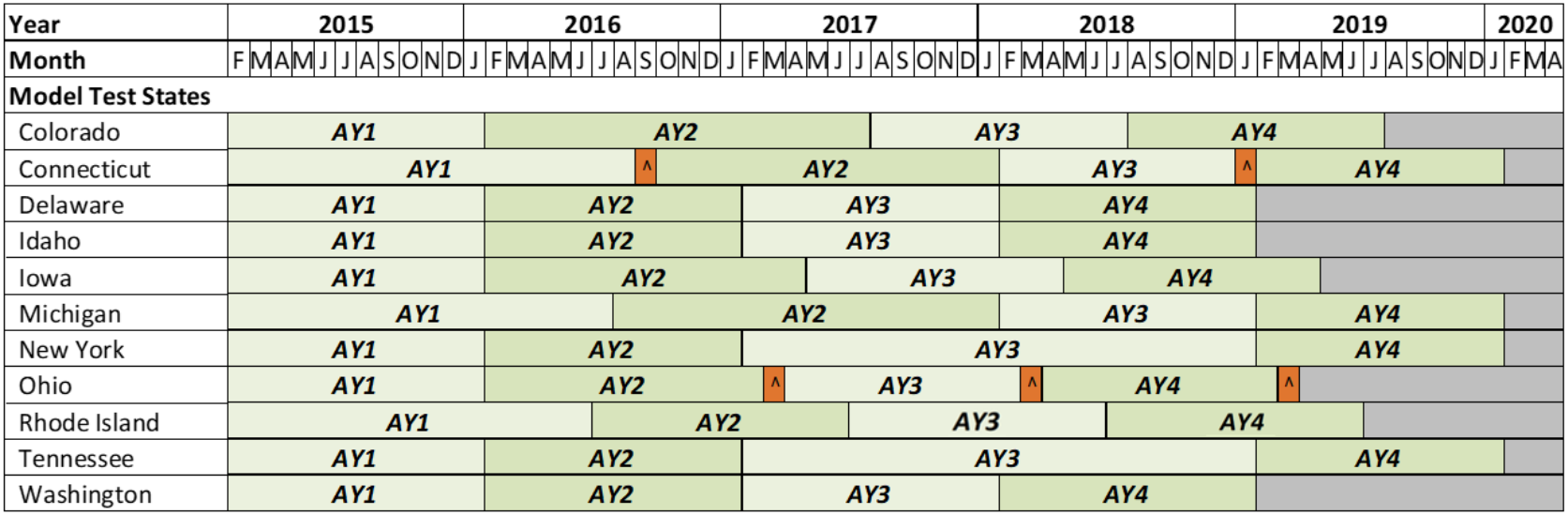
[1] Centers for Medicare & Medicaid Services (CMS). (2017). *State Innovation Models Initiative: General information*. https://innovation.cms.gov/initiatives/state-innovations/

[2] Rajkumar, R., Conway, P. H., & Tavenner, M. (2014). CMS—engaging multiple payers in payment reform. *JAMA*, *311*(19), 1967–1968. doi:10.1001/jama.2014.3703

[3] VBP is a strategy used by purchasers to promote the quality and value of health care services. The goal of VBP programs is to shift from pure volume-based payment, as exemplified by fee-for-service payments, to payments more closely related to health outcomes. An APM is any approach meeting the criteria established by the Centers for Medicare & Medicaid Services (CMS) that gives added incentive payments to provide high-quality and cost-efficient care. APMs can apply to a specific clinical condition, a care episode, or a population. Advanced APMs are a subset of APMs that let practices earn more rewards in exchange for taking on risk related to patient outcomes. Source: CMS. (2017). APMs overview. *Quality Payment Program*. https://qpp.cms.gov/apms/overview

Exhibit 1. Round 2 Model Test period of performance



Notes: Cells shaded in orange (with ^) represent months in which there is an intra-month (e.g., mid-month) transition between AYs.

AY = Award Year; CMMI = Center for Medicare and Medicaid Innovation.

Source: CMMI.

To obtain an independent federal evaluation of the Round 2 SIM Initiative, CMMI contracted with the team of RTI International and its subcontractors—National Academy for State Health Policy, The Urban Institute, The Henne Group, and Native American Management Services.

Purpose of the Final Report

This is the final evaluation report for the Round 2 SIM Initiative. This report documents the implementation efforts of the 11 Model Test states and assesses whether their transformed health care delivery systems have impacts on quality of care, health outcomes, population health, and total spending. This report also addresses how the Model Test states:

- used policy levers to allow or facilitate the spread of health care payment and service delivery models;
- adopted enabling strategies in support of these models (e.g., health information technology [health IT], data analytics investment, workforce development); and
- integrated population health into their transformation efforts.

Although this report incorporates lessons learned from the entire evaluation, it focuses especially on the following research questions, which relate to the overall impact of the Round 2 SIM Initiative:

- **Model implementation**
  - What were the key successes, challenges, and lessons learned through the SIM implementation and testing process?
  - What contextual factors influenced design and implementation of SIM activities?
- **Quality of care**
  - Is there evidence for improved quality of care, including consumer experiences, under Round 2 of the SIM Initiative?
  - What is the magnitude of these observed changes, when variations in health status and other relevant factors have been controlled for?
  - What strategies and models might account for these impacts?
  - Do individual components of the models, including specific payments and care models, account for any of these impacts?
- **Health care utilization**
  - Is there evidence of SIM impacts on health care utilization?
  - Is there evidence that the state SIM Initiatives reduce or eliminate variations in utilization that are not attributable to health status?
  - What strategies and models might account for these impacts?

- **Health care spending**
  - Is there evidence that state SIM Initiatives have reduced health care spending?
  - What is the range and size of these impacts after variations in health status and other factors have been controlled for?
  - Is there evidence that the state SIM Initiatives reduce or eliminate variations in spending not attributable to health status?
  - What specific SIM strategies and models might account for these impacts?
- **Care coordination**
  - Is there evidence for improved or increased coverage/adoption of care coordination under the SIM Initiative?
  - What strategies and models are likely to account for this change?
- **Stakeholder response**
  - How do payment model innovations align provider behavior with continuous performance improvement and outcomes?
  - What is the extent of provider engagement?
  - What is the extent of payer engagement?
  - Is there any evidence of unintended consequences in provider, payer, or consumer behavior?
- **Factors associated with the results**
  - What factors, characteristics, or other trends are associated with the pattern of results?

The Evaluation Team assessed the impact of the SIM Initiative using both qualitative and quantitative data. As described in ***Appendix L***, *Data and Methods*, qualitative data come from document reviews, participation in meetings by phone, key stakeholder interviews, and provider and consumer focus groups. State Evaluation Team members used thematic analysis and triangulated data across sources to develop state-specific findings. Experts specializing in substantive areas relevant to the broader SIM Initiative then used the state-specific findings to formulate findings on key topics of relevance to SIM Initiative activities across the 11 Model Test states. State Evaluation Team members helped the experts refine their initial findings, by both offering additional information to support the preliminary conclusions and encouraging experts to reconsider findings to fully capture states' experiences. Evaluation Team meetings and two virtual workshops enabled the substantive experts to work across their particular areas—thinking critically about how findings relevant to one area related to other areas, understanding the relationships among different elements of the SIM Initiative, and deriving the findings presented in this report. Also described in ***Appendix L***, *Data and Methods*, are the data and methods for quantitative analyses. For each Model Test state, impact evaluations were conducted to assess changes associated with one or more payment models or other assistance to providers.

These analyses use claims data from different payers (Medicaid, Medicare, and commercial plans) and population-wide survey data (Behavioral Risk Factor Surveillance System), depending on the state. The claims data are the primary data sources for analyzing the impacts on spending and utilization and on care coordination, and quality of care. Additional quantitative data on health care provider and payer market characteristics were analyzed to complement qualitative stakeholder reporting on factors that influenced delivery transformation assistance and VBP model design and provider and payer participation.

Organization of the Final Report

The following section provides an overview of the main cross-state evaluation findings from the SIM Initiative. ***Sections 2–15*** present topic-specific cross-state evaluation findings of the Round 2 SIM Initiative. The Evaluation Team reports state-specific findings for each of the 11 states in ***Appendices A–K***.

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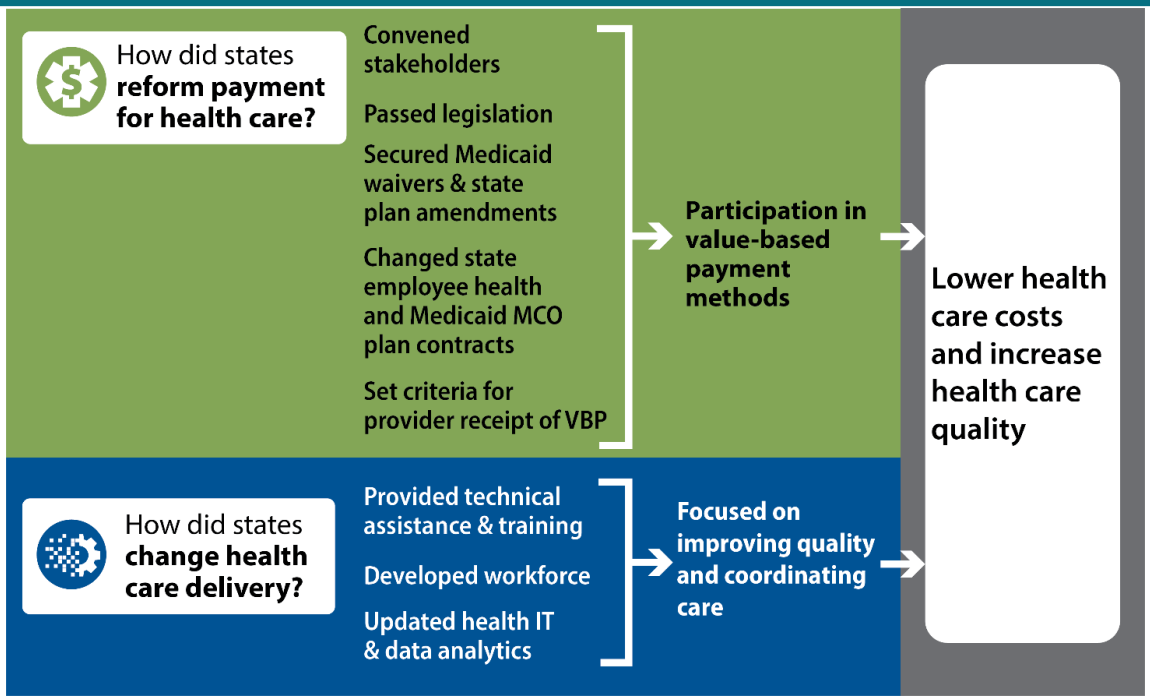
Cross-State Findings from State Innovation Models Initiative Implementation 2016–2019

By January 2020, the 11 Model Test states completed their periods of performance in Round 2 of the SIM Initiative. To meet the SIM Initiative's goal of improving quality of care and reducing health care spending by moving a preponderance of care (defined as 80 percent of providers, expenditures, or beneficiaries) into an alternative payment model (APM) or value-based payment (VBP), states built upon prior investments and leveraged current structures and market characteristics to design innovations that would drive change within their particular context. ***Exhibit 2*** and ***Exhibit 3*** present the levers that states used to improve health and reduce costs. This section provides an overview and analysis of that process and the initial high-level implementation outcomes achieved for SIM states.

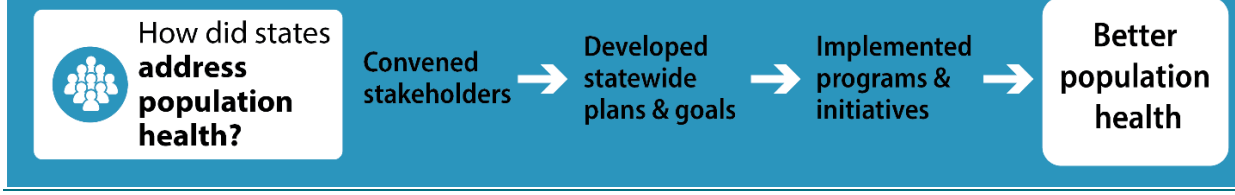
Exhibit 2. States participating in the SIM Initiative aimed to transform health care through a variety of strategies



Note: health IT = health information technology; MCO = managed care organization; SIM = State Innovation Models.

Sources: Federal Evaluation Team analysis of interviews, focus groups, and state documents.

Exhibit 3. State addressed population through multi-step strategies



Sources: Federal Evaluation Team analysis of interviews, focus groups, and state documents.

State Pre-Implementation Landscape and Design

Although states shared the common goal of moving a preponderance of care into APM or VBP arrangements, differences among states in terms of their regulatory options, prior payment model investments, and payer fragmentation led to different investment strategies for how to spend SIM funds. State strategies aimed to take advantage of the existing context and fill in gaps to most effectively and efficiently transform their state's health care systems. Through an examination of the pre-implementation context we gain a better of understanding of the investments made by states, and a more complete understanding of the accomplishments that they have achieved. We first examine three categories of pre-implementation context that informed state activities: (1) strong state payer and purchaser levers, (2) prior VBP investments or (3) no previous VBP strategy.

Pre-Implementation Landscape

Strong State Payer and Purchaser Levers. The state's role as a health care payer for Medicaid and purchaser of state employees' health plans presented a favorable context to create meaningful change for some states. Therefore, states with a market context and environment conducive to this intervention had an opportunity to enact new payment models themselves in these markets. Delaware, Iowa, Michigan, Ohio, Rhode Island, Tennessee, and Washington all had high proportions of their Medicaid population in managed care organizations (MCOs)—50% or more—providing an opportunity to use contracting with MCOs as a lever to increase APM/VBP arrangements. For example, the Washington State Health Care Authority used its existing role as payer for Medicaid, which is delivered primarily through MCOs, as well as payer for public employees' health benefits. Previous legislation in Washington directed the Washington State Health Care Authority to use value-based purchasing in both its Medicaid and state employee coverage programs, thereby providing an opportunity to create significant change among these populations.[4]

This lever of using the state's role as a payer was also intended to spur or align APM/VBP growth in the commercial market. Connecticut, and Ohio provide examples of

[4] For more details, see ***Appendix K***, *Washington*.

building on payment models already introduced by the state or offered by the commercial payers and/or Medicare. Ohio's participation in the Medicare's Comprehensive Primary Care initiative (CPCi)[5] provided prior experience that informed the state's model development. Connecticut had previously invested in PCMH through their Advanced Medical Home (AMH) Initiative. ***Exhibit 4*** provides an overview of existing models in all SIM states.

Connecticut, Ohio, Tennessee, and Washington all designed their SIM Initiatives around the development of new payment models for their Medicaid populations, and in the case of Washington and Tennessee, also their public employee health plan.

Exhibit 4. Pre-SIM investments

Initiative or activity	States
PCMH recognition	CT, MI, NY, and RI
Medicaid MCOs	NY, TN, and WA
MAPCP	MI, NY, and RI
Medicare's CPCi	CO, NY, and OH
TCPI	CO and NY
Medicaid Authority Health Homes (Section 2703)	TN and WA

Note: CO = Colorado; CPCi = Comprehensive Primary Care initiative; CT = Connecticut; MAPCP = Multi-Payer Advanced Primary Care Practice; MCO = managed care organization; MI = Michigan; OH = Ohio; NY = New York; PCMH = patient-centered medical home; RI = Rhode Island; SIM = State Innovation Models; TCPI = Transforming Clinical Practice Initiative; TN = Tennessee; WA = Washington.

Sources: Federal Evaluation Team analysis of interviews, focus groups, and state documents.

Prior VBP Investments. States with prior heavy investments in PCMH had an opportunity to build upon that prior work and convene commercial payers to work together. In Colorado, Michigan, and New York, the commercial payer market includes large numbers of commercial payers without any single commercial payer dominating the market, which posed a potential challenge for aligning around one payment model. Conversely, Idaho and Rhode Island have more concentrated commercial health insurance markets, with one dominant carrier's share covering two-thirds or more of the market (for more information, see ***Section 8****, Market Characteristics*).[6]

States chose to expand on prior PCMH investments in different ways, depending on their state priorities. Colorado focused their SIM efforts on building from previous care delivery

[5] Medicare's successor program to CPCi, Comprehensive Primary Care Plus (CPC+), began after the SIM Initiative in 2017 involved providers in Colorado and Ohio, but also in Michigan, Rhode Island, and Tennessee—all of which had prior PCMH programs.

[6] Evaluation of the *State Innovation Model (SIM) Initiative Round 2: Model Test year one annual report.* https://downloads.cms.gov/files/cmmi/sim-round2test-firstannrpt.pdf

transformation through a payer-agnostic approach. New York focused expansion on commercial payers, and Michigan focused on improving population health. Colorado designed its delivery system work around integration of behavioral health and primary care, and New York focused on expanding PCMH to more practices. Both Colorado and New York specifically designed ways to convene payers to work together on APM/VBP expansion. For New York, this expansion effort was conducted through Regional Oversight Management Committees (ROMCs) that convened payers in each region to develop and implement region-specific payment approaches. Michigan relied on existing delivery innovations to continue and focused on expanding population health efforts to addressing social determinants of health.

Rhode Island also invested heavily in PCMH prior to the SIM Initiative and expanded on the existing care delivery models and initiatives. For example, SIM activities were designed to support the spread of PCMH to pediatric practices, behavioral health and primary care integration, and enhancing the health information technology (health IT) infrastructure in the state. However, Rhode Island already mandated VBP standards for commercial payers through its Office of the Health Insurance Commissioner (OHIC). The state regularly convenes commercial payers to develop VBP standards. Moreover, its payer market is highly concentrated, and one commercial payer holds a dominant share of the market—making it potentially easier to involve a critical mass of the commercial insurance population in health care transformation.

Idaho similarly invested in PCMH among Medicaid and commercial clinics prior to the SIM Initiative, providing an opportunity to expand it to more clinics throughout the state. Idaho designed its SIM Initiative to focus on delivery system transformation by spreading the PCMH model to more practices primarily through funding technical assistance, training, and health IT infrastructure investments to ready them to participate in APM/VBP arrangements.

Connecticut also used prior investments in patient-centered medical homes (PCMHs) for Medicaid providers represented an existing structure to enact reforms. Their Person-Centered Medical Home Plus (PCMH+) payment model was exclusively designed for PCMH practices.

Although all of these states took slightly different approaches regarding their design and how they chose to enhance practice capacity, they all invested in strengthening the ability of practices to participate in APM/VBP, strengthen and spread PCMH to new markets, and create stronger linkages between primary care and community resources (for more information, see ***Section 1****, Patient Centered Medical Homes*).

No Previous VBP Strategy. Both Delaware and Iowa operate in a context without significant prior investment in PCMH. Both commercial markets were concentrated, yet in Delaware, pre-SIM Initiative VBP strategy was not present in either the Medicaid or commercial sector around which SIM efforts could align.

Delaware focused the design of its SIM Initiative around delivery system transformation and the integration of primary care with behavioral health care while expanding the use of its existing statewide health IT systems. Iowa invested heavily in statewide health IT systems and in population health efforts by addressing social determinants of health.

Governance Structures to Support Design

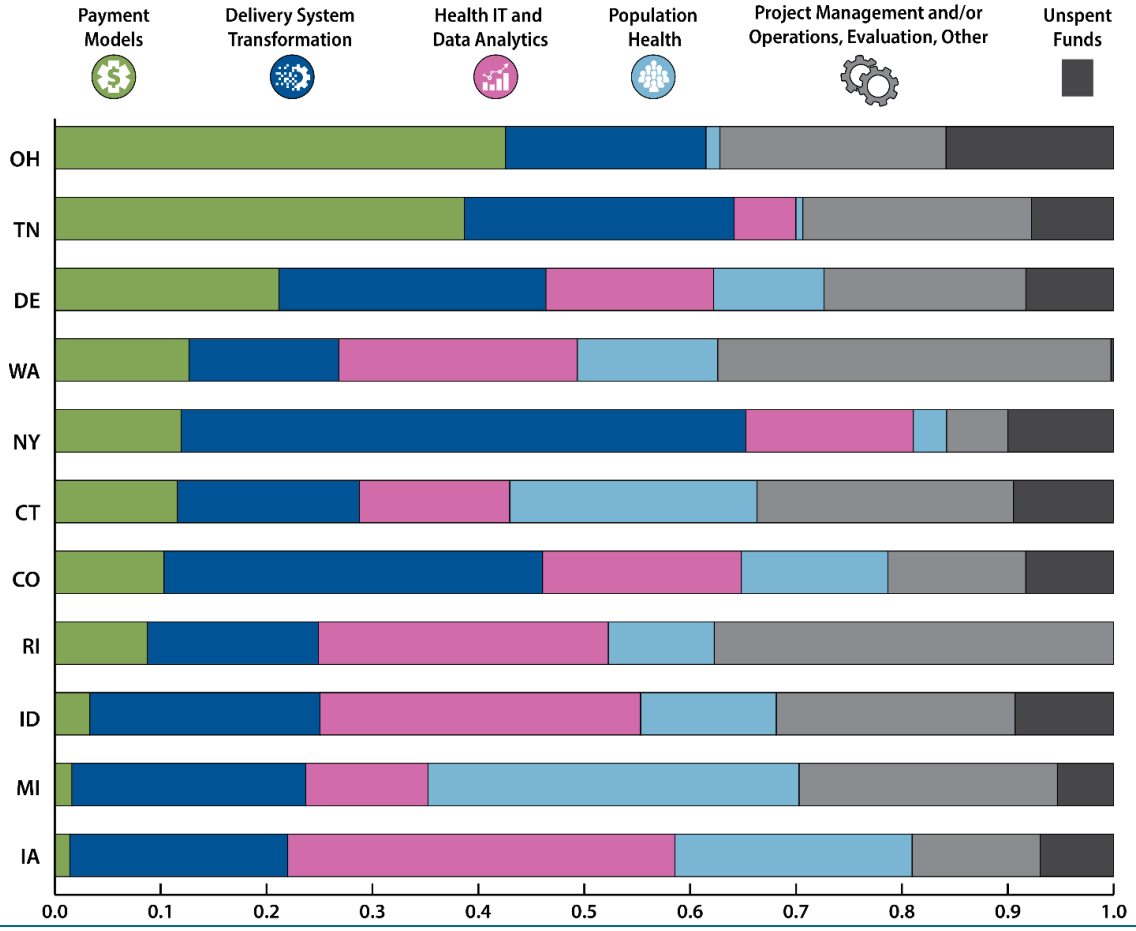
The flexibility afforded states by the SIM Initiative led to different strategies regarding where to place responsibility within state government for day-to-day SIM award operations and, ultimately, in how to allocate award funds. The following three major factors entered into states' decision making as they formed their SIM governance infrastructure: (1) the need to coordinate multiple innovation efforts, both within state government and across public versus private sectors; (2) existing statewide or regional entities accountable for innovation or playing advisory roles; and (3) Medicaid's role in the SIM Initiative implementation plan, especially the availability of complementary resources through Medicaid to advance key SIM Initiative goals.

Some Model Test states chose to either administer the SIM Initiative from within a public entity already responsible for statewide health care innovation and directly accountable to the Governor's office (Ohio), or they chose existing state agencies that administered Medicaid or a broader portfolio of program administration—such as the Washington State Health Care Authority and the New York State Department of Health—to lead the SIM Initiative. Connecticut, Idaho, and Rhode Island created new SIM Initiative–governing bodies. Other states continued to rely on entities established to advise on their SIM Model Test Plan, extending their mission to advise SIM leadership on implementation. Several states used SIM leadership to increase coordination between agencies and governors' offices in order to reduce administrative hurdles and speed implementation progress.

Strategic Investment of State Innovation Models Initiative Funding

Model Test states' financial investment reflect areas where states required significant federal funding to achieve their goals. Although for most states this is aligned with their design strategy, state investments sometimes changed during the award. It is also important to note that SIM Initiative spending does not reflect the full breadth of activities states set in motion to achieve SIM Initiative objectives. States also drew from state funds, federal matching funds under Medicaid demonstrations and waiver authority, and public–private partnerships to achieve their goals. The context of each state at the start of its SIM Initiative influenced its SIM spending patterns. ***Exhibit 5*** shows the expenditures by category for each of the SIM states.

Exhibit 5. Model States' expenditures reflected strategic investments in priority areas for their states



Notes: States shown in order of expenditures in payment models.

CO = Colorado; CT = Connecticut; DE = Delaware; health IT = health information technology; IA = Iowa; ID = Idaho; m = million; MI = Michigan; OH = Ohio; NY = New York; PCMH = patient-centered medical home; RI = Rhode Island; TN = Tennessee; WA = Washington.

Source: Federal Evaluation Team analysis of state documents.

Payment Model Development. The relatively high proportion of SIM funds designated to payment model development in Ohio and Tennessee reflects the choice by both states to design episodes of care (EOC) payment models. This proportion is even greater given the additional investments of the PCMH model in Ohio and long-term services and supports (LTSS) in Tennessee. Tennessee's delivery system funding reflects its design of PCMH and Behavioral Health Homes. Both states leveraged their role as payers through Medicaid and attempted to use their role as collaborators to involve commercial payers in the design and implement.

Washington's funding is more evenly distributed across spending categories because it leveraged other funding sources to support its initiatives, including payment model development.

Washington used a Medicaid Delivery System Reform Incentive Payment (DSRIP) waiver to provide funding to support delivery reforms whose goals aligned with those of the SIM Initiative. Although funds that are part of a Medicaid 1115 waiver must be evaluated for their ultimate cost neutrality regarding the federal share of Medicaid payments in a state, the influx of funds under DSRIP meant that the state could invest SIM funds in Medicaid-related initiatives with the guarantee that DSRIP could continue efforts deemed successful under the SIM Initiative into the future.

Connecticut ended the SIM Initiative with a portfolio of SIM investments balanced across payment model development, delivery system improvement, health IT, and population health. This reflects their investment in its new Medicaid payment model, but also the supports to practices to help them transform, as well as addressing health disparities in their state through population health initiatives.

Delivery System Transformation. Colorado, Delaware, and Washington balanced their investment portfolios to leverage external funds to support primary and behavioral health care transformation. Some Colorado practices benefited from a Centers for Medicare & Medicaid Services (CMS) Transforming Clinical Practice Initiative (TCPI) award, an Agency for Healthcare Research and Quality (AHRQ) EvidenceNOW award, and Colorado Health Foundation grants to support technical assistance to primary care practices for delivery system improvement. Delaware did not leverage external funds concurrent to SIM award, but had established statewide health IT systems prior to the SIM award.

New York invested heavily in delivery system transformation. By using its DSRIP waiver as the funding source for the state's Medicaid payment model development on a parallel track, SIM funding was used to deliver technical assistance to primary care providers (PCPs) working toward PCMH recognition, and encourage multi-payer collaboration to foster improved primary care delivery.

Population Health. Michigan invested most heavily in population health. The state's strategy established five Community Health Innovation Regions (CHIRs) to connect clinical and community services to improve population health by better addressing social determinants of health. Iowa had the second highest investment in this area and established local Community and Clinical Care (C3) initiatives (formerly Community Care Coalition) that focused on population health at the community level (for more information, see ***Section 9****, Population Health Architecture*, and ***Section 10****, Screening and Referral*).

Health IT. Idaho and Iowa both invested heavily in health IT to support provider participation in VBP and population health efforts. In Idaho, investment reflects efforts to spread the PCMH model and supports for PCMH practices (such as a bi-directional connection to the state's health information exchange [HIE] and improved linkages to community resources)

statewide. Iowa pursued a statewide admission, discharge, and transfer (ADT) alert system to foster continuity of care.

Rhode Island had a balanced portfolio, supporting and expanding several existing initiatives. Pre-SIM investments in PCMH and regulation of commercial payer investment in APM/VBPs led to a limited investment in payment models in favor of care delivery, health IT, and population health. Rhode Island's largest investment was in health IT, focusing its efforts on enhancing the infrastructure in the state.

Responses to Barriers and Changing Contexts Throughout the State Innovation Models Award

The 11 states all developed a design and strategy to work within their existing state context to promote health care transformation in a way that drew on existing resources and filled identified gaps. State investments and priorities did not remain static over the course of the SIM award, and as states encountered barriers or a lack of momentum with some portions of their Initiative, they made choices about how to best handle these challenges. These changes generally resulted from the recognition that a program implementation was not proceeding as envisioned or to better align with other state activities.

For example, Connecticut diverted funds away from an original portion of the initiative when it was deemed as being less productive. One of Connecticut's key care delivery transformation initiatives at its inception was the AMH program, which was intended to provide support for practices seeking National Committee for Quality Assurance (NCQA) PCMH certification. Following three years of the program, the number of applicants had significantly lessened; therefore, SIM officials decided to reinvest these funds into other initiatives.

Some states chose to use legislative and contracting levers to increase APM/VBP adoption later in their SIM awards. After a lack of adoption and progress with APM/VBPs, Delaware's Medicaid division added mandatory VBP expenditure targets to its Medicaid MCO contracts in 2018. During the award, Delaware also chose to develop a Centers of Excellence (COE) model for its state employee plan. Delaware chose to use a procurement process, through which the state authority prescribed and refined the health plan package offered to its members through the third-party administrators (TPAs) that administer the benefits (for more information, see ***Section 6****, Stakeholder Engagement*).

States often build on existing initiatives in their state, but Ohio also revised its program after the start of SIM to ensure alignment with newly awarded federal Comprehensive Primary Care Plus (CPC+) initiative. Because CPC+ was awarded after the state received the SIM award, Ohio delayed the implementation of its Ohio Comprehensive Primary Care (CPC) initiative to ensure that the requirements aligned with the other federal initiative.

State Innovation Models Implementation Outcomes and Stakeholder Feedback

Preponderance of Care. Throughout the award stakeholders reported that they were skeptical about their ability to reaching 80 percent of expenditures, populations, or providers into VBP or APM in such a short time. Challenges with gathering comprehensive data from all payers further limited their ability to measure progress or success. Despite these challenges, several states reported they had either reached, or come close, to their goal. Idaho, for example, reported 90 percent of covered lives were covered under VBP in 2019. Other states were able to document success among some (but not all) populations or payers.

State-specific goals tied to VBP adoption among certain payers or populations were achieved for many states. For example, Washington aimed to have 90 percent of state financed health care and 50 percent of commercial health care in VBP. They exceeded their goal for commercial payers and reached 75 percent of Medicaid MCOs. Iowa set a state-specific goal to achieve 45 percent of Medicaid lives under VBP and achieved this within the award period. Tennessee reported that they approached 80 percent for their Medicaid population through their complication of EOC, PCMH, Health Link, and LTSS models. Ohio estimated that they reached 72 percent of Medicaid enrollees by the end of the award and were optimistic that 80 percent for Medicaid and commercial plans would be achieved if current trends continued. Rhode Island reported that 80 percent of Medicaid-enrolled children and 50 of commercial of the pediatric population (and 46 percent of *all* commercial payments) were covered under a VBP. Colorado was also optimistic that they might be close to the 80 percent goal when SIM activities were combined with other VBP models in the state. Connecticut reported about 20 percent of Medicaid beneficiaries were covered under PCMH+. New York estimated that they had reached about 50 percent. Delaware reported come progress, with one payer reporting 30 percent in VBP and an independent survey showing 80 percent of primary care practices in pay-for-performance. Michigan had success with MCO contracting, however they were unable to report on the progress towards their goal.

Payment Model Development. Strategies to use the state's role as a payer and purchaser to encourage multi-payer change successfully implemented new payment models, but had limited success in encouraging other payer participation. The remainder of this section discusses implementation outcomes by payer type, as well as some stakeholder feedback to these initiatives.

Medicaid. Several states had success in implementing APM/VBP in Medicaid. For example, in leveraging their relationships with MCOs, Ohio and Tennessee successfully implemented EOC and primary care payment models among the Medicaid populations. Tennessee also successfully implemented several LTSS models and Behavioral Health Homes into their MCO contracts. In total, eight SIM states successfully used MCO contracting to

increase VBP in their state (for additional details about states leveraging their MCO contracts, see ***Section 5****, Medicaid MCO Contracting).*

The EOC models in Medicaid engaged a wide range of specialists in APMs, and participation was mandatory for Medicaid providers in Ohio and Tennessee. Payment for EOC in Ohio and in Tennessee's TennCare used a shared risk model in which providers are subject to upside risk and all Ohio EOC and some TennCare EOC included downside risk. By 2019, Ohio had issued payment incentives for nine EOC and linked another nine EOCs to payment (for more information, see ***Section 2****, Episodes of Care*).

Connecticut, Ohio, and Tennessee, developed and implemented payment models for primary care practices participating in Medicaid. By 2019, Tennessee had enrolled a total of 86 PCMH practices and required MCOs to assume selection and oversight responsibilities for this program, as well as for the behavioral health model (Health Link) at the end of the award. The Ohio CPC, after its delayed launch to align with the federal CPC+ initiative in the state, enrolled a total of 250 practices by 2019 and had begun distributing shared savings. These practices cover approximately 45 percent of the Medicaid population. Finally, Connecticut successfully implemented PCMH+ (Medicaid Shared Savings Program), and reported that 1,106 providers were participating in the program, covering approximately 20 percent of the Medicaid population in the state (for more information, see ***Section 1****, Patient Centered Medical Homes*, and ***Section 3****, Behavioral Health Integration*).

In most states, providers reported positive experiences with these new payment models and the support that they received for these models. Ohio and Washington providers reported that the new payment model led to investments in care coordination, data systems, and care delivery.

State Health Plan. Washington, Delaware, and Tennessee also developed payment models for public employees: the Accountable Care Program (ACP), the COE model, and EOCs, respectively. The Washington State Health Care Authority negotiated ACP contracts directly with ACOs that were administered by the TPA. Although not part of the state's original design, the Delaware State Employee Benefits Office used SIM funds to inform the design of its COE model, which factored performance into payment for its state employee plan beginning in 2020. Tennessee successfully implemented EOC models into its state employee plans, which included upside risk only (for more information, see ***Section 4****, State Employee Coverage*).

Commercial Insurers. Although SIM states successfully developed and implemented new payment models in their role as purchaser, all reported challenges with encouraging commercial payers to offer VBP models to the extent originally envisioned to meet the SIM Initiative goals for increasing the reach of VBP. In Washington, large high-tech employers were not interested in these models and were instead focused on health care plans that would attract

new talent to their organizations. Although Ohio and Tennessee made great strides with their Medicaid populations, they did not report similar progress among the commercial payers they convened. With the exception of Rhode Island and Washington,[7] SIM states experienced significant barriers to collecting consistent data on commercial payer activities related to whether the preponderance of their expenditures and/or beneficiaries were receiving care through APM/VBPs. Commercial payers often viewed this information as proprietary. Therefore, progress and the impact of movement in Medicaid and state health plans, as well as the efforts to convene payers, remain largely unquantified and/or not comparable among states. However, commercial plans across states reported that they appreciated the value of coordinating to some extent with other payers on aligning quality measures to reduce the burden on providers from participating in multiple VBP contracts.

New York's focus on commercial payers rather than Medicaid was unique among SIM states however, they also struggled with obtaining agreement among payers on a payment model. Despite this, they did obtain agreement in many parts of the states to target particular PCPs for transformation assistance.

Delivery System Transformation. States' accomplishments in delivery system transformation were diverse, given the different areas of focus, including technical assistance, PCMH recognition program assistance, behavioral and primary care integration, or population-health focused.

Connecticut, Delaware, and Tennessee invested in technical assistance to providers to support new payment models. Through Connecticut's Community and Clinical Integration Program (CCIP) the state provided additional assistance to some practices participating in the PCMH+ payment model. In most states providers reported that the technical assistance was helpful to preparing for these new payment arrangements. Although Delaware did not develop a new payment model with its SIM award, the state's Primary Care Practice Transformation initiative helped primary care practices develop core capabilities of a PCMH to improve primary care readiness for VBP and to encourage behavioral health integration.

Building on prior PCMH investments, Idaho, New York, and Rhode Island expanded their PCMH program to new practices. Rhode Island's Patient-Centered Medical Home-Kids (PCMH-Kids) helped pediatric practices become PCMHs (for more information, see ***Section 13**, Pediatric Care*). Idaho and New York expanded PCMH certification to additional practices throughout both states.

Colorado, Delaware, Rhode Island, and Washington successfully advanced primary and behavioral health integration during their initiative. Colorado and Delaware did so by providing

[7] Washington State Health Care Authority. (2020). *Centers of Excellence*. https://www.hca.wa.gov/about-hca/uniform-medical-plan-ump/centers-excellence

practices with technical assistance and other assistance to make necessary changes. SIM-participating PCPs and community mental health centers (CMHCs) in Colorado reported improvements in identifying behavioral health and physical health needs, care coordination between primary care and behavioral health providers, and the use of clinical and administrative data to identify gaps in care. Primary care practices and FQHCs in Delaware credited technical assistance on behavioral health integration for bridging cultural barriers with behavioral health and substance use disorder providers, better monitoring of their patients for changing mental health needs, and incorporating evidence-based screening and measurement-based care into practice. Rhode Island stakeholders credited the behavioral health initiative with significantly enhancing PCP capacity and willingness to treat patients with behavioral health conditions.

Sustainability remains a concern for several of the states because the return on investment for some of the community health worker (CHW), behavioral health and primary care integration, and pediatric PCMH programs could not be made during the award period.

Health IT. Rhode Island and Iowa created new infrastructure to support health care transformation in their states. Rhode Island used data from its CMHC care management dashboard initiative and reported reduced inpatient admissions and readmissions, as well as provider-reported ability to identify patient utilization patterns. Iowa created a SIM-funded Statewide Alert Notification (SWAN) ADT system. However, provider feedback was not consistently positive, and the SWAN system was ultimately discontinued in favor of a private system that was viewed as more user friendly to providers. Despite the state discontinuing the SWAN system, state officials and other program implementers believed that the combined growth in value-based contracts and the introduction to ADT alerts through the SWAN system demonstrated the value of sharing data to Iowa providers.

Population Health. Several states successfully established local level architectures to improve population health. For instance, Michigan successfully created the CHIRs, which are considered the cornerstone of Michigan's population health strategy. These community-based organizations brought representatives from various agencies together with stakeholders to identify and address the region's most pressing health-related social needs. They also created community-clinical linkages to address these needs and expanded PCMHs to include CHWs. Connecticut also successfully expanded the CHW workforce through its SIM award (see ***Section 11****, Community Health Workers*). Iowa established C3 initiatives, which maintain local teams of health and social service stakeholders and targeted statewide initiatives such as diabetes through unique, community-based strategies. State officials in Iowa deemed the C3 initiatives to be one of the state's biggest successes.

States worked within and built upon prior investments and structures and leveraged market characteristics to design innovations that drove effective change within their state health care systems.

Sections 1–8 provide additional details and analyses of topic areas previously discussed in this section, beginning with payment reforms (PCMH, EOC, behavioral health integration), VBP support strategies (state employees, MCO contracting, stakeholder engagement, quality measures alignment), and more detailed state context (states' provider or payer characteristics). ***Sections 9–14*** discuss topics related to the health of populations (population health architectures, screening and referrals, CHWs, rural health, pediatric populations, and patient engagement).

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1. Patient-Centered Medical Homes

- Connecticut, Delaware, Idaho, Michigan, New York, Ohio, Rhode Island, and Tennessee all implemented activities to develop, recruit, support, and sustain patient-centered medical homes (PCMHs).
- States supported PCMHs by providing direct technical assistance, enhancing care coordination payments, expanding clinical staff to include care coordinators, social workers and community health workers, and integrating health information technology.
- Generally, states' PCMH models reduced total spending and use of high-cost acute care services, including emergency department visits and inpatient admissions, relative to comparison groups.

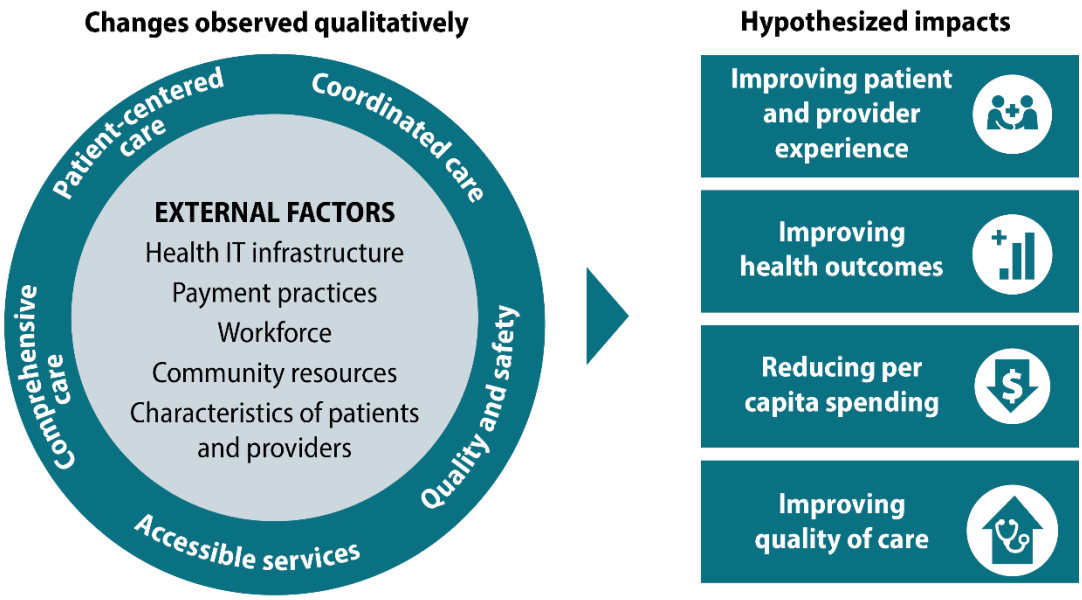
Patient-centered medical homes (PCMHs) are designed to improve health care quality, facilitate patient and provider experiences, and reduce high-cost emergency and inpatient services.[8,9] PCMHs strive to improve health outcomes by delivering primary care that is comprehensive, is patient centered, and emphasizes care coordination and quality of care. The core characteristics of PCMHs work together to improve health care, with enabling or inhibiting factors, including health information technology (health IT) infrastructure, payment practices, workforce issues, community resources, and characteristics of both patients and providers (see the conceptual model in ***Exhibit 1-1***). These features are designed to create a care delivery system that can go beyond traditional primary care by emphasizing coordinated services and a holistic, whole-person approach to meet patients' physical health, mental health, and social needs.

Connecticut, Delaware, Idaho, Michigan, New York, Ohio, Rhode Island, and Tennessee implemented or expanded PCMH-related activities through their SIM Initiative. This section highlights states' implementation activities, synthesizes common enabling and inhibiting factors, and describes estimates of PCMHs' impact across core utilization and spending measures.

[8] AHRQ (Agency for Healthcare Research and Quality). (n.d.). *Defining the PCMH*. https://pcmh.ahrq.gov/page/defining-pcmh

[9] Kilo and Wasson. Practice Redesign and the Patient-Centered Medical Home: History, Promises and Challenges. https://www-healthaffairs-org.eu1.proxy.openathens.net/doi/10.1377/hlthaff.2010.0012

Exhibit 1-1. Modified Agency for Healthcare Research and Quality conceptual framework for evaluating patient-centered medical home effectiveness



Note: health IT = health information technology.

Source: Adapted from AHRQ (Agency for Healthcare Research and Quality). (2013, March). *The medical home: What do we know, what do we need to know? A review of the earliest evidence on the effectiveness of the patient-centered medical home model*. https://pcmh.ahrq.gov/page/medical-home-what-do-we-know-what-do-we-need-know-review-earliest-evidence-effectiveness-of-the-patient-centered-medical-home-model

1.1 State Approaches

Across the eight states implementing PCMH models, each developed a unique approach tailored to their state's health care delivery system. Most states participating in PCMH activities built upon or expanded existing primary care reform activities. ***Exhibit 1-2*** provides a summary of each state's PCMH activities under the SIM Initiative.

The path that SIM states took to select their PCMH models and related certification processes largely reflected unique state context, including existing or co-occurring value-based payment (VBP) models and commercial payer participation and engagement. Delaware, Idaho, and Rhode Island engaged their Medicaid and commercial payers in efforts to initiate or expand PCMH models, whereas New York focused exclusively on commercial payers. The remaining four states (i.e., Connecticut, Michigan, Ohio, and Tennessee) all encouraged commercial participation but ultimately focused most of their PCMH resources on the Medicaid market. In Michigan, Ohio, and Tennessee, states partnered with Medicaid managed care organizations (MCOs) to administer the PCMH model while in Connecticut the program was administered directly by the state Medicaid agency. For a summary of common implementation activities,

including model selection, care coordination activities, health IT strategies, and payment reforms, see ***Exhibit 1-8*** at the end of this section.

Exhibit 1-2. Patient-centered medical home activities under the SIM Initiative

- **Connecticut's PCMH+** model assisted PCMH-recognized practices through enhanced payments and technical assistance to meet quality benchmarks and share in potential savings for the Medicaid population.
- **Delaware's PTI** provided technical assistance to support primary care practices to meet benchmarks that are aligned with common PCMH standards.
- **Ohio's OH CPC** model assisted PCMH-recognized practices through enhanced payments and technical assistance to meet quality benchmarks and share in potential savings for the Medicaid population.
- **Idaho's PCMH** model provided technical assistance to support primary care practice transformation with novel activities for patients in rural and underserved communities.
- **Michigan's PCMH Initiative** used enhanced payments and technical assistance support to assist PCMH practices with meeting select quality benchmarks and share in potential savings for the Medicaid and commercial population.
- **New York State's NYS PCMH** used technical assistance support to transform primary care practices into PCMHs.
- **Rhode Island's PCMH-Kids** model used enhanced payments and technical assistance support to assist PCMH-recognized pediatric practices in meeting select quality benchmarks for the Medicaid and commercial populations.
- **Tennessee's PCMH** model used enhanced payments and technical assistance support to assist PCMH-recognized practices in meeting select quality benchmarks and share in potential savings for the Medicaid population.

Note: NYS PCMH = New York State Patient-Centered Medical Home; OH CPC = Ohio Comprehensive Primary Care; PCMH = patient-centered medical home; PCMH+ = Person-Centered Medical Home Plus; PCMH-Kids = Patient-Centered Medical Home-Kids; PTI = Practice Transformation Initiative; SIM = State Innovation Models.

Sources: Federal Evaluation Team review of interviews, focus groups, and state documents.

1.2 Cross-State Implementation Lessons

1.2.1 Payer participation and model selection

Among the eight states, there were three common pathways to establishing PCMH recognition[10]: (1) selecting a national recognition standard for the entire state, (2) building a hybrid of both national recognition standards with state-specific requirements for the entire state, and (3) allowing Medicaid MCOs to select their own recognition standards.

[10] States used a variety of terms to denote that practices met a series of PCMH standards. This section uses the term "recognized" or "recognition" to align with national model language; however, "accredited" and "certified" are also used by SIM states to designate official PCMH status.

Connecticut, Ohio, and Tennessee relied heavily on the National Committee for Quality Assurance (NCQA) PCMH recognition standards to determine practice eligibility. The NCQA model includes standards such as maintaining team-based care, increasing patient access through around-the-clock triage lines, and coordinating data sharing across providers and care settings.[11] By aligning with an established model that held broad credibility and clearly defined standards, states could capitalize on recruiting practices participating in complementary models such as Comprehensive Primary Care Plus (CPC+) in Ohio and Tennessee and the existing PCMH program in Connecticut. With streamlined common eligibility criteria, these states were able to garner support and move quickly into practice recruitment and transformation activities.

Idaho, Michigan, New York, and Rhode Island chose to blend select national recognition requirements with state-specific metrics to meet the unique needs of their practices and patients. The broad credibility of the NCQA model provided early guidance, and state-specific modifications addressed aspects unique to each states' implementation context. Rhode Island established a pediatric PCMH model that built off the NCQA standards with added requirements and quality benchmarks for their child population. Idaho implemented a virtual PCMH certification alongside a traditional PCMH track to support rural and frontier areas that required greater integration of telehealth and community health workers (CHWs). The virtual track allowed existing PCMH practices to expand services beyond their brick and mortar facilities to better meet the needs of rural and underserved communities. In Michigan, the state used a combination of NCQA and other standards to recognize practices as SIM PCMHs. New York stakeholders originally designed a state-specific PCMH with standards tailored to local needs. However, as initial participation lagged, the state instead implemented the New York State Patient-Centered Medical Home (NYS PCMH) that built upon the NCQA structure with several state-specific requirements. The widespread acceptance of the nationally recognized NCQA foundation garnered broad support and increased practice participation in later years of the demonstration.

Lastly, Delaware did not establish centralized standards. Instead, the state allowed participating MCOs to select PCMH-related recognition benchmarks to meet the needs of their patients and providers.

1.2.2 Practice transformation strategies

All eight states provided technical assistance to participating practices, but each state focused its resources on different types of practices to address broader health care priorities and goals. New York and Idaho focused on practices with the greatest needs and potential for expanding VBP models; these states focused practice recruitment and transformation efforts on

[11] NCQA (National Committee for Quality Assurance). (n.d.). *NCQA PCMH recognition: Concepts*. https://www.ncqa.org/programs/health-care-providers-practices/patient-centered-medical-home-pcmh/pcmh-concepts/

smaller, independent, or rural practices. Although most practices that received assistance from New York's Practice Transformation Agents simply recertified their PCMH status, 20 percent of practices (or 573 practices) sought new PCMH certification. In Idaho, special efforts were made to engage rural and frontier practices through the revised certification standards, including the virtual PCMH, and technical assistance designed for practices in low-resource settings (see ***Section 12**, Rural Communities*). By incorporating financial support for community health emergency medical services and CHWs, Idaho SIM officials were seeking to provide high-quality patient-centered care to patients in rural and frontier communities who had largely been overlooked by previous transformation models.

In contrast, Connecticut and Ohio largely focused on practices deemed most ready for PCMH transformation. Although both states sought to recruit a wide variety of practices, they were most successful in recruiting larger, more advanced practices and practices participating in complementary models (e.g., CPC+). By focusing efforts on these practices, which were deemed to be low-hanging fruit, the states could transform care more quickly and potentially see changes in outcomes sooner. In Connecticut, the state discontinued efforts to assist practices with obtaining new PCMH recognition and instead invested resources in technical assistance for existing PCMH practices through the Community and Clinical Integration Program. In Ohio, SIM efforts were designed to work in tandem with the statewide participation in CPC+. State officials and stakeholders noted that the state would be able to leverage transformation activities in this complementary program by aligning quality metrics and other design features in its PCMH program. Early participation was dominated by larger, advanced, and urban practices, however, changes to participation requirements enacted in 2019 broadened opportunities for smaller and rural practices in 2019.

> "The PCMH/CPC is very palatable to providers. It's relatively straightforward in terms of application and adoption of the model. The payment models are very consistent these days across MCOs, commercial payers, and CMS, so there is broad support for adoption."
>
> —Commercial plan representative, Ohio

1.2.3 Care coordination activities

Many states enhanced care coordination efforts at their participating PCMH practices by prioritizing patients with many health needs, particularly those with chronic and behavioral health conditions (see also ***Section 3**, Behavioral Health Integration*). Michigan also prioritized patients with acute social needs as determined by social determinants of health screenings. By bolstering care to high-need patients, these coordination efforts aimed to reduce potentially avoidable, high-cost emergency department (ED) visits and inpatient admissions.

Several states achieved care coordination by hiring additional staff to support patients' comprehensive health and social needs. In Connecticut, practices prioritized patients with diabetes and behavioral health conditions to care coordinators services first, noting that the need for services would exceed the number of available coordinator positions. Coordinators provided support services, including appointment reminders, medication management services, and specialist referrals coordination. Several PCMH+ practices also received additional technical assistance through a complementary initiative to hire CHWs to further extend support services beyond the clinical space. CHWs were hired by three PCMH practices to provide community-based education and support. One stakeholder noted that the CHW initiative was an important pathway to meet the care coordination needs of underrepresented communities, noting that CHWs often had existing community linkages (for more detailed descriptions of CHW activities, see ***Section 11***, *Community Health Workers*).

> "The CHWs are so successful with the patients they've intervened with. We have good evidence that they've decreased ER [emergency room] visits and decreased admissions. It's been really great but there aren't enough CHWs."
>
> —Connecticut provider

Similarly, Michigan PCMH practices relied on care coordinators, care managers, CHWs, and other practice staff to assess patients' social needs with a social determinants of health screening tool and provide referrals to complementary social services (for more information, see ***Section 10***, *Screening and Referral*). There was some initial resistance to screen for social needs because some needs, such as housing and food insecurity, extended beyond the clinical providers' locus of control. However, by the end of the SIM Initiative, providers noted that learning about their patients' social needs helped them better understand a person's overall health status. In Rhode Island, many practices hired social workers to provide enhanced support to children with complex health needs, including behavioral health conditions. Stakeholders noted that formal care coordinators were integral to improving the referral process for patients while also educating other care team members about local resources for patients with chronic diseases.

> "We have a care manager [who's] in our office [approximately] four days a week to help with those [non-medical] patient needs. With implementing the social determinants of health screening form, we've been able to identify more and get more people the assistance they need. I think a lot of patients don't realize that those things can be provided or that we can direct them to a route where they can get assistance."
>
> —Michigan PCMH provider

1.2.4 Health information technology investments

All states made investments in health IT, such as practice-based infrastructure development; notification systems for admissions, discharges, and transfers (ADTs); and state

health information exchanges (HIEs). These systems allowed PCMH participating practices to connect with other health care providers, including hospitals, to enhance coordinated care for patients, particularly following an ED visit or inpatient admission. Idaho and Tennessee highlight how investments in statewide health IT infrastructure allowed for participating practices and providers to maximize care coordination efficiency with coordinated data systems.

Idaho used the SIM Initiative to expand practice connectedness within the existing Idaho Health Data Exchange (IHDE). Technical assistance investments allowed PCMH providers to better connect with their patients' extended care teams, including specialists and hospital-based services. By the end of the SIM Initiative, 154 (93 percent) of PCMH practices were able to exchange data with the IHDE, and 111 practices had full bi-directional connections, allowing them to both receive and share data with other health care providers and institutions. Providers noted that although they were able to use the IHDE data to improve individual patient care, however, the infrastructure lacked the ability to produce reports that could be tailored to quality improvement activities.

Tennessee used its care coordination tool (CCT) to meet the needs of practices and providers across the state. The CCT is a web-based application that allowed participating PCMH providers to access important care coordination information across the care delivery system. The CCT helps providers to identify gaps in care delivery practices, develop strategies to fill coverage gaps and meet patients' needs, and monitor changes in quality measures over time. With the CCT, providers would also receive ADT notifications to follow-up with patients after an inpatient admission. At the end of the SIM Initiative, all acute care hospitals in the state were reporting data to the CCT. Providers and state officials alike noted that the CCT enabled practices to improve the care delivered to patients throughout the state.

> "[Providers] can see a diabetic is supposed to have four foot exams a year, and if someone's only had two, then there's a gap in care there. It would highlight that and show it in red. It also risk stratifies patients, showing who's getting better and who's getting worse, who needs more care, who hasn't seen the doctor in a while, and it shows if they're in the hospital and what they're in for."
>
> —Tennessee state official

1.2.5 Enhanced payment arrangements and shared savings

One hallmark of PCMH models is for payers to incentivize care coordination activities through enhanced payments, often via a per member per month (PMPM) arrangement.[12] These payments, which often complement the underlying fee-for-service arrangements, support ongoing care coordination efforts such as care managers, CHWs, and health IT enhancements. There was variability of PMPM arrangements both across and within states in expanding their

[12] PMPM payments were not funded by SIM awards.

PMPMs, including static rates that are not variable by patient characteristics and those that are risk adjusted to reflect higher care coordination needs.

Connecticut and Rhode Island used a static care coordination payment model in which payments varied by select practices characteristics but were not adjusted by beneficiary risk characteristics. In Rhode Island, pediatric practices received $3.50 each month to provide care coordination services, whereas practices participating in the states' adult PCMH model[13] received $5.50. Although decision makers presumed that providing coordinated care to children would be less costly, stakeholders noted that the level of effort required to conform with practice transformation and reporting requirements for the PCMH-Kids practices was equal to that of the PCMH adult practices. Similarly, in Connecticut, not all practices were eligible to receive the $4.50 PMPM. Among practices participating in PCMH+, only those designated as Federally Qualified Health Centers (FQHCs) were eligible to receive care coordination payments. Other practices that were also serving similar Medicaid patients in the PCMH+ model noted that they were being held to the same performance benchmarks without the necessary financial incentive required to meet them.

In Ohio, Idaho, Michigan, and Tennessee, PMPM payments were risk-adjusted based upon beneficiary health characteristics. In these states, practices received higher care coordination payments to meet the needs of Medicaid patients with complex health conditions, chronic conditions, and behavioral health disorders. Idaho PMPMs ranged from approximately $2.00 to $10.00 depending on beneficiary risks and practice characteristics. Ohio officials stratified members based on 3M's Clinical Risk Group Tiers, with predominantly healthy patients being eligible for $1.80, whereas Tier 3 patients with chronic disease in at least three organ systems were eligible for $22 PMPM per member per month.[14] ***Exhibit 1-3*** highlights how Medicaid PMPM rates varied for practices participating in PCMH models.

[13] The adult PCMH model in Rhode Island was not funded by the SIM Initiative.
[14] Ohio Department of Medicaid. (2020, December). Comprehensive Primary Care and Comprehensive Primary Care for Kids Program per-member per-month (PMPM) payment definition and methodology. https://medicaid.ohio.gov/static/Providers/PaymentInnovation/CPC/PMPM-definitions.pdf

Exhibit 1-3. Medicaid per member per month arrangements for patient-centered medical home models

Model	Approximate PMPM ($)	Risk adjusted	Unique PMPM characteristics
CT PCMH+	$4.50		Only FQHCs were eligible to receive PMPM.
DE PTI	Not applicable		The PTI model did not include PMPMs.
OH CPC	$1.80–22.00	✓	Payment amount is dependent on practice and patient characteristics.
ID PCMH	$2.00–10.00	✓	Payment amount is dependent on practice and patient characteristics.
MI PCMH Initiative	$4.25–9.25	✓	Each practice received a payment of $1.25 PMPM for practice transformation, and then an additional risk-adjusted payment of $3.00, $5.00, or $8.00 PMPM for care coordination.
NYS PCMH	Not applicable		The SIM-funded PCMH model did not include PMPMs.
RI PCMH-Kids	$3.50		Payments are not adjusted by practice or patient characteristics.
TN PCMH	$4.00	✓	Each practice received a payment of $1.00 PMPM for practice transformation and an additional amount that was dependent on the MCO.

Note: CT = Connecticut; DE = Delaware; FQHC = Federally Qualified Health Center; ID = Idaho; MCO = managed care organization; MI = Michigan; NYS PCMH = New York State Patient-Centered Medical Home; OH = Ohio; OH CPC = Ohio Comprehensive Primary Care; PCMH = patient-centered medical home; PCMH+ = Person-Centered Medical Home Plus; PCMH-Kids = Patient-Centered Medical Home-Kids; PMPM = per member per month; PTI = Practice Transformation Initiative; RI = Rhode Island; TN = Tennessee.

Sources: Federal Evaluation Team review of interviews, focus groups, and state documents.

States' criteria for determining PMPMs had strong implications for provider satisfaction and engagement. Providers criticized payment variation decisions based on select practice characteristics, such as FQHC status in Connecticut or pediatric population in Rhode Island, rather than accounting for patient characteristics that may require increased efforts for care coordination. Stakeholders noted that these variable PMPM incentive payments seemed disconnected from their efforts to meet quality benchmarks and reporting requirements. One PCMH-Kids provider in Rhode Island noted that the cost of meeting PCMH requirements in a pediatric practice was similar to adult practices though care coordination payments did not reflect this; pediatric practices received $3.50 per patient per month as compared with the adult payment of $5.50 per patient per month. They stated, "*Nurse care managers are expensive, data analysts are expensive, maintaining the EHR [electronic health record] in order to extract the data is expensive, the physician and nurse practitioner time to do all of this is expensive.*"

In contrast, stakeholders noted that risk-adjusted PMPM arrangements in Ohio and Idaho were viewed as favorably to support payment reforms.[15]

In addition to monthly care coordination payments, Connecticut, Ohio, Michigan, and Tennessee also included a shared savings component of their Medicaid PCMH design. States varied in the design and implementation of the shared savings models, including across participation requirements, risk-sharing agreements, and payment methodology. Out of the states with a shared savings component, only Michigan and Tennessee were accountable for spending via downside risk. Additional information about each of the states' shared savings arrangements is presented in ***Appendix B****, Connecticut;* ***Appendix F****, Michigan;* ***Appendix H****, Ohio; and* ***Appendix J****, Tennessee*.

1.3 Cross-State Impacts on Health and Spending Outcomes

Despite heterogeneity in states' implementation activities, the quantitative evaluation components sought to determine whether there were common trends in spending, acute care utilization, and primary care access across the PCMH models. Based on existing literature and qualitative data, the hypothesis was that patients receiving comprehensive patient-centered care would have decreases or smaller increases in total spending, decreases in acute care utilization (including ED visits, inpatient admissions, and readmissions), increases in access to primary care, and improvements in quality outcomes. Using claims data[16] (commercial and/or Medicaid, respective to each state's design), the effects of PCMH models[17] were tested under the three implementation contexts seen across six participating states:

- Ohio, Rhode Island, and New York compared patients receiving primary care at an accredited PCMH practice with patients who received primary care at similar practice not participating in the SIM-supported PCMH model.
- Connecticut and Idaho compared patients receiving primary care at PCMH practices receiving enhanced payments and/or technical assistance with patients who received primary care at a PCMH practice not receiving additional financial support.
- Delaware compared patients receiving primary care at practices that were receiving technical assistance to meet PCMH accreditation benchmarks with patients who received primary care at practices not receiving the same technical assistance.

[15] Ohio Colleges of Medicine Government Resource Center. (2019, March). *Ohio's State Innovation Models self-evaluation final report*.
[16] The evaluation of the PCMH models in Michigan and Tennessee did not include a claims-based component. In both states, quantitative evaluation efforts prioritized more novel models, including Health Link and episodes of care in Tennessee and Community Health Innovation Regions in Michigan.
[17] In five analyses (i.e., Connecticut PCMH+, Delaware PTI, Ohio CPC, Idaho PCMH, and Rhode Island PCMH-Kids), outcomes were constructed at the person-year and discharge levels. In the NYS PCMH analysis, claims for all commercially insured patients were aggregated to the provider–month level.

1.3.1 Access to primary care services

In most states, the percentage of PCMH patients with at least one annual primary care provider (PCP) visit increased relative to the comparison group (***Exhibit 1-4***). Patients at PCMH practices were more likely to have an annual primary care visit relative to their comparison groups in Connecticut, Delaware, and Rhode Island (Medicaid and commercial populations).

These results align with existing literature, key informant interviews, and focus groups that suggested that PCMH activities were expanding access to services via extended clinical hours, same day appointments, and clinical support provided 24 hours per day, seven days per week. Patients in Ohio's CPC model were less likely to have a PCP visit than their comparison group, but there were no significant changes in Idaho. Although the percentage of patients with any PCP visits generally increased for PCMH model patients relative to their comparison group, the average counts of PCP visits increased only in Rhode Island. For other states, the count of PCP visits did not change or decreased for PCMH patients.

Despite overall declining rates,[18] the average number of PCP visits among Medicaid patients in PCMH model patients remained between 2.9 and 3.4 visits per year (for more information, see the PCP visit analysis in ***Appendix M***, *Supplemental Analyses*). Additional sensitivity analysis explored whether declining PCP visits could be explained by high service utilization patients (i.e., five or more PCP visits per year) with potentially improved care coordination. However, analyses suggested that the downward shifts in visits were largely driven by decreases among patients with four or fewer PCP visits per year, rather than high utilization patients (also shown in ***Appendix M***, *Supplemental Analyses*).

[18] It is important to note that prior primary care utilization played some role in determining eligibility and attribution in most PCMH models—a beneficiary often could not be attributed to a PCMH practice without a prior PCP visit during the final year of baseline. As a result, patients are likely to have higher than average PCP utilization at the time of attribution to a PCMH model. To mitigate this endogeneity, comparison groups were selected by using similar PCP algorithms. Therefore, declines in the probability of patients having any PCP visits and the total number of PCP visits for both the treatment and comparison groups are not unexpected because both groups regress towards the mean. However, the rate of change between the two groups, the difference-in-differences (D-in-D) coefficient, remains internally consistent and meaningful. A positive D-in-D effect indicates that even though the absolute value of visits declined in part because of attribution biases, the PCMH model had a positive impact that led to smaller declines.

Exhibit 1-4. Patient-centered medical home models were associated with an increase in a recent primary care visit

6 states		Tested the effect of PCMH model overall				Tested the effect of enhanced payments and/or TA in a PCMH model		Tested the effect of transformation TA in primary care
		NY NYS-PCMH	OH CPC	RI PCMH Kids-Commercial	RI PCMH Kids-Medicaid	CT PCMH+	ID PCMH	DE PTI
Primary Care Utilization	PCP visit – binary	N/A	☒	☑	☑	☑	☐	☑
	PCP visit – count	☐	☒	☑	☑	☒	☐	☐

☑ Favorable, statistically significant ☒ Unfavorable, statistically significant ☐ Not statistically significant

Note: CPC = Comprehensive Primary Care; CT = Connecticut; DE = Delaware; ID = Idaho; N/A = outcome is not presented for state(s) due to data limitations; NY = New York; NYS = New York State; OH = Ohio; PCMH = patient-centered medical home; PCMH+ = Person-Centered Medical Home Plus; PCMH-Kids = Patient-Centered Medical Home-Kids; PCP = primary care provider; PTI = Practice Transformation Initiative; RI = Rhode Island; TA = technical assistance.

Sources: Federal Evaluation Team analysis of CT Medicaid claims data from the CT Department of Social Services; DE Medicaid claims data from the DE Health and Social Services; ID claims from the ID Department of Health and Welfare; NY commercial claims from FAIR Health, Inc.; OH Medicaid claims data from the OH Department of Medicaid; and RI all-payer claims data from the RI Department of Health.

1.3.2 Changes in quality measures

Although it was expected that PCMH activities would result in improvements in care coordination and quality of care outcomes, changes in quality measures were generally not statistically significant. Some states did achieve significantly positive changes in select measures. However, cross-state interpretations were limited because quality metrics selected for analysis varied and reflected state-identified priorities, such as diabetes in Connecticut and Delaware, maternity care in Connecticut and Ohio, and well-child visits in Connecticut, Ohio, and Rhode Island (for more information about the results of PCMH quality measures see ***Appendix B***, *Connecticut;* ***Appendix C***, *Delaware;* ***Appendix H***, *Ohio;* and ***Appendix I***, *Rhode Island*). Previous evaluations of primary care models have shown similarly limited impacts on care coordination and quality of care measures. Among the three PCMH models in the SIM Initiative Round 1 (Arkansas, Massachusetts, and Vermont), there were also few changes in care

quality measures within each state.[19, 20] The final evaluation of the Multi-Payer Advanced Primary Care Practice demonstration, which is a model designed to support the delivery of comprehensive patient-centered primary care, found little evidence of improvements in care coordination and quality of care measures,[21] including hemoglobin A1c (HbA1c) testing. Similarly, evaluations of the national Comprehensive Primary Care model also found changes in quality measures were largely minimal and insignificant.[22]

1.3.3 Utilization of acute care services

ED visits and inpatient admissions largely declined for patients at PCMHs relative to the comparison group (***Exhibit 1-5***). In Connecticut, Delaware, and Ohio, the declines in ED visits among the PCMH patients were significantly larger than in the comparison group. Similarly, inpatient admissions declined in all states, with statistically significant larger declines among Ohio's and New York's PCMH model patients. Although all-cause readmissions increased for both treatment and comparison group patients in most states, PCMH participation mitigated increases, such that there were statistically smaller increases among PCMH patients in Connecticut and Ohio compared with the comparison groups.

> "CHEMS [community health emergency medical services] is an amazing opportunity to reduce hospital admissions and readmissions and reduce avoidable emergency [department] visits, so for me when I think about those impacts to hospitals and for patients, I think CHEMS holds the most promise."
>
> —Idaho state official

In Rhode Island, the Medicaid PCMH-Kids patients had significantly larger increases of ED visits and a significantly smaller decreases in inpatient admissions, relative to their comparison group. Patients in the commercial PCMH-Kids model also had a smaller decrease in ED visits relative to their comparison group. Because of differences in the pediatric population and hospitalization trends, Rhode Island did not estimate readmission rates.

The overall results largely align with interview and focus group findings that with suggested PCMHs may lead to reduced acute care utilization as a result of early identification of diseases, increased referrals to appropriate specialists, and improved post-acute care coordination. Furthermore, expanded capacity for same-day appointments, enhanced care

[19] RTI International. (2018, December). *State Innovation Models (SIM) Initiative evaluation: Model Test year five annual report*. https://downloads.cms.gov/files/cmmi/sim-rd1-mt-fifthannrpt.pdf
[20] RTI International. (2018, March). *State Innovation Models (SIM) Initiative evaluation: Model Test year four annual report*. https://downloads.cms.gov/files/cmmi/sim-rd1-mt-fourthannrpt.pdf
[21] RTI International. (2017, June). *Evaluation of the Multi-payer Advanced Primary Care Practice (MAPCP) demonstration. Final report.* https://downloads.cms.gov/files/cmmi/mapcp-finalevalrpt.pdf
[22] Mathematica Policy Research. (2018, May). *Evaluation of the Comprehensive Primary Care Initiative*. https://downloads.cms.gov/files/cmmi/CPC-initiative-fourth-annual-report.pdf

coordination staff, and clinical support 24 hours per day, seven days per week may also reduce potentially avoidable hospital utilization.

Exhibit 1-5. Patient-centered medical home models were associated with decreased acute care utilization

	6 states	Tested the effect of PCMH model overall				Tested the effect of enhanced payments and/or TA in a PCMH model		Tested the effect of transformation TA in primary care
		NY NYS-PCMH	OH CPC	RI PCMH Kids-Commercial	RI PCMH Kids-Medicaid	CT PCMH+	ID PCMH	DE PTI
Acute Care Utilization	Emergency Department visits	☐	☑	☐	☒	☑	☐	☑
	Inpatient admissions	☑	☑	☒	☒	☐	☐	☐
	30 day readmissions	☐	☑	N/A	N/A	☑	☐	☐

☑ Favorable, statistically significant ☒ Unfavorable, statistically significant ☐ Not statistically significant

Note: CPC = Comprehensive Primary Care; CT = Connecticut; DE = Delaware; ID = Idaho; N/A = outcome is not presented for state(s) due to data limitations; NY = New York; NYS = New York State; OH = Ohio; PCMH = patient-centered medical home; PCMH+ = Person-Centered Medical Home Plus; PCMH-Kids = Patient-Centered Medical Home-Kids; PTI = Practice Transformation Initiative; RI = Rhode Island; TA = technical assistance.

Sources: Federal Evaluation Team analysis of CT Medicaid claims data from the CT Department of Social Services; DE Medicaid claims data from the DE Health and Social Services; ID claims from the ID Department of Health and Welfare; NY commercial claims from FAIR Health, Inc.; OH Medicaid claims data from the OH Department of Medicaid; and RI all-payer claims data from the RI Department of Health.

1.3.4 Changes in spending

In five states with PCMH models, there were relative decreases in total spending (***Exhibit 1-6***). Spending decreased more for patients in the Delaware and New York PCMH models, as compared with the comparison group. In Connecticut, Ohio, and Idaho, spending was increasing in line with secular market trends; however, the increase was smaller among those patients in the PCMH models. Rhode Island's PCMH-Kids model showed smaller decreases in spending among commercial PCMH patients relative to their comparison groups. Overall, these spending findings align with hypotheses and information collected during interviews and focus groups that suggest reduced utilization of high-cost acute services would lead to declines in overall spending.

Exhibit 1-6. Patient-centered medical home models were associated with favorable changes in spending

	6 states	Tested the effect of PCMH model overall				Tested the effect of enhanced payments and/or TA in a PCMH model		Tested the effect of transformation TA in primary care
		NY NYS-PCMH	OH CPC	RI PCMH Kids-Commercial	RI PCMH Kids-Medicaid	CT PCMH+	ID PCMH	DE PTI
Spending	Total spending PBPM	☑	☑	☐	☒	☑	☑	☑

☑ Favorable, statistically significant ☒ Unfavorable, statistically significant ☐ Not statistically significant

Note: CPC = Comprehensive Primary Care; CT = Connecticut; DE = Delaware; ID = Idaho; NY = New York; NYS = New York State; OH = Ohio; PBPM = per beneficiary per month; PCMH = patient-centered medical home; PCMH+ = Person-Centered Medical Home Plus; PCMH-Kids = Patient-Centered Medical Home-Kids; PTI = Practice Transformation Initiative; RI = Rhode Island; TA = technical assistance.

Sources: Federal Evaluation Team analysis of CT Medicaid claims data from the CT Department of Social Services; DE Medicaid claims data from the DE Health and Social Services; ID claims from the ID Department of Health and Welfare; NY commercial claims from FAIR Health, Inc.; OH Medicaid claims data from the OH Department of Medicaid; and RI all-payer claims data from the RI Department of Health.

1.4 Sustainability and Future Directions

PCMH models administered through the SIM Initiative largely met their goals to reduce high-cost acute care services and lower or contain spending. Accordingly, most states are continuing PCMH activities beyond the SIM Initiative by leveraging state resources and strategic partnerships. ***Exhibit 1-7*** details each state's intentions on continuing and expanding the PCMH of the SIM Initiative.

Exhibit 1-7. Most states are sustaining patient-centered medical home activities beyond the SIM Initiative

- **Connecticut's PCMH+** model is expected to continue using state resources and will include dually eligible Medicare–Medicaid patients starting in 2022.
- **Delaware's PTI** has concluded with no anticipated funding or activities, but the resources and tools developed during the SIM Initiative are available to other practices.
- **Idaho's PCMH program** will not add new practice transformation cohorts, although the state continues to promote PCMH through other public and private initiatives.
- **Michigan's PCMH Initiative** is expected to continue using state resources and allow for increased capitation rates to enable Medicaid MCOs to continue care coordination payments.
- **New York's NYS PCMH** does not have additional funding or activities scheduled, but new PCMH practices will be held to the NYS PCMH standards.
- **Ohio's OH CPC** model is expected to continue using state resources and will include a new pediatric track, CPC for Kids.
- **Rhode Island's PCMH-Kids** is expected to continue with financial support from both Medicaid and commercial health plans.
- **Tennessee's PCMH** model is expected to continue with model administration transitioning from TennCare to the Medicaid MCOs.

Note: CPC = Comprehensive Primary Care; MCO = managed care organization; NYS = New York State; OH = Ohio; PCMH = patient-centered medical home; PCMH+ = Person-Centered Medical Home Plus; PCMH-Kids = Patient-Centered Medical Home-Kids; PTI = Practice Transformation Initiative; SIM = State Innovation Models.

Sources: Federal Evaluation Team review of interviews, focus groups, and state documents.

1.5 Addendum

Exhibits 1-8 through ***1-15*** provide more in-depth information and quantitative analysis results.

Exhibit 1-8. Common patient-centered medical home implementation activities conducted during the SIM Initiative

Model	CT PCMH+	DE PTI	OH CPC	ID PCMH	MI PCMH	NYS PCMH	RI PCMH-Kids	TN PCMH
Medicaid sole or dominant participating payer	✓		✓					✓
Built upon existing PCMH model infrastructure	✓		✓	✓	✓	✓	✓	✓
Significant role of Medicaid MCOs			✓		✓		✓	✓
National NCQA certification standards	✓		✓	✓				✓
State-specific or hybrid certification standards		✓		✓		✓	✓	
Recruitment focused on large, advanced practices	✓		✓					
Recruitment focused on small, independent, or rural practices				✓		✓		
Practice transformation support	✓	✓	✓	✓		✓	✓	✓
Integration of social workers, care coordinators, and/or CHWs	✓			✓	✓		✓	
Emphasis on health IT integration, including ADTs	✓			✓				✓
Care coordination payments or PMPMs	✓		✓	✓	✓		✓	✓
Shared savings component	✓		✓		✓			✓

Note: ADT = admission, discharge, and transfer; CHW = community health worker; CPC = Comprehensive Primary Care; CT = Connecticut; DE = Delaware; health IT = health information technology; ID = Idaho; MCO = managed care organization; MI = Michigan; NCQA = National Committee for Quality Assurance; NYS = New York State; OH = Ohio; PCMH = patient-centered medical home; PMPM = per member per month; RI = Rhode Island; SIM = State Innovation Models; TN = Tennessee.

Sources: Federal Evaluation Team analysis of interviews, focus groups, and state documents.

Exhibit 1-9. Difference in the pre–post change in primary care provider visits (binary) between patient-centered medical home model participants and their comparison groups

Model	Baseline period adjusted mean, PCMH model	Baseline period adjusted mean, comparison group	Intervention period adjusted mean, PCMH model	Intervention period adjusted mean, comparison group	Regression-adjusted D-in-D (90% CI)	Relative difference (%)	p-value
CT PCMH+	76.12	89.67	70.07	83.05	5.11	6.71	<0.001
DE PTI	90.70	86.81	76.92	66.76	3.38	3.70	0.02
ID PCMH	64.95	65.54	58.35	60.96	-2.04	-3.14	0.15
OH CPC	64.18	63.16	62.02	65.19	-3.79	-5.9	<0.001
NYS PCMH	N/A	N/A	N/A	N/A	N/A	N/A	N/A
RI PCMH-Kids—Medicaid	74.58	75.58	80.45	78.99	2.35	3.1	0.02
RI PCMH-Kids—Commercial	92.62	90.09	93.81	89.94	1.60	1.7	<0.001

Note: CI = confidence interval; CPC Comprehensive Primary Care; CT = Connecticut; DE = Delaware; D-in-D = difference-in-differences; ID = Idaho; N/A = outcome was not included in the analysis; NY = New York; NYS = New York State; OH = Ohio; PCMH = patient-centered medical home; PCMH+ = Person-Centered Medical Home Plus; PCMH-Kids = Patient-Centered Medical Home-Kids; PCP = primary care provider; PTI = Practice Transformation Initiative; RI = Rhode Island.

Sources: Federal Evaluation Team analysis of CT Medicaid claims data from the CT Department of Social Services; DE Medicaid claims data from the Delaware Health and Social Services; ID claims from the ID Department of Health and Welfare; NY commercial claims from FAIR Health, Inc.; OH Medicaid claims data from the OH Department of Medicaid; and RI all-payer claims data from the RI Department of Health.

Exhibit 1-10. Difference in the pre–post change in the number (count) of primary care provider visits between patient-centered medical home model participants and their comparison groups

Model	Baseline period adjusted mean, PCMH model	Baseline period adjusted mean, comparison group	Intervention period adjusted mean, PCMH model	Intervention period adjusted mean, comparison group	Regression-adjusted D-in-D (90% CI)	Relative difference (%)	p-value
CT PCMH+	3386.36	3915.84	3114.38	3805.69	-177.04	-5.20	0.005
DE PTI	5575.16	5006.05	3426.46	3064.40	89.40	1.60	0.55
ID PCMH	2717.68	2666.08	2435.48	2422.10	-29.42	-1.10	0.71
OH CPC	2692.91	2501.74	2971.43	2874.86	-103.23	-3.9	0.003
NYS PCMH	50.64	46.66	47.41	44.54	-1.11	-2.20	0.16
RI PCMH-Kids—Medicaid	2670.97	2934.06	3106.82	3201.95	185.10	6.90	0.01
RI PCMH-Kids—Commercial	3285.69	3352.70	3302.55	3280.36	88.55	2.70	0.02

Note: CI = confidence interval; CT = Connecticut; DE = Delaware; D-in-D = difference-in-differences; ID = Idaho; NY = New York; NYS = New York State; OH = Ohio; OH CPC = Ohio Comprehensive Primary Care; PCMH = patient-centered medical home; PCMH+ = Person-Centered Medical Home Plus; PCMH-Kids = Patient-Centered Medical Home-Kids; PTI = Practice Transformation Initiative; RI = Rhode Island.

Sources: Federal Evaluation Team analysis of CT Medicaid claims data from the CT Department of Social Services; DE Medicaid claims data from the DE Health and Social Services; ID claims from the ID Department of Health and Welfare; NY commercial claims from FAIR Health, Inc.; OH Medicaid claims data from the OH Department of Medicaid; and RI all-payer claims data from the RI Department of Health.

Exhibit 1-11. Difference in the pre–post change in emergency department visits between patient-centered medical home model participants and their comparison groups

Model	Baseline period adjusted mean, PCMH model	Baseline period adjusted mean, comparison group	Intervention period adjusted mean, PCMH model	Intervention period adjusted mean, comparison group	Regression-adjusted D-in-D (90% CI)	Relative difference (%)	p-value
CT PCMH+	879.75	768.08	808.35	766.63	-69.98	-8.00	<0.001
DE PTI	1676.46	1670.17	982.67	1135.00	-169.40	−10.1	0.002
ID PCMH	604.34	624.74	622.17	629.24	12.61	2.1	0.41
OH CPC	1324.49	1353.77	1316.95	1365.71	-17.79	-1.3	0.02
NYS PCMH	21.53	23.07	17.96	20.14	-0.65	-3.00	0.35
RI PCMH-Kids—Medicaid	291.41	273.58	325.48	272.86	32.27	11.10	<0.001
RI PCMH-Kids—Commercial	129.40	147.55	126.13	141.93	1.79	1.40	0.38

Note: CI = confidence interval; CT = Connecticut; DE = Delaware; D-in-D = difference-in-differences; ID = Idaho; NY = New York; NYS = New York State; OH = Ohio; OH CPC = Ohio Comprehensive Primary Care; PCMH = patient-centered medical home; PCMH+ = Person-Centered Medical Home Plus; PCMH-Kids = Patient-Centered Medical Home-Kids; PCP = primary care provider; PTI = Practice Transformation Initiative; RI = Rhode Island.

Sources: Federal Evaluation Team analysis of CT Medicaid claims data from the CT Department of Social Services; DE Medicaid claims data from the DE Health and Social Services; ID claims from the ID Department of Health and Welfare; NY commercial claims from FAIR Health, Inc.; OH Medicaid claims data from the OH Department of Medicaid, and RI all-payer claims data from the Rhode Island Department of Health.

Exhibit 1-12. Difference in the pre–post change in inpatient admissions between patient-centered medical home model participants and their comparison groups

Model	Baseline period adjusted mean, PCMH model	Baseline period adjusted mean, comparison group	Intervention period adjusted mean, PCMH model	Intervention period adjusted mean, comparison group	Regression-adjusted D-in-D (90% CI)	Relative difference (%)	p-value
CT PCMH+	57.12	50.32	41.50	40.06	-4.27	-7.50	0.14
DE PTI	160.92	165.47	97.25	106.14	-4.37	-2.7	0.49
ID PCMH	63.23	67.23	59.52	62.81	0.53	0.8	0.84
OH CPC	96.59	98.29	79.66	93.52	-11.85	-12.3	<0.001
NYS PCMH	7.24	7.35	5.84	6.50	-0.55	-7.6	0.09
RI PCMH-Kids—Medicaid	42.76	42.46	43.00	39.66	2.89	6.8	0.03
RI PCMH-Kids—Commercial	39.37	39.62	28.91	24.87	4.43	11.20	0.01

Note: CI = confidence interval; CT = Connecticut; DE = Delaware; D-in-D = difference-in-differences; ID = Idaho; NY = New York; NYS = New York State; OH = Ohio; OH CPC = Ohio Comprehensive Primary Care; PCMH = patient-centered medical home; PCMH+ = Person-Centered Medical Home Plus; PCMH-Kids = Patient-Centered Medical Home-Kids; PCP = primary care provider; PTI = Practice Transformation Initiative; RI = Rhode Island.

Sources: Federal Evaluation Team analysis of CT Medicaid claims data from the CT Department of Social Services; DE Medicaid claims data from the DE Health and Social Services; ID claims from the ID Department of Health and Welfare; NY commercial claims from FAIR Health, Inc.; OH Medicaid claims data from the OH Department of Medicaid; and RI all-payer claims data from the RI Department of Health.

Exhibit 1-13. Difference in the pre–post change in 30-day readmissions between patient-centered medical home model participants and their comparison groups

Model	Baseline period adjusted mean, PCMH model	Baseline period adjusted mean, comparison group	Intervention period adjusted mean, PCMH model	Intervention period adjusted mean, comparison group	Regression-adjusted D-in-D (90% CI)	Relative difference (%)	p-value
CT PCMH+	90.07	82.50	131.34	139.27	-16.70	-18.5	0.07
DE PTI	138.39	142.19	178.74	172.03	9.02	6.50	0.30
ID PCMH	87.62	87.82	125.86	124.34	1.13	1.30	0.88
OH CPC	121.90	124.69	173.12	182.85	-5.63	-4.6	0.01
NYS PCMH	61.33	59.85	61.74	64.71	-4.44	-7.2	0.17

Note: CI = confidence interval; CT = Connecticut; DE = Delaware; D-in-D = difference-in-differences; ID = Idaho; NY = New York; NYS = New York State; OH = Ohio; OH CPC = Ohio Comprehensive Primary Care; PCMH = patient-centered medical home; PCMH+ = Person-Centered Medical Home Plus; PTI = Practice Transformation Initiative; RI = Rhode Island.

Sources: Federal Evaluation Team analysis of CT Medicaid claims data from the CT Department of Social Services; DE Medicaid claims data from the DE Health and Social Services; ID claims from the ID Department of Health and Welfare; NY commercial claims from FAIR Health, Inc.; OH Medicaid claims data from the OH Department of Medicaid, and RI all-payer claims data from the RI Department of Health.

Exhibit 1-14. Difference in the pre–post change in 14-day follow-up following hospital discharge between patient-centered medical home model participants and their comparison groups

Model	Baseline period adjusted mean, PCMH model	Baseline period adjusted mean, comparison group	Intervention period adjusted mean, PCMH model	Intervention period adjusted mean, comparison group	Regression-adjusted D-in-D (90% CI)	Relative difference (%)	p-value
CT PCMH+	47.65	50.29	53.49	57.52	-1.35	-2.80	0.31
DE PTI	56.13	50.35	53.42	45.60	2.10	3.70	0.03
ID PCMH	56.43	54.84	58.55	54.08	2.81	5.00	<0.001
OH CPC	51.59	45.75	57.25	52.86	-1.54	-3.0	<0.001

Notes: This measure was not analyzed in NYS PCMH or RI PCMH-Kids.

CI = confidence interval; CT = Connecticut; DE = Delaware; D-in-D = difference-in-differences; ID = Idaho; NY = New York; NYS = New York State; OH = Ohio; OH CPC = Ohio Comprehensive Primary Care; PCMH = patient-centered medical home; PCMH+ = Person-Centered Medical Home Plus; PCMH-Kids = Patient-Centered Medical Home-Kids; PTI = Practice Transformation Initiative; RI = Rhode Island.

Sources: Federal Evaluation Team analysis of CT Medicaid claims data from the CT Department of Social Services; DE Medicaid claims data from the DE Health and Social Services; ID claims from the ID Department of Health and Welfare; NY commercial claims from FAIR Health, Inc.; OH Medicaid claims data from the OH Department of Medicaid; and RI all-payer claims data from the RI Department of Health.

Exhibit 1-15. Difference in the pre–post change in total spending between patient-centered medical home model participants and their comparison groups

Model	Baseline period adjusted mean, PCMH model	Baseline period adjusted mean, comparison group	Intervention period adjusted mean, PCMH model	Intervention period adjusted mean, comparison group	Regression-adjusted D-in-D (90% CI)	Relative difference (%)	p-value
CT PCMH+	335.46	356.77	341.40	389.59	-26.83	-8.00	0.005
DE PTI	971.34	1000.64	884.79	983.70	-73.37	−7.6	0.07
ID PCMH	334.32	319.29	342.41	353.33	-26.29	-7.9	<0.001
OH CPC	359.68	354.51	400.93	404.95	-9.31	-2.6	<0.001
NYS PCMH	529.29	531.42	495.37	551.36	-53.86	-10.20	0.04
RI PCMH-Kids—Medicaid	270.09	245.75	283.07	250.54	8.08	3.0	0.20

Note: CI = confidence interval; CT = Connecticut; DE = Delaware; D-in-D = difference-in-differences; ID = Idaho; NY = New York; NYS = New York State; OH = Ohio; OH CPC = Ohio Comprehensive Primary Care; PCMH = patient-centered medical home; PCMH+ = Person-Centered Medical Home Plus; PCMH-Kids = Patient-Centered Medical Home-Kids; PTI = Practice Transformation Initiative; RI = Rhode Island.

Sources: Federal Evaluation Team analysis of CT Medicaid claims data from the CT Department of Social Services; DE Medicaid claims data from the DE Health and Social Services; ID claims from the ID Department of Health and Welfare; NY commercial claims from FAIR Health, Inc.; OH Medicaid claims data from the OH Department of Medicaid; and RI all-payer claims data from the RI Department of Health.

2. Episodes of Care Models

- Tennessee and Ohio, the two SIM Initiative states that chose to implement episodes of care (EOC), were both able to implement EOC models in Medicaid managed care, with payment policies aligned across all MCOs.
- Both states reported that, in aggregate, EOCs produced savings with no indications of a decline in quality, but the magnitude of the savings differed. Some attributed these differences to the amount of payment at risk under the model.
- The federal quantitative evaluation found that two EOC models were associated with unfavorable changes in quality for asthma outcomes and some improvements in quality for perinatal outcomes relative to comparison groups.
- Assigning MCOs an active role in EOC administration, as Tennessee did, may have increased providers' engagement with the model.
- Both states continued to operate their EOC after the end of their SIM Initiatives.

An episode of care (EOC) is the entire course of treatment for an illness or health event. Under an EOC model, one provider is held responsible for all the services needed to treat a health event (e.g., spinal fusion or pneumonia)—including services other providers deliver. Implementing EOC is one way states can extend value-based payment (VBP) to physician specialists. Under both Tennessee's and Ohio's EOC models, the model does not change how the services are paid for initially, but it offers the responsible provider an opportunity to earn savings based on the total cost of the services received for the health event, as well as the provider's performance on selected quality measures.

During the SIM Round 2 Initiative, Tennessee and Ohio chose to base their EOC models on Arkansas' EOC model, which was tested during the SIM Round 1 Initiative. However, unlike Arkansas, which implemented its EOC in a fee-for-service (FFS) system, Tennessee and Ohio implemented their EOC programs through Medicaid managed care organizations (MCOs). Ohio also implemented EOC in its Medicaid FFS program. Because most states contract with Medicaid MCOs, the experience of Tennessee and Ohio may provide useful lessons for other states. This section describes how Tennessee and Ohio implemented Arkansas's EOC model in their states, synthesizes lessons learned, and discusses the model's impact on cost and quality of care.

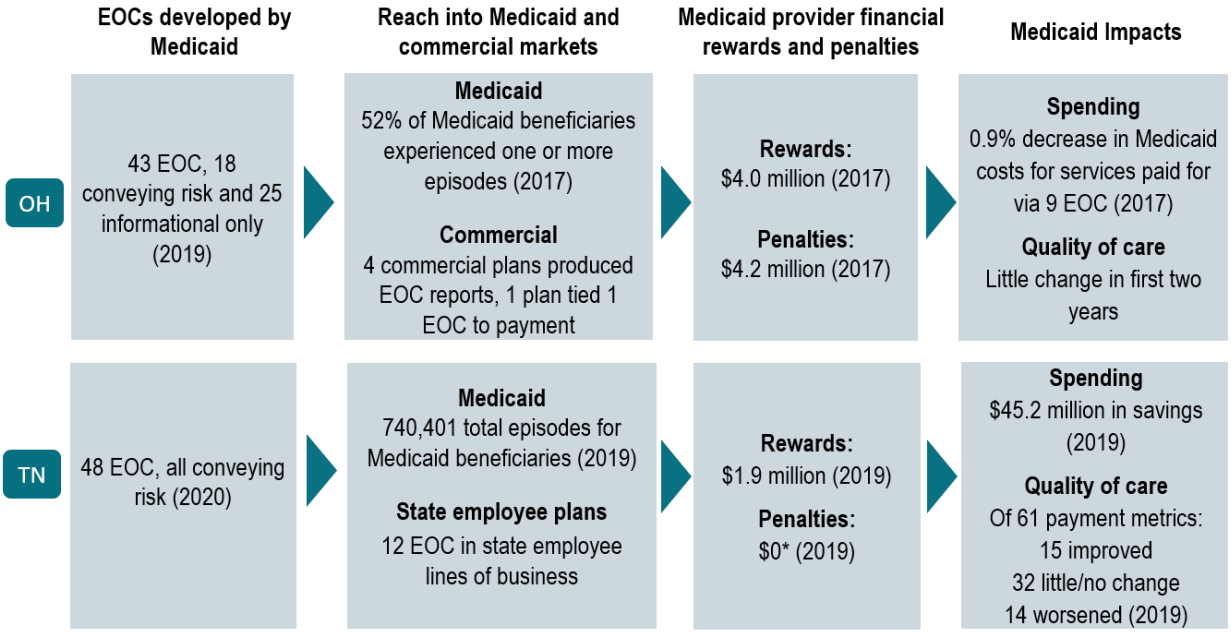
2.1 State Approaches

Tennessee and Ohio developed, with comparable processes, very similar EOC programs (see ***Exhibit 2-1***). Each episode included diagnosis and treatment services from multiple providers. For each EOC, the states identified as the principal accountable provider (PAP)[23] the

[23] Tennessee referred to the PAP as a "quarterback."

provider most likely to drive the cost and quality of the episode-related care. Based on MCO and provider input, states also determined when each episode began and ended, which services were considered part of each episode, and which quality measures would be used to indicate efficient and effective care delivery.

Exhibit 2-1. States reported that, in aggregate, their episodes of care programs produced savings without decreasing quality



Notes: * In 2020, Tennessee waived downside risk-sharing for the 2019 performance year, therefore no financial penalties were collected for 2019 performance.

EOC = episode of care; MCO = managed care organization; OH = Ohio; SIM = State Innovation Model; TN = Tennessee.

Sources: Federal Evaluation Team review of TennCare Episodes of Care 2020 Annual Feedback Session; TennCare. 2019 Episodes of Care Results; OH Episodes of Care Program Year Update; OH Final SIM Report.

> "I felt like we actually had a significant input and changed a few ideas, again to avoid unintended consequences."
>
> —Tennessee provider

Both states designed the EOCs through which they would share both positive (upside) and negative (downside) financial risk with the PAPs (the specifics of risk-sharing requirements are discussed later in this section). The EOC model that both Tennessee and Ohio implemented meets the criteria of Health Care Payment Learning & Action Network (HCPLAN) Category 3: alternative payment models built on FFS architecture. For all episodes for which they are responsible, PAPs receive a quarterly report that summarizes the cost and quality indicators. Although performance is reported quarterly, provider payments are calculated and paid annually. If the cost of an episode is within a specified range, then the EOC model has no

effect on provider payment. If the cost is below the specified range and the PAP meets quality measure performance standards, then the PAP could receive a reward based on the amount below the range (upside risk). If the cost were above the range, the PAP could pay a penalty based on the amount above the range (downside risk).

Tennessee and Ohio both convened MCO representatives and groups of providers to help design key aspects of each episode—convening separate groups of participating providers for each episode (e.g., obstetricians and other pregnancy care providers helped design the perinatal episode). Both states also continued to solicit and respond to provider input after EOC implementation (for more information, see ***Section 6**, Stakeholder Engagement*). Tennessee convened providers and MCOs to provide feedback regarding the episodes each year. At the May 2020 meeting, Tennessee Medicaid reported that, over the course of the EOC program, it had made more than 100 changes to EOC design because of stakeholder feedback.[24] Ohio conducted a "clinical reactive feedback" process to solicit feedback from clinicians in 2017 and continued to collect feedback on an ad hoc basis until 2018—when the Medicaid agency began obtaining feedback via email and annual provider meetings. In response to the feedback from providers, Ohio made multiple changes, including assessing PAP performance across all MCOs instead of by MCO. This change made it easier for PAPs to qualify for EOC payments because the PAP only needed to have five episodes per year with *any* MCO to qualify for payment from all MCOs, instead of five episodes with *each* MCO to qualify for payment from that MCO.

2.2 Role of Managed Care Organizations

Although Tennessee and Ohio both implemented their EOC models through their MCOs, Tennessee assigned its MCOs a more active role defined in the MCO contract. In Tennessee, the Medicaid agency set the acceptable and quality performance thresholds; each MCO then set its own commendable threshold and calculated its own risk-adjusted episode costs—both according to state guidelines.[25] Each MCO published quarterly performance reports and developed and implemented extensive annual provider engagement plans, which included individual and group technical assistance.

Ohio defined the EOC payment model in administrative code and explicitly required both MCOs and providers to participate. In Ohio, the Medicaid agency calculated episode costs, set all cost and quality thresholds, and calculated PAP incentives and penalties—establishing the amount that each MCO would pay to each PAP.[26] At first, provider performance and payments were determined at the MCO level. However, as previously mentioned, Ohio began assessing

[24] Division of TennCare. (2020, May 20). *Episodes of care annual feedback session*. https://www.tn.gov/content/dam/tn/tenncare/documents2/TennCareEpisodesAnnualFeedbackSessionPresentation20.pdf
[25] Division of TennCare. (n.d.). *Episodes of care FAQs: What you need to know*. https://www.tn.gov/content/dam/tn/tenncare/documents2/EpisodesOfCareFAQsWhatYouNeedToKnow.pdf
[26] Ohio Governor's Office of Health Transformation. (n.d.). *Wave 1 performance period launch: Proposed Medicaid quality metric thresholds*.

provider performance, and calculating PAP incentives and penalties, across all MCOs for the 2019 performance year. MCOs retained responsibility for paying upside risk sharing incentives and collecting downside risk sharing penalties under the revised approach.

2.3 Cross-State Lessons

2.3.1 Adoption in Medicaid, commercial, and state employee markets

Both states leveraged their MCO contracts to ensure that implementation was aligned—that all MCOs implemented EOCs with the same design elements (trigger event, designated PAP, quality measures, and approach to calculating shared savings and losses). By the end of the SIM Initiative, Tennessee Medicaid implemented 48 EOCs through their MCOs, all of which conveyed both upside and downside risk. Over that same time, Ohio Medicaid had implemented 43 EOCs through its MCOs and in its FFS program. Eighteen of these EOCs conveyed both upside and downside risk, and the remainder were informational only (i.e., no financial risk attached).

The EOC developed by the Medicaid agencies in Tennessee and Ohio also reached into state employee and commercial markets—and in Tennessee's case, the national commercial market. The Tennessee state agency that purchased health care for state employees required its contracted payers to implement an EOC program, as discussed in ***Section 4****, State Employee Coverage*. By 2020, these plans had implemented 12 EOCs. Although not part of the SIM Initiative, two national plans that operated in Tennessee chose to extend the state's model nationally. One plan implemented three EOCs and another plan implemented 11 EOCs in their commercial lines of business in other states. In 2013, four commercial plans in Ohio had voluntarily committed to implementing some of the EOC in their commercial lines of business. In 2018, the four plans produced EOC reports, and one of the four tied one episode to payment.

2.3.2 Savings without declines in quality

Both states reported that their EOC models produced savings. Tennessee Medicaid reported that, collectively, the EOCs produced savings during each year of operation, including $45.2 million for calendar year 2019 (the most recent year available). The contribution of each EOC to the total savings varied widely, from -$559,090 ($14 loss per episode) for the skin and soft tissue infections episode, to more than $10 million ($512 savings per episode) for the perinatal episode. Tennessee also reported that, during each of the first four years of EOC operation, the state had paid out more in rewards than it had taken back in penalties.[27] Ohio Medicaid reported a 0.9 percent annual decline in cost for the care included in nine EOCs for the first two years of the program (2015–2017)—an estimated decline of between $31.6 million and

[27] Division of TennCare. (n.d.). *2019 Episodes of care results*. https://www.tn.gov/content/dam/tn/tenncare/documents2/EpisodesOfCare2019PerformancePeriodResults.pdf

$92.4 million each year.[28] Ohio MCOs distributed $4.0 million in rewards and collected $4.2 million in penalties for 2017 performance.

Both states also reported that the EOC programs did not lead to a decline in health care quality and may have produced improvements. In 2020, Tennessee reported that 77 percent of the metrics tied to payment indicated either improvements or no decline in performance between the 2018 and 2019 performance years. Tennessee also gave a few examples of the improvements produced—including that, between 2015 and 2017, the number of "Oppositional Defiant Disorder Episodes in which children receive unnecessary medication decreased from 24.6 percent to 3.7 percent."[29] Ohio reported that total overall quality performance held steady during the first two years of the program,[28] while the state-funded evaluation found increases in quality for two episodes from 2015 to 2016.[30]

Federal evaluators completed a claims-based analysis of the asthma and perinatal EOC, comparing select quality outcomes for Tennessee and Ohio to those of a comparison group of similar states (Kentucky and Kansas as comparison states for Ohio; Kentucky, Kansas, and South Carolina as comparison states for Tennessee). For Tennessee, the analysis assessed impacts five years after the state tied payment to EOCs operation and for Ohio, the four years after. Similar to the state-funded evaluations, the federal evaluation found that quality metrics for the two EOCs generally improved for both the Ohio and Tennessee EOC groups and their respective comparison groups. However, the improvements in the EOC groups were mostly less than those in the comparison groups. Therefore, the results for the Ohio and Tennessee EOC groups, with the exception of two of the perinatal outcomes, were unfavorable or not statistically different relative to their respective comparison groups (***Exhibit 2-2***).

[28] Ohio Department of Medicaid. (2019, August 27). *Ohio Payment Innovation Program update*.
[29] Division of TennCare. (2020, May 20). *Episodes of care annual feedback session*. https://www.tn.gov/content/dam/tn/tenncare/documents2/TennCareEpisodesAnnualFeedbackSessionPresentation20.pdf
[30] Ohio Colleges of Medicine Government Resource Center. (2019, March). *Ohio's State Innovation Models self-evaluation final report*. Supplied by the Ohio Department of Medicaid.

Exhibit 2-2. Ohio and Tennessee episodes of care models were associated with unfavorable changes in quality for asthma episodes and some favorable changes in quality for perinatal episodes

2 states		OH	TN
Asthma EOC	Episode includes a follow-up visit	☒	☒
	Asthma medication dispensed during episode	☒	☒
	Episode includes repeat asthma exacerbation after trigger	N/A	☒
Perinatal EOC	C-Section	☐	☑
	GBS Screen	☑	N/A
	HIV Screen	☒	N/A
	Post-delivery follow up	☐	☒

☑ Favorable, statistically significant ☒ Unfavorable, statistically significant ☐ Not statistically significant

Note: C-section = cesarean section; EOC = episode of care; GBS = group B streptococcus; HIV = human immunodeficiency virus; KS = Kansas; KY = Kentucky; MAX = Medicaid Analytic eXtract; N/A = outcome was not included in the analysis; OH = Ohio; SC = South Carolina; TAF = Transformed Medicaid Statistical Information System Analytic Files; TN = Tennessee.

Source: Federal Evaluation Team analysis of KS, KY, OH, SC, and TN claims data from the MAX and the TAF.

Regarding the perinatal EOC findings, Ohio providers reported not being aware of the EOC model, which is consistent with the impact results. Only one outcome for Ohio—the percentage of vaginal episodes with group B streptococcus screening—was associated with favorable changes. In Tennessee, the percentage of perinatal episodes with a cesarean section (C-section) delivery decreased for both the EOC group and the comparison group but decreased more in the EOC group, which is consistent with the state evaluation findings. The percentage of perinatal episodes with post-delivery follow-up visits declined slightly for the Tennessee EOC group while increasing in the comparison group, leading to a relative decline in the Tennessee EOC group. However, the post-delivery follow-up rate started quite high for Tennessee (74

percent in the baseline period), so there was little room for improvement (see ***Exhibit 2-3*** and ***Exhibit 2-4*** for additional details).

Taken together, the experience of Tennessee, Ohio, and Arkansas indicates the importance of focusing implementation efforts on EOCs for which there is documented potential for savings and need for quality improvement. Both Tennessee and Arkansas planned to implement many more EOCs than they ultimately implemented—both reporting that they decided to focus their efforts where they could have the greatest impact. Citing a similar pursuit of value, Ohio announced in November 2019 that it would discontinue 13 EOCs by 2021.[31]

2.3.3 Provider responses

In Ohio, the Medicaid agency reported that few PAPs opened their performance reports and that PAP focus group participants were unaware of the EOC program—making any practice responses to the model unlikely. A few Ohio MCO representatives believed that payment amount was a significant contributing factor to the lack of uptake. Given that, at the close of the SIM Initiative in 2019, there was minimal or no financial risks attached to most of the EOCs, some stakeholders believed there was little reason for large provider groups to engage in making major changes. Others reported that PAPs viewed the reports as cumbersome, and some PAPs did not trust the performance metrics produced from MCO claims data. Some MCO representatives were optimistic that the EOC might have greater effect on provider behavior when more EOCs shifted from informational-only to payment programs. In Ohio, EOCs were implemented over time with financial incentives usually activated during the second year of each EOC's operation, resulting in more episodes shifting from information only to payment over time.

> "I'd say [for] the large health systems, $40,000 is not something you're really worried about. But an OB/GYN [obstetrician/gynecologist] practice of three $40,000, that's a different conversation or a primary care practice—$5,000 because of their UTI [urinary tract infection] measures. I mean it's a little different conversation."
>
> —Ohio MCO representative

In contrast, in Tennessee, some PAPs described changing their practices in response to the EOC model. Providers, for example, reported improving patient education and hiring new staff to increase access to care. In response to positive feedback from Medicaid patients, some providers reported expanding the changes to all of their patients. It is likely that the active role Tennessee assigned to MCOs in both implementing the model and providing technical assistance to PAPs contributed to the response difference between the two states.

[31] Ohio Department of Medicaid. (2019, November). *Episode of care program update*.

2.4 Sustainability and Future Directions

Tennessee and Ohio both obtained recognition of their Medicaid EOC models as Alternative Advanced Payment Models for the Medicare Quality Payment Program after the end of the SIM Initiative. This recognition allows physicians to count the patients served in the EOC model toward the participation threshold for reimbursement adjustments under the Medicare program. By counting these patients, Medicare-participating physicians may feel incentivized to also participate in the Medicaid EOC model, thus increasing physician support for continuing the EOC programs in their states.

Both states continued to advance their EOC models after the end of the SIM Initiative. In 2019, Ohio announced plans to increase the number of EOCs tied to financial risk from 18 to 25 by the 2020 performance year and to cease reporting on 12 EOCs by the end of 2020.[32] Tennessee continued to host stakeholder feedback meetings and make changes based on that feedback—with the latest changes released in September 2020 for an effective date of January 1, 2021.[33]

Both states also made changes to their EOC models because of the coronavirus disease 2019 (COVID-19) pandemic. In May 2020, Ohio Medicaid announced that it would stop collecting financial penalties resulting from 2018 PAP performance,[34] and in July 2020 suspended the model entirely for the 2020 and 2021 payment years.[35] Also in July 2020, Tennessee changed the risk-sharing component of the model to upside risk (shared savings) only, because of the pandemic.[36] Ohio does plan to resume EOCs in 2022. In support of that decision, EOC participation remains a requirement in the new MCO contracts, which go into effect in January 2022.

[32] Ohio Department of Medicaid. (2019, November). *Episode of care program update*.
[33] Division of TennCare. (2020, September). *Memo: 2021 Episode changes*. https://www.tn.gov/content/dam/tn/tenncare/documents2/Memo2021EpisodesOfCareChanges.pdf
[34] Ohio Department of Medicaid. (2020, May 1). *CY18 episodes of care negative incentive payments*.
[35] Ohio Department of Medicaid. (2020, July 16). *Episodes of care program suspension for calendar year 2020 and 2021*.
[36] Division of TennCare. (2020, July 17). *Waiving 2019 episodes risk-sharing payments*. https://www.tn.gov/content/dam/tn/tenncare/documents2/TennCaresEpisodesOfCareIsWaiving2019RiskSharingPayments.pdf

2.5 Addendum

Exhibit 2-3 and ***Exhibit 2-4*** provide more in-depth quantitative information about impact estimates for Ohio and Tennessee EOC models.

Exhibit 2-3. Ohio's episode of care had no changes on cesarean sections, favorable changes to group B streptococcus screening, and follow-up visits, and unfavorable impacts on asthma episodes in its first four years in which episodes of care were tied to payment

Selected outcomes	Change in outcome from baseline to implementation period		D-in-D estimate (90% CI)	Relative difference (%)	p-value
	OH EOC	Comparison group			
Perinatal Episodes with a C-Section (%)	↑	⊖	0.42 (-0.04, 0.87)	1.5	0.13
Perinatal Episodes with Prenatal GBS Screening (%)	↑	↑	**0.76†** (0.00002, 1.51)	0.9	0.09996
Perinatal Episodes with Prenatal HIV Screening (%)	↑	↑	0.76 (-0.70, 2.21)	1.0	0.39
Perinatal Episodes with a Post-Delivery Follow-Up Visit Within 60 Days (%)	↑	↑	0.36 (-0.26, 0.98)	0.5	0.34
Asthma Episodes with Follow-Up Care Within the Post-Trigger Window (%)	↑	↑	**-0.75‡** (-1.32, -0.18)	-1.7	0.03
Asthma Episodes with Receipt of Appropriate Asthma Medication (%)	↑	↑	**-4.03‡** (-6.38, -1.67)	-8.9	0.005

† Significant change in expected direction
‡ Significant change in unexpected direction
⊖ No change

↑ Favorable increase
↑ Unfavorable increase
↑ Increase from baseline through implementation

↓ Favorable decrease
↓ Unfavorable decrease
↓ Decrease from baseline through implementation

Notes: Bolded (†) or (‡) D-in-D estimate indicates statistically significant finding. The arrows and circles in the second column graphically display the information from the last three columns of the table.

CI = confidence interval; C-section = cesarean section; D-in-D = difference-in-differences; EOC = episode of care; GBS = group B streptococcus; HIV = human immunodeficiency virus; KS = Kansas; KY = Kentucky; MAX = Medicaid Analytic eXtract; OH = Ohio; TAF = Transformed Medicaid Statistical Information System Analytic Files.

Source: Federal Evaluation Team analysis of OH, KS, and KY claims data from the MAX and the TAF.

Exhibit 2-4. Tennessee's perinatal episode of care had a favorable impact on cesarean sections in its four years, and its asthma episode of care had unfavorable impacts in its first five years

Selected outcomes	Change in outcome from baseline to implementation period: TN EOC	Change in outcome from baseline to implementation period: Comparison group	D-in-D estimate (90% CI)	Relative difference (%)	p-value
Percentage of Episodes with a C-Section	↓	↓	**-1.07**† (-1.62, -0.52)	-3.4	0.001
Percentage of Episodes with a Post-Delivery Follow-Up Visit Within 60 Days	↓	↑	**-1.21**‡ (-1.63, -0.79)	-1.6	<0.001
Percentage of Asthma Episodes with Follow-Up Care Within the Post-Trigger Window	⊖	↑	**-2.14**‡ (-3.24, -1.03)	-5.1	0.001
Percentage of Asthma Episodes with Receipt of Appropriate Asthma Medication	↑	↑	**-5.93**‡ (-7.94, -3.92)	-10.7	<0.001
Percentage of Asthma Episodes with Repeat Acute Asthma Exacerbation	↑	↓	**0.90**‡ (0.61, 1.20)	13.1	<0.001

† Significant change in expected direction
‡ Significant change in unexpected direction
⊖ No change

↑ Favorable increase
↑ Unfavorable increase
↑ Increase from baseline through implementation

↓ Favorable decrease
↓ Unfavorable decrease
↓ Decrease from baseline through implementation

Notes: Bolded (†) or (‡) D-in-D estimate indicates statistically significant finding. The arrows and circles in the second column graphically display the information from the last three columns of the table.

CI = confidence interval; C-section = cesarean section; D-in-D = difference-in-differences; EOC = episode of care; KS = Kansas; KY = Kentucky; MAX = Medicaid Analytic eXtract; SC = South Carolina; TN = Tennessee; TAF = Transformed Medicaid Statistical Information System Analytic Files.

Source: Federal Evaluation Team analysis of TN, KS, KY, and SC claims data from the MAX and the TAF.

3. Lessons in Integrating Behavioral Health

- SIM-supported training and technical assistance increased integration, knowledge, and skills among primary care providers.
- Data analytic and care coordination tools helped practitioners to better manage and coordinate patients' care.
- Improved screening and referral and stronger connections between mental and physical health providers led to greater access to care for patients.
- In Colorado, Tennessee, and Washington, behavioral health integration models were associated with greater access to behavioral health care, fewer behavioral health-related emergency visits (Colorado, Washington), more inpatient behavioral health admissions (Colorado, Tennessee, and Washington), and increased spending (Tennessee and Washington).

Behavioral health integration (BHI) is defined as "care that results from a practice team of primary care and behavioral health clinicians, working together with patients and families, using a systematic and cost-effective approach to provide patient-centered care for a defined population."[37] BHI can address the high instance of underdiagnosed and untreated behavioral health needs in the United States[38] and the high comorbidity among behavioral and physical health needs through increased screening and identification of patient needs, enhanced care coordination, and improved systems of communication between specialties.[39, 40] Integrating behavioral health into primary care has the potential to improve health outcomes and reduce overall health costs.[41]

Six SIM Initiative states (Colorado, Connecticut, Delaware, Rhode Island, Tennessee, and Washington) implemented strategies designed to foster BHI through practice transformation. Colorado, Tennessee, and Washington reinforced practice transformation efforts with payment reform. This section describes states' approaches for implementing BHI, synthesizes the cross-state lessons from the implementation strategies, and quantifies the impacts on service use and spending.

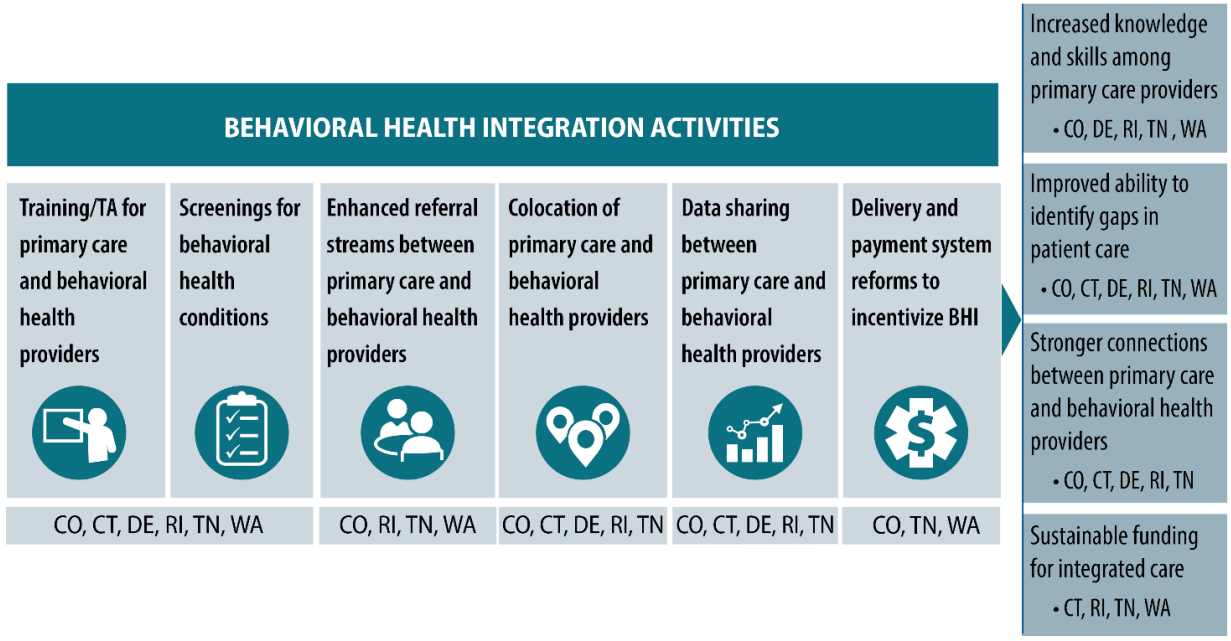
[37] Peek, C. J., & The National Integration Academy Council. (2013, April). *Lexicon for behavioral health and primary care integration*. https://integrationacademy.ahrq.gov/sites/default/files/2020-06/Lexicon.pdf
[38] Kohn, R., Saxena, S., Levav, I., & Saraceno, B. (2004). The treatment gap in mental health care. Bulletin of the World Health Organization, 82(11), 858–866. https://www.scielosp.org/pdf/bwho/2004.v82n11/858-866/en
[39] NIMH (National Institute of Mental Health). (n.d.). *Chronic illness and mental health.* https://www.nimh.nih.gov/health/publications/chronic-illness-mental-health/index.shtml
[40] Razzano, L., Cook, J., Yost, C., Jonikas, J. A., Swarbrick, M. A., Carter, T. M., & Santos, A. (2014, August). Factors associated with co-occurring medical conditions among adults with serious mental disorders. *Schizophrenia Research, 161*(2–3), 458–464. doi:10.1016/j.schres.2014.11.021
[41] American Medical Association. (2020). Behavioral health integration compendium. https://www.ama-assn.org/system/files/2020-12/bhi-compendium.pdf

3.1 States' Approaches

States engaged in a diverse set of strategies to accomplish their BHI goals (***Exhibit 3-1***). The most common strategy adopted by states to further BHI was technical assistance (TA) and training. Other BHI strategies adopted by SIM states include implementing behavioral health screening tools in primary care settings (Connecticut, Delaware, Michigan, Rhode Island, and Tennessee), providing grants to providers to hire care coordinators (Colorado and Delaware), creating data dashboards and admission, discharge, and transfer (ADT) tools to alert providers about patients' hospital admissions or emergency department (ED) visits (Connecticut, Delaware, Michigan, Rhode Island, and Tennessee), and co-locating behavioral health professionals within primary care practices (Colorado, Connecticut, Delaware, and Rhode Island). Some states also sought to address shortages of behavioral health professionals by using community health workers (CHWs), peer consultation, and other programs (see ***Section 11****, Community Health Workers;* and ***Section 12****, Rural Communities*).

In addition to adopting many of the strategies previously described, Colorado, Tennessee, and Washington also implemented various payment reforms to incentivize BHI. Payers in Colorado created an agreement to reimburse primary care practices for implementing BHI strategies. Tennessee created a behavioral health home model (Health Link), which required coordination between primary care practices and mental health providers, to deliver integrated care to patients with serious mental health conditions. Washington integrated financing of behavioral health care within comprehensive managed care plans to increase integration and Medicaid patients' access to both behavioral and physical health providers (Integrated Managed Care [IMC]).

Exhibit 3-1. The most common strategy adopted by states to further behavioral health integration was technical assistance and training



Note: BHI = behavioral health integration; CO = Colorado; CT = Connecticut; DE = Delaware; RI = Rhode Island; TA= technical assistance; TN = Tennessee; WA = Washington.
Source: SIM Evaluation Team review of interviews, focus groups, and state documents.

3.2 Cross-State Implementation Lessons

3.2.1 Practice transformation to support behavioral health integration

TA, practice facilitators or coaches, and peer learning increased the level of integration within practices. Washington created a practice transformation hub (referred to as "the Hub") to help primary care and behavioral health providers transition to IMC.[42] The Hub offered individual and group TA, as well as a learning series about value-based payment (VBP), which helped behavioral health providers develop the skills they needed to succeed under the VBP models. Under Rhode Island's Pediatric Psychiatry Resource Network (PediPRN) initiative, the state trained primary care providers (PCPs) on how to treat mild psychiatric conditions in children. Rhode Island also hired a practice facilitator to coach primary care clinicians on how to collaborate with behavioral health professionals in their practice.

Practice facilitators in Colorado offered training sessions to PCPs that focused on adapting workflow to accommodate multidisciplinary teams, creating referral streams with

[42] Under Washington's IMC payment model, Medicaid managed care organizations (MCOs) are responsible for delivering both physical and behavioral health care to all of their Medicaid members.

behavioral health providers, and using behavioral health data to identify gaps in care. Stakeholders in Colorado that participated in peer learning collaboratives and participant meetings described two major benefits. First, meetings enabled providers to find willing partners in other disciplines to work on a desired service integration model, through which newly connected practices could leverage coaching to establish workflows for communication and referral agreements. Second, the stakeholders shared and discussed practice norms, which helped break down cultural barriers, improved understanding of the language and perspectives used in other care settings, and increased willingness to make referrals to nearby providers.

Across states, providers said that they appreciated hearing the perspectives in peer learning collaboratives of more experienced peers who were farther along in the transformation process. Stakeholders in Colorado and Tennessee indicated that practice coaching and collaborative learning opportunities had a positive impact on primary care practices by helping PCPs become more comfortable and willing to treat patients with mental health and substance use issues. Furthermore, BHI training efforts helped behavioral health providers in Tennessee become more comfortable in talking with patients about their physical health care needs, making appropriate referrals, and following up to ensure that primary care services were received.

> "I think that she's [practice coach] been great in just helping us … When I say SIM is not a burden, the reason it's not a burden is because our CHITA [clinical health information technology advisor] and our practice coach have worked with us."
>
> —Colorado PCP

3.2.2 Improved care coordination

Health care providers and other stakeholders generally agreed that behavioral integration interventions improved coordination and communication among primary care and other health providers. Providers in Connecticut, Rhode Island, and Tennessee used care coordination tools (CCTs) to help manage their patients' care, especially for those with chronic conditions or comorbidities. CCTs aim to meet patients' needs and prevent gaps in care by facilitating communication between providers. These tools often incorporate health information data to inform clinical activities, identify patients in crisis, and assist in the coordination with hospitals regarding discharge planning or follow-up care. The CCTs used by all three states alerted providers about patients' hospital admissions and ED visits.

> "If you're looking at the ADTs, you see this member went to the emergency room and contact him educate him that, 'Hey I was open during these hours you went to the emergency room,' so that it won't happen again and we decrease emergency use."
>
> —Tennessee payer

In Tennessee, providers described their CCT "as a game changer" for improving care and coordination. Tennessee's CCT is a shared, web-based application used by all providers participating in patient-centered medical home (PCMH) and Health Link, which provides ADT data, identifies gaps in care, identifies quality measures, coordinates care, and provides member panel information. For patients with serious mental illness (SMI), community mental health centers could then incorporate this information into their clinical workflow to track when their patients were seeking ED, emergency room, and hospital services, identify when their patients might be in crisis, and begin coordinating with the hospital earlier. Tennessee's tool included claims-based data regarding quality measures, which providers could use to improve their performance and quality of care. Because the CCT allows providers to access a patient's care across systems, providers noted that the greater use of integrated data helped them identify and treat gaps in their patients' care. Behavioral health practitioners described a "new way of thinking about care delivery" because physical health conditions had become a regular part of the conversation between behavioral health professionals and patients.

Similarly, Rhode Island's data dashboard reports could be tailored to providers' clinical needs. By identifying patients and treating gaps in care at the primary level, state officials from Rhode Island cited state analyses that indicated reductions in hospital services and readmissions for community mental health center patients.

3.2.3 Stronger connections between primary care providers and behavioral health providers

Establishing formal screening and referral systems between primary care and behavioral health professionals helped patients to access the care they needed, particularly when co-located services were not available or possible (e.g., in rural areas where shortages of behavioral health providers precluded recruiting and hiring practitioners on-site). Improved screening and referral programs and stronger connections between providers resulted in better care for patients. In Colorado, primary care and behavioral health clinicians reported increases in the identification of patients' physical and behavioral health needs, which may have gone undetected prior to integration. Primary care clinicians participating in Rhode Island's integrated behavioral health pilot reported increases in screening rates for depression, anxiety, and substance use disorder (with 80 percent to 90 percent of all patients screened). In

> "For me, not coming from an integrated model, it forced me to learn a lot more about the medical comorbidities and understand the illnesses better. When I first started, a [doctor] would come by for a warm hand-off if somebody was crying in their office, but there wasn't a lot of assessment … So many things have changed, and I've had to learn a lot about understanding medical illnesses so that I can better treat folks."
>
> —Rhode Island behavioral health practitioner

Delaware, primary care practices began to conduct mental health screenings quarterly or during every visit, rather than only as part of new patient visits.

The SIM Initiative also helped bridge gaps and facilitate stronger collaboration through co-location of providers. In Rhode Island's integrated behavioral health pilot program, SIM funds supported TA for primary care practices hosting co-located behavioral health professionals. This TA helped practices adopt new processes to accommodate multidisciplinary teams, track screening rates and monitor outcomes, and engage leadership in practice change. By providing services from a primary care clinician, case worker, and behavioral health specialist in one location, providers could respond to and address patients' behavioral health needs and concerns quickly and efficiently. As introductions from primary care to mental health professionals occurred on-site, patients were more willing to schedule follow-up appointments for their behavioral health needs.

By co-locating a behavioral health practitioner in the same practice, patients' behavioral health concerns were more likely to be addressed quickly and efficiently. One practice in Connecticut reported that patients appeared more willing to partake in behavioral health treatment that was embedded in their primary care treatment because the behavioral health provider was now viewed as part of their trusted care team.

3.2.4 Remaining challenges to integration

Although integrating primary care with behavioral health services has distinct advantages, SIM states encountered barriers to implementation. Principal concerns voiced by stakeholders included sustaining payment for practice changes, maintaining financing for ongoing training, and retaining staff. Stakeholders also reported that medical and behavioral health electronic health records were often incompatible, rendering bi-directional sharing difficult. Federal regulations designed to protect the confidentiality of substance use information (42 Code of Federal Regulations [CFR] Part 2) can hamper integration efforts because substance use disorder providers are prohibited from sharing information with other providers without patient permission.

> "It did change their mindset and … they're primed to do that work. If they have a mental health professional who is available and paid to do it with them, they are primed and ready to go. So … it was a direct benefit but it's not implemented yet because it's not paid for yet. But, in the meantime, they are utilizing enhanced referrals … and they are looking for payment to come."
>
> —Delaware behavioral health practitioner

Another frequently cited challenge was an insufficient mental health workforce. Workforce shortages impede state's efforts to further integration, particularly in rural areas. For example, PCPs in Rhode Island were reluctant to increase screening because they feared a shortage of providers to which they could refer patients for further assessment and treatment.

SIM states' efforts to address these shortages focused largely on educating PCPs on how to treat children and adults with less severe behavioral health conditions (e.g., Rhode Island's PediPRN).

3.3 Cross-State Impacts

Generally, we hypothesized that BHI would result in increases in access to behavioral health services, decreases in acute care utilization (ED visits and in-patient admissions), and decreases in total spending. BHI aims to enhance access to and utilization of *appropriate* physical and behavioral health services for people who have a broad range of behavioral health diagnoses, many of whom have significant co-morbidities and complex conditions. BHI can therefore lead to increased utilization of both physical and behavioral health services, which may or may not result in reductions in total spending, depending on a number of factors. These factors can include the target population, maturity of the model, demand for services that had previously been unavailable or difficult to access, etc.

Using claims data, we evaluated the impacts of BHI efforts in Colorado, Tennessee, and Washington on Medicaid beneficiaries' access to outpatient services, acute care utilization, and spending. (For a description of how these analyses were selected for quantitative evaluation, see ***Appendix L***, *Data and Methods*) To account for differences across models, each state included different beneficiary and comparison groups. Specifically,

- Colorado's analyses compared Medicaid beneficiaries attributed to SIM participating integration practices with Medicaid beneficiaries who were attributed to PCPs not participating in SIM. (Other analyses that include Medicare and commercial plans are not reported here.)
- Tennessee's analyses compared Medicaid beneficiaries with SMI diagnoses (i.e., those who were eligible through Category 1) who participated in Health Link to Medicaid beneficiaries who were eligible but did not participate in Health Link.[43]
- Washington's analyses compared Medicaid beneficiaries who were diagnosed with at least one behavioral health condition of any severity and a subgroup of these beneficiaries who were diagnosed with severe behavioral health conditions in participating regions with similar Medicaid beneficiaries in non-participating regions.

3.3.1 Access to behavioral health services

Behavioral health integration can increase access through greater identification of behavioral health needs and more treatment for behavioral health diagnoses, both within the integrated care practice, and through increased referrals to behavioral health specialty care. There were relative increases in access to outpatient behavioral health care in Tennessee and Washington but not in Colorado (***Exhibit 3-2***). In Colorado, the percentage of beneficiaries with

[43] The Tennessee Health Link model-specific analysis also included a pre-post analysis without a comparison group that assessed changes in outcomes over time for beneficiaries in Categories 1, 2, and 3. However, this brief focuses on the difference-in-differences portion of the Tennessee Health Link analysis.

a behavioral health visit decreased slightly in the SIM-participating practices and increased in the comparison group, resulting in a 4.63 percentage point decline for beneficiaries in SIM-participating practices. In Tennessee, the number of behavioral health–related visits increased for Medicaid beneficiaries with SMI who participated in Health Link and declined among beneficiaries who were eligible for the model but did not participate, leading to a relative increase of 7.19 more visits among the beneficiaries in Health Link. In Washington, the percentage of Medicaid beneficiaries with a behavioral health condition who saw a behavioral health specialist increased for both beneficiaries in IMC managed care organizations (MCOs) and beneficiaries in non-IMC MCOs but increased by 10.16 percentage points more for beneficiaries in IMC MCOs.

Disparate state strategies may explain these findings. In the Tennessee quantitative analysis, individuals with SMI who were participating in the Health Link program were compared with beneficiaries with similar diagnoses who were assigned to a Health Link practice but had not engaged in services. Because diagnosis alone can describe a range of behavioral health acuity, the latter group may have had less need for services or be less engaged in behavioral health treatment. In Washington, the expansion of behavioral health screening may have identified more patients with behavioral health needs, and provider training may have led to greater recognition and referral of patients to behavioral health providers. Moreover, stakeholders in Washington reported that implementation of a fully IMC model, along with changes to behavioral health service authorization requirements, may have removed an access barrier and increased the number of behavioral health providers available to Medicaid beneficiaries.

Exhibit 3-2. SIM-supported behavioral health integration is associated with an increase in behavioral health visits for patients with a behavioral health diagnosis

Behavioral Health Visits	CO All Medicaid beneficiaries	TN SMI diagnosis	WA Any BH diagnosis	WA SMI diagnosis
	☒ BH visits (%): Larger decrease	☑ BH visits (#): Larger increase	☑ BH visits (%): Larger increase	N/A BH visits

☑ Favorable, statistically significant ☒ Unfavorable, statistically significant ☐ Not statistically significant

Note: BH = behavioral health; BHI = behavioral health integration; CO = Colorado; ED = emergency department; HCA = Health Care Authority; N/A = outcome not included in the analysis; SIM = State Innovation Model; SMI = serious mental illness; TN = Tennessee; WA = Washington.

Sources: Federal Evaluation Team analysis of TN Medicaid claims data from TennCare. WA Medicaid claims data aggregated at the person-year level from the WA State HCA. CO Medicaid, Medicare, and commercial claims data were provided through CO's all-payer claims database, administered by the Center for Improving Value in Health Care. Supplemental Medicaid data on BH–related visits, hospitalizations, and ED visits were provided by the CO Department of Health Care Policy and Financing. Information about which beneficiaries were attributed to SIM primary care providers was provided by the CO SIM office.

3.3.2 Utilization of acute care services

Quantitative analyses of the Colorado, Tennessee, and Washington models showed some favorable changes for behavioral health health–related ED visits and some unfavorable changes for behavioral health health–related inpatient admissions. In general, behavioral health–related ED visits increased less for Medicaid beneficiaries participating in BHI models relative to comparison beneficiaries. On the other hand, inpatient admissions tended to increase more for Medicaid beneficiaries in BHI models relative to comparison beneficiaries (***Exhibit 3-3***). In Colorado, behavioral health–related ED visits increased for both Medicaid beneficiaries in SIM-participating practices and the comparison group but increased by 3.72 fewer visits per 1,000 beneficiaries for beneficiaries attributed to participating practices. In Tennessee, the number of behavioral health–related ED visits increased for Medicaid beneficiaries participating in Health Link but declined for eligible but non-participating beneficiaries, leading to a relative increase of 30.47 more visits per 1,000 population for the Health Link group. In Washington, behavioral health–related ED visits increased for both beneficiaries with behavioral health conditions in IMC MCOs and beneficiaries with behavioral health conditions in non-IMC MCOs but increased by 92.78 fewer ED visits per 1,000 beneficiaries for the IMC MCO group. There was a similar change in behavioral health–related ED visits among adults with SMI in IMC MCOs relative to adults with SMI in non-IMC MCOs.

In Colorado, behavioral health–related inpatient admissions increased for both Medicaid beneficiaries at SIM-participating practices and beneficiaries at non-participating practices but increased by 1.57 more admissions per 1,000 Medicaid beneficiaries for beneficiaries at participating practices. In Tennessee, behavioral health–related inpatient admissions increased for both beneficiaries with SMI who participated in Health Link and beneficiaries who did not participate but increased by 27.12 more admissions per 1,000 beneficiaries for beneficiaries with SMI who participated in Health Link. In Washington, behavioral health–related inpatient admissions increased for both beneficiaries with SMI in IMC MCOs and beneficiaries in non-IMC MCOs but increased by 6.43 more admissions per 1,000 beneficiaries in IMC MCOs.

Exhibit 3-3. Summary of impacts on acute care utilization

	CO All Medicaid beneficiaries	TN SMI diagnosis	WA Any BH diagnosis	WA SMI diagnosis
Behavioral Health Acute Care Utilization	☑ BH-related ED visits: Smaller increase	☒ BH-related ED visits: Larger increase	☑ BH-related ED visits: Smaller increase	☑ BH-related ED visits: Smaller increase
	☒ BH-related inpatient admissions: Larger increase	☒ BH-related inpatient admissions: Larger increase	☐ BH-related inpatient admissions	☒ BH-related inpatient admissions: Larger increase

☑ Favorable, statistically significant ☒ Unfavorable, statistically significant ☐ Not statistically significant

Note: BH = behavioral health; CO = Colorado; ED = emergency department; HCA = Health Care Authority; SMI = serious mental illness; SIM = State Innovation Model; TN = Tennessee; WA = Washington.

Sources: Federal Evaluation Team analysis of TN Medicaid claims data from TennCare. WA Medicaid claims data aggregated at the person-year level from the WA State HCA. CO Medicaid, Medicare, and commercial claims data were provided through CO's all-payer claims database, administered by the Center for Improving Value in Health Care. Supplemental Medicaid data on BH–related visits, hospitalizations, and ED visits were provided by the CO Department of Health Care Policy and Financing. Information about which beneficiaries were attributed to SIM primary care providers was provided by the CO SIM office.

3.3.3 Changes in total spending

Broadly, there were increases in total health care spending for individuals with SMI. (***Exhibit 3-4***). In Tennessee, total spending increased for both SMI patients participating in Health Link and non-participating beneficiaries but increased by $213.87 per beneficiary per month (PBPM) more for SMI patients in Health Link. In Washington, changes to total spending did not differ between Medicaid beneficiaries with a behavioral health condition in IMC MCOs and beneficiaries in non-IMC MCOs. Total spending increased for adults with SMI in IMC

MCOs and adults with SMI in non-IMC MCOs; however, total spending increased by $86.33 PBPM more for adults with SMI in IMC MCOs. These increases in spending for SMI patients could be explained by BHI efforts to identify gaps in care for mental health conditions and connect these patients with additional services. In contrast, in Colorado, total spending decreased for Medicaid beneficiaries at SIM-participating practices and increased for comparison beneficiaries, leading to a relative decline of $26.43 PBPM for beneficiaries at participating practices.

Exhibit 3-4. Summary of impacts on total spending

Spending	CO All Medicaid beneficiaries	TN SMI diagnosis	WA Any BH diagnosis	WA SMI diagnosis
	☑ Total spending PBPM: Larger decrease	☒ Total spending PBPM: Larger increase	☐ Total spending PBPM	☒ Total spending PBPM: Larger increase

☑ Favorable, statistically significant ☒ Unfavorable, statistically significant ☐ Not statistically significant

Note: BH = behavioral health; CO = Colorado; ED = emergency department; HCA = Health Care Authority; SIM = State Innovation Model; SMI = serious mental illness; TN = Tennessee; WA= Washington.

Sources: Federal Evaluation Team analysis of TN Medicaid claims data from TennCare. WA Medicaid claims data aggregated at the person-year level from the WA State HCA. CO Medicaid, Medicare, and commercial claims data were provided through CO's all-payer claims database, administered by the Center for Improving Value in Health Care. Supplemental Medicaid data on BH–related visits, hospitalizations, and ED visits were provided by the CO Department of Health Care Policy and Financing. Information about which beneficiaries were attributed to SIM primary care providers was provided by the CO SIM office.

3.4 Sustainability and Future Directions

SIM states pursued a variety of approaches to support and incentivize BHI among primary care and behavioral health providers. Overall, stakeholders perceived many benefits of integration: improved access to both primary and behavioral health services, enhanced collaboration among diverse provider types, and greater use of integrated data to help monitor patient's treatment and progress. TA strategies largely helped practices effectively implement universal behavioral health screening, strengthen referral relationships among clinicians, coordinate care within co-located and integrated practices, and analyze data to improve care and address unmet needs. Integrated behavioral health practices afforded patients more timely and efficient access to care, according to stakeholders. Across Tennessee and Washington, there is also evidence of greater access to outpatient behavioral health care. There was also some evidence in Washington that ED visits declined, which stakeholders attributed, in part, to patients' better access to behavioral health care.

The degree and type of activities that will be sustained after the SIM Initiative varies widely across the states. Both Washington and Tennessee leveraged Medicaid managed care contracting as a vehicle to sustain SIM work. Washington completed statewide expansion of its IMC program and continues to support tools developed under the SIM Initiative. Tennessee contractually transitioned responsibility for administering its Behavioral Health Homes and PCMH programs to its MCOs that will sustain these programs. Rhode Island continued PediPRN and secured funds for establishing a pediatric integrated behavioral health program, in addition to continuing the adult program.[44] Connecticut will continue many of its BHI-related activities through Medicaid funding. Delaware's BHI program will not be sustained, but tools generated under the program by contractors (e.g., BHI registry template, training webinars, transformation toolkits) were made available to all other Delaware practices.

3.5 Addendum

Exhibit 3-5 provides more in-depth quantitative information for the impact estimates for Colorado, Tennessee, and Washington.

[44] Care Transformation Collaborative of Rhode Island. (n.d.). *Pediatric IBH pilot program.*

Exhibit 3-5. Behavioral health integration model in Colorado, Tennessee, and Washington had mixed impacts on key outcomes

Outcome	CO Medicaid, participating PCPs versus other practices	TN Medicaid, Category 1: SMI diagnosis participating in Health Link versus not participating in Health Link	WA Medicaid, BH patients in participating regions versus other regions	WA Medicaid, adults who have SMI and are in participating regions versus other regions
Access to care				
BH-related visits, per beneficiary	Not applicable	**7.19†** (6.22, 8.15)	Not applicable	Not applicable
Any BH visits (%)	**-4.63‡** (-5.42, -3.84)	Not applicable	**10.16†** (6.52, 13.81)	Not applicable
Utilization				
BH-related ED visits per 1,000 beneficiaries	**-3.72†** (-6.99, -0.45)	**30.47‡** (27.64, 36.30)	**−92.78†** (−151.16, −34.39)	**−107.87†** (−184.72, −31.03)
BH-related inpatient admissions per 1,000 beneficiaries	**1.57‡** (1.16, 1.98)	**27.12‡** (19.75, 34.48)	−4.03 (−10.63, 2.58)	**6.43‡** (2.09, 10.77)
Spending				
Total spending PBPM ($)	**-26.43†** (-32.78, -20.08)	**213.87‡** (198.52, 229.23)	22.37 (−22.40, 67.13)	**86.33‡** (40.86, 131.81)

† Significant change in expected direction ‡ Significant change in unexpected direction

Notes: Bolded (†) or (‡) D-in-D estimate indicates statistically significant finding. The arrows and circles in the second column graphically display the information from the last three columns of the table. Values reflect the regression-adjusted D-in-D coefficients (90% CI). "Not applicable" indicates that outcome was not included in the analysis.

BH = behavioral health; CI = confidence interval; CO = Colorado; D-in-D = difference-in-differences; ED = emergency department; HCA = Health Care Authority; PCP = primary care provider; PMPM = per member per month; SIM = State Innovation Model; SMI = serious mental illness; TN = Tennessee; WA = Washington.

Sources: Federal Evaluation Team analysis of TN Medicaid claims data from TennCare, and WA Medicaid claims data aggregated at the person-year level from the WA State HCA. CO Medicaid, Medicare, and commercial claims data were provided through CO's all-payer claims database, administered by the Center for Improving Value in Health Care. Supplemental Medicaid data on BH–related visits, hospitalizations, and ED visits were provided by the CO Department of Health Care Policy and Financing. Information about which beneficiaries were attributed to SIM PCPs was provided by the CO SIM office.

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4. Using State Employee Contracting to Expand Value-Based Payment

- To increase the use of value-based payments (VBPs), Delaware, Tennessee, and Washington leveraged the contracts for state employee health care coverage.
- There are indications that the new VBP models produced improvements in cost and quality of care with no indications of negative effects.
- States successfully increased VBP use partly because their state agencies' leadership was invested in increasing VBP and involved in planning their state's SIM Initiative.
- As large, self-insured payers, state agencies had leverage to change both plan and provider practices and foster broader health care changes.
- All three states recognized the need to tailor state employee contracts to the needs of state employee population.

One of CMMI's goals for the SIM Initiative Round 2 states was to increase the use of value-based payment (VBP) in participating states to 80 percent by the end of the SIM award period. By leveraging their status as an employer and payer, states can change health care payment models for select populations. The specific populations covered by each state vary but can include state employees, employees of local governments, university employees, local school district employees, retirees of these organizations, and the dependents of both employees and retirees.

Among the SIM Model Test states, Delaware, Tennessee, and Washington[45] sought to increase the use of VBP models by leveraging the contracts through which they administered health coverage for state employees.[46] All three states implemented a new VBP model in their state employee contracts, but each chose a different payment model (see ***Exhibit 4-1***). Tennessee and Washington also added provisions to their contracts that were intended to increase VBP usage in the commercial market for populations that were not covered by the state employee contract. This section examines states' experiences with state employee contracts and identifies several lessons learned.

[45] This section focuses on states that used the contracts under which they provide employee coverage as a lever to advance VBP. In some states, such as New York, some of the plans with which the state contracts may have voluntarily participated in some SIM activities, but these efforts are not examined here.
[46] This section collectively refers to covered members as "state employees" and the contracts under which coverage is provided as "state employee contracts."

Exhibit 4-1. All three SIM Model Test states that used state employee contracts reported value-based payment increases and indications of positive impacts on cost and quality

State	DE	TN	WA
Model implemented	Centers of Excellence	Episodes of care	Accountable care organization
HCPLAN category	3*: APM built on FFS architecture	3a: APM built on FFS architecture; shared savings only	3b: APM built on FFS architecture; shared savings and losses
Year implemented	2020	2017	2016
Spending flowing through model	Projected $4.8m in 2020	Unknown, but 12 episodes implemented by January 2020	$128m in 2018 (7.5% of all payments for state employee coverage)
Savings produced by model	Projected $2.7m in 2020	Modest	About 1% in 2016
Earned shared savings	Not yet known	Yes	Yes

Notes: * It is not known whether, under Delaware's VBP model, providers share savings only (3a) or both savings and deficits (3b).

APM = alternate payment model; DE = Delaware; FFS = fee for service; HCPLAN = Health Care Payment Learning & Action Network; m = million; SIM = State Innovation Models; TN = Tennessee; WA = Washington.

Sources: Federal Evaluation Team review of interviews, focus groups, and state documents.

Washington State Health Care Authority. (2020, August). *Paying for health and value: Health Care Authority's long-term value-based purchasing roadmap*. https://www.hca.wa.gov/assets/program/vbp-roadmap.pdf

State of Tennessee Department of Finance and Administration. (2019, November). *2018 Annual report: Tennessee State Group Insurance Program*. https://www.tn.gov/content/dam/tn/finance/fa-benefits/documents/2018_annual_report.pdf

State of Delaware. (2019, June 6). *Centers of Excellence administration for the GHIP: Subcommittee discussion guide*. https://dhr.delaware.gov/benefits/sebc/documents/sub-comm-2019/0606-financial-coe.pdf

4.1 State Approaches

Washington developed a coverage option that uses VBP for public employees enrolled in the state's self-insured plan[47] during the first year of their SIM award period. The state contracted with two health systems to form accountable care organizations (ACOs) that, effective January 1, 2016, became responsible for delivering integrated physical and behavioral health care to public employees enrolled in or attributed to[48] the ACOs (see the discussion of Accountable Care Networks in ***Appendix K****, Washington*). ACOs could earn a share of savings (or pay a share of the losses) produced by the ACOs and their affiliated providers based on their performance on 19 quality measures drawn from the state's common measure set. Washington incentivized employees to enroll by offering lower premiums and copays to plan members who chose to enroll in the ACOs. Together, the ACOs served 61,983 public employees in 2018. Washington also leveraged its state employee contracts to increase VBP in the broader commercial market.

For its state employee contracts, Tennessee required the two third-party administrators (TPAs) to implement an episode of care (EOC) program in 2017. This program was modeled after the EOC program implemented in the state's Medicaid program in 2014. Under this VBP model, a principal accountable provider (PAP)[49] was responsible for delivering and coordinating all of the health care services needed to treat a specific condition (e.g., total joint replacement). Although initially the PAPs earned a share of any savings and were responsible for a portion of any losses, Tennessee modified the program to only shared savings after the first year because of stakeholder feedback and low provider participation. The PAP's share of savings is determined based on the provider's performance on cost and quality metrics (see ***Section 2****, Episodes of Care*).

Delaware implemented two strategies to increase VBP use in state employee health coverage. First, in 2016, Delaware selected contracts with two TPAs to manage its state employee coverage that already offered alternative provider contracting arrangements, such as quality incentives or ACOs.[50] Unfortunately, few details about these models are publicly available. However, available information about commercial VBP use by these two contractors indicates that VBP use in their state employee contracts was likely substantial. Second, the state

[47] A self-insured plan is one in which the payer retains financial risk for services provided. Washington offers its self-insured plan as an option for state employees; Tennessee and Delaware self-insure the health coverage of all employees. All three states contract with one or more third-party administrators (TPAs) to administer their self-insured programs.
[48] There were two categories of ACO participants: those who enrolled in the program during the annual open enrollment period and those who were attributed to the ACO because they received services from an ACO-affiliated primary care provider. Payment terms varied between the two groups.
[49] Tennessee refers to a PAP as a "quarterback," but the more generic term is used here for consistency across sections.
[50] Morris, C. (2019, September). *Aetna value-based continuum: Value continuum overview*. https://dhr.delaware.gov/benefits/sebc/documents/2019/0923-aetna-value-continuum.pdf

began planning with the two TPAs in 2018 to create a Center of Excellence (COE) model, which was implemented in January 2020. The COE model encourages patients to obtain specific planned treatments, such as spinal fusions, from a network of providers managed by a contractor that accepts bundled rates. Although the specifics of the payment arrangements between the contractor and its network of providers is not available, the contractor was selected partially due to its ability to share savings with providers.[51] The COE contracts directly with the state so that it may serve all who elect state coverage instead of just those in specific plans. The COE provides care for only 42 conditions and patients who choose the COE continue to access all other services through their TPA. Patients are not required to use the COE, but those who choose to obtain covered treatments from the COE are offered a share of savings, travel benefits, and "concierge" services from a care advocate.

4.2 Cross-State Lessons

4.2.1 Indications of cost and quality improvements

States implemented new VBP models through their state employee contracts to contain cost and improve patient care. All three states increased VBP use. As health care expenditures would have previously been made through fee-for-service (FFS) payments, state employee contracts increased VBP use by redirecting these expenditures to instead flow through the new VBP models. Thus, Washington redirected approximately $128 million in payments to its ACO payment model in 2018 (7.5 percent of all payments for state employee coverage).[52] Delaware anticipated that approximately $4.8 million would be redirected through its model during its first year.[53] Although no expenditure information is available for Tennessee, the state implemented 12 EOCs by 2020, which should similarly shift a substantial amount of expenditures away from FFS payments.

The increases in VBP use also aimed to improve patients' quality of care. States ensured quality improvements through their requirements for earning shared savings and performance on quality measures. Both Washington's ACOs and Tennessee's PAPs have received shared savings through the new models, indicating that they contained costs and improved care quality. In 2017 and 2018, Washington reported that both ACOs produced savings and both earned the maximum share of savings through their performance on 19 quality metrics. In 2018, Tennessee made modest payments to providers in the EOC program based on providers' cost containment and

[51] Centers of Excellence Administration for the GHIP. (2018, August 16). *Proposal Review Committee recommendations to the State Employee Benefits Committee*. https://dhr.delaware.gov/benefits/sebc/documents/2018/1022-coe-rfp-recommendation.pdf
[52] Washington State Health Care Authority. (2020, August). *Paying for health and value: Health Care Authority's long-term value-based purchasing roadmap*. https://www.hca.wa.gov/assets/program/vbp-roadmap.pdf
[53] State of Delaware. (2019, June 6). *Centers of Excellence administration for the GHIP: Subcommittee discussion guide*. https://dhr.delaware.gov/benefits/sebc/documents/sub-comm-2019/0606-financial-coe.pdf

performance on quality of patient care measures.[54] Delaware has not completed its first year of operation, so changes in cost or quality cannot be assessed yet.

To further examine the results produced by Washington's ACOs, the Federal Evaluation Team conducted quantitative analyses of spending, utilization, and quality. Unlike the state's calculated payment model, which compared ACO performance with past performance and benchmarks, these analyses compared the experience of patients enrolled or attributed to an ACO with the experience of patients in the state's self-insured plan who were not attributed to an ACO or did not have an ACO option. Changes in total spending did not differ between patients in the ACO model and patients not in an ACO, indicating that the ACO model did not increase or decrease spending. Emergency department (ED) visits decreased for patients in an ACO and increased for patients not in an ACO, leading to a relative decrease in ED visits (−14.38 ED visits per 1,000 population). Unexpectedly, primary care visits decreased for both patients in an ACO and for patients not in an ACO but decreased more for the ACO group (−40.70 primary care visits per 1,000 population). Finally, the Federal Evaluation Team assessed changes to four out of the 19 quality measures used in the payment model (screening rates for cervical cancer, breast cancer, colorectal cancer, and chlamydia) in the ACO and non-ACO groups. There was evidence of improved quality for patients in an ACO relative to patients not in an ACO for only one of those four measures (cervical cancer screening).

These findings align with results in previous studies. In a study that reviewed 42 articles, across payer types, ACOs reduced inpatient and emergency department visits and improved measures of quality of care.[55] Another study found that over an eight-year period, ACOs slowed spending increases without harming quality of care.[56] Thus, previous studies suggest that longer study periods may be needed to show greater evidence of cost containment and quality improvements.

4.2.2 Engaged state agency leadership

All three states benefited throughout the SIM Initiative from engaged leadership in the state agency that administers employee benefits. As reported in its SIM application, Tennessee's agency was already recognized as a leader in value-based purchasing and had secured commitments from the two TPAs to participate in payment and delivery system reforms. Delaware's SIM Model Test application reported that the state agency partnered with the state's SIM Leadership Team and had already communicated with TPAs about expected increases in

[54] State of Tennessee Department of Finance and Administration. (2019, November). *2018 Annual report: Tennessee State Group Insurance Program*. https://www.tn.gov/content/dam/tn/finance/fa-benefits/documents/2018_annual_report.pdf

[55] Kaufman, B. G., Spivack, B. S., Stearns, S. C., Song, P. H., & O'Brien, E. C. (2019). Impact of accountable care organizations on utilization, care, and outcomes: A systematic review. *Medical Care Research and Review, 76*(3), 255–290. doi:10.1177/1077558717745916

[56] Song, Z., Ji, Y., Safran, D. G., & Chernew, M. E. (2019). Health care spending, utilization, and quality 8 years into global payment. *New England Journal of Medicine, 381*(3), 252–263. doi:10.1056/NEJMsa1813621

VBP usage. In Washington, the state agency that led the SIM Initiative also administered both Medicaid and state employee health care coverage. Washington's agency was further bolstered in 2014 by state legislation that directed the agency to increase VBP use in state health care purchasing.

Because all three states were either fully self-insured (Delaware and Tennessee) or implemented the VBP model in their self-insured coverage (Washington), they retained the potential financial risks for providing services through VBP. In addition, states often retain some responsibility for state employees' health coverage through retirement, which means they benefit from improving employees' short- and long-term health. Thus, the three states had strong interests in both cost containment and quality improvement for their employees' coverage.

4.2.3 Large state agencies and broader changes

State agencies had considerable leverage to change plan and provider behavior in their states because of their status as large purchasers of health care coverage. Washington's agency is the largest purchaser in the state. In Tennessee, the state, in its role as employer, was the largest self-insured employer in the state—administering coverage for 9.2 percent of all commercially insured individuals. Given the states' status as self-insured and large purchasers, state agencies had direct control over how their TPAs delivered and paid for care. Compared to an employer who transferred the risk for services to a health plan, these state agencies could more easily use their state employee contracts to effect changes in VBP use.

> "If you look at a lot of the opportunity for TennCare [the Medicaid agency] to save money, it's not there on the commercial side because we don't have the same type of population demographically or age-wise."
>
> —Tennessee TPA representative

The size and power of state agencies can also spill over into changes for non–state employee populations. Washington and Tennessee both sought to use their state employee contracts to foster broader health care changes in the larger state populations. Washington began implementing a new TPA contract for its self-insured program in 2018 and, effective January 2020, that contract required the TPA to offer an accountable care option (similar to the ACO for state employees) to other payers, including self-insured payers. Similarly, Tennessee required its TPAs to implement EOCs in their coverage for their fully insured commercial members.

4.2.4 Tailored payment models

All three states sought to increase VBP through both state employee and Medicaid managed care organization (MCO) contracting but recognized the need to tailor programs to these different populations. As early as 2016, state officials in both Tennessee and Washington emphasized that major differences between the Medicaid and state employee populations made it

infeasible to implement the identical VBP model in both Medicaid MCO and state employee coverage contracts. For example, coverage is structured differently for the two populations (e.g., state employees usually pay premiums and cost sharing while most Medicaid beneficiaries do not). Therefore, modifying premiums and copays is an effective strategy for enticing state employees to enroll into an ACO but is not an applicable strategy for changing Medicaid beneficiaries' behavior.

There are also major differences between state employee and Medicaid beneficiaries in factors related to cost, providers, health status, and demographic characteristics. For example, because approximately half of Medicaid beneficiaries are aged under 19 years, Medicaid might be interested in VBP models that impact the cost and quality of services frequently provided to children. In contrast, the agency that covers state employees might be more interested in VBP models targeted to the high-cost services needed by middle-aged adult employees. Indeed, Tennessee did not implement any EOCs related to children's care, but instead implemented those related to conditions such as total joint replacement.

State employees often work in specialized fields or are represented by a labor union, which negotiates employee working conditions, including the extent to which the state can restrict employees' health coverage options. As a result, in Delaware and Washington, it is difficult or impossible to require employees to enroll into their VBP models. Both states established incentives for employees to choose to obtain care through the model. Delaware's incentives included eliminating out-of-pocket costs and reimbursing expenses for visiting a distant facility (i.e., more than 100 miles from the member's home). Washington's incentives consisted of lower premiums and copays. Washington and Delaware also helped promote state employee participation. Washington implemented a targeted marketing campaign to encourage employees who were already seeing ACO-affiliated providers to enroll into the program. Delaware helped identify and market the COE model to state employees who need the covered treatments.

Tennessee needed to heavily modify the parameters of its Medicaid EOC models to better fit the state employee population—changing both the quality measures and shared savings calculations. One TPA representative estimated that the state employee EOCs shared "maybe 60–70 percent of the same DNA as TennCare (the Medicaid agency)" because many of the EOC developed for the Medicaid program did not match common conditions affecting state employees (e.g., asthma and attention-deficit/hyperactivity disorder [ADHD] were prevalent among Medicaid beneficiaries but less so among state employees). Even after these modifications, Tennessee implemented only approximately a quarter of the episodes developed for the Medicaid program in its state employee contracts.

4.3 Sustainability and Future Directions

In all three states, efforts to increase VBP use through state employee contracts continued after the SIM award period. Delaware implemented its COE model in 2020 and, in February 2020, established VBP expenditure targets for state employee coverage. Specifically, by 2023, Delaware aims to pay 40 percent of its expenditures through models that meet the criteria of Category 3 of the Health Care Payment Learning & Action Network (HCPLAN) (models built on a FFS architecture) and 10 percent through models that meet the criteria of Category 4 (population-based payment).[57] After the end of the SIM Initiative, Tennessee gradually increased the number of EOCs in its state employee coverage, going from 10 in 2019 to 12 in 2020. Washington's ACO model enrolled almost 9,000 new people from 2019 to 2020. Washington is also adding to its VBP portfolio by, among other efforts, engaging in a procurement process for new COEs (Washington developed COEs outside of its SIM Initiative).[58]

4.4 Addendum

Exhibit 4-2 provides more in-depth quantitative information for Washington's impact estimates. No impact estimates were prepared for the Delaware and Tennessee initiatives described in this brief.

[57] State Employee Benefits Committee. (2020). *Minutes from the meeting of the State Employee Benefits Committee, February 17, 2002*. https://dhr.delaware.gov/benefits/sebc/documents/2020/0217-minutes.pdf
[58] Washington State Health Care Authority. (2020, August). *Paying for health and value: Health Care Authority's long-term value-based purchasing roadmap*. https://www.hca.wa.gov/assets/program/vbp-roadmap.pdf

Exhibit 4-2. No changes to total spending and favorable changes to emergency department visits for public employees during the first three years of Washington's Accountable Care Network Initiative

Selected outcomes	Change in outcome from baseline to implementation period: WA ACN Initiative	Change in outcome from baseline to implementation period: Comparison group	D-in-D estimate (90% CI)	Relative difference (%)	p-value
Total Spending PMPM ($)	↓	↓	-3.40 (-13.56, 6.75)	-1.2	0.58
ED Visits per 1,000 Population	↑	↑	**-14.38†** (-20.30, -8.46)	-9.2	<0.001
Primary Care Provider Visits per 1,000 population	↓	↓	**-40.70‡** (-7.80, -0.34)	-2.0	0.07
Cervical Cancer Screening (%)	↑	↑	**0.50†** (0.003, 1.00)	0.7	0.10
Breast Cancer Screening (%)	↓	↓	-0.62 (-1.31, 0.06)	-0.8	0.13
Colorectal Cancer Screening (%)	↓	↓	0.16 (-0.81, 1.12)	0.3	0.79
Chlamydia Screening (%)	↑	⊖	2.04 (-0.42, 4.50)	4.6	0.17

† Significant change in expected direction
‡ Significant change in unexpected direction
⊖ No change

↑ Favorable increase
↑ Unfavorable increase
↑ Increase from baseline through implementation

↓ Favorable decrease
↓ Unfavorable decrease
↓ Decrease from baseline through implementation

Notes: Bolded (†) or (‡) D-in-D estimate indicates statistically significant finding. The arrows and circles in the second column graphically display the information from the last three columns of the table.

ACN = Accountable Care Network; CI = confidence interval; D-in-D = difference-in-differences; ED = emergency department; HCA = Health Care Authority; PEBB = Public Employees Benefits Board; PMPM = per member per month; WA = Washington.

Sources: Federal Evaluation Team analysis of WA Medicaid claims data aggregated at the person-year level from the WA State HCA and PEBB member and enrollment data constructed by Milliman and provided by WA state.

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5. Using Medicaid Managed Care Organization Contracting to Increase Use of Value-Based Payment

- Seven SIM states increased the use of value-based payment (VBP) through Medicaid managed care organization (MCO) contracting.
- When selecting their strategy for using MCO contracting to increase VBP use, states considered program objectives, provider readiness for VBP, and scope of VBP activity statewide.
- All seven states continued to use Medicaid MCO contracting to expand and coordinate VBP contracting after the end of their SIM awards.

At the outset of the SIM Initiative, CMMI set a goal that, by the end of 2019, 80 percent of the health care would be delivered in participating states via value-based payment (VBP), measured as a percent of expenditures, percent of providers, or percent of patients. Some states also set their own VBP goals. Washington, for example, set a goal that by the end of 2021, 90 percent of all state-financed health care expenditures and 50 percent of commercial expenditures would flow through a VBP model. These were ambitious goals—the Health Care Payment Learning & Action Network (HCPLAN) estimated that only approximately 38 percent of all health care spending flowed through a VBP model in 2015.[59]

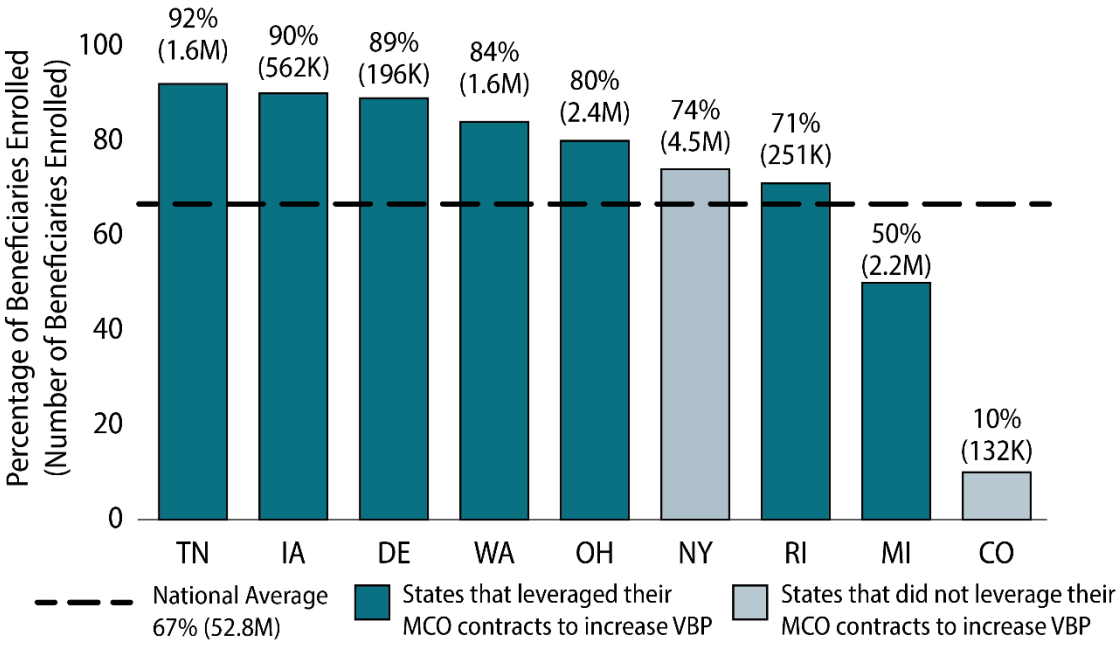
In 2016, which was the first full year of the SIM awards, 67 percent of all Medicaid beneficiaries received their benefits via managed care organizations (MCOs). MCOs are organizations that, under a contract with the state Medicaid agency, accept financial risk for delivery of a comprehensive set of health services. Following the national trend, eight of the 11 SIM states enrolled at least half of all Medicaid beneficiaries into MCOs. Given the high proportion of Medicaid beneficiaries enrolled in MCOs, these eight states needed to work with MCOs to meet their VBP use goals. Seven of the eight states chose to use MCO contracts as a policy lever to increase VBP as part of their SIM Initiative. New York, the eighth state, also chose to use that lever to advance VBP but did so outside of its SIM Initiative. This section presents the approaches, experiences, and lessons learned from the seven states that leveraged their MCO contracts to meet SIM VBP goals. This section's discussion is limited to the strategies that the states identified as SIM related (***Exhibit 5-1***).

By using MCO contracts, these seven states were able to impact the payment models used to deliver services to many beneficiaries and change the flow of Medicaid expenditures. In 2019, the seven SIM states that leveraged their MCO contracts paid approximately $43.5 billion

[59] HCPLAN (Health Care Payment Learning & Action Network). (n.d.). *APM measurement effort results: More than a third of all US health care payments are already flowing through alternative payment models*. https://hcp-lan.org/apm-measurement-effort/

to MCOs, which represented approximately 56 percent of all Medicaid expenditures by those states.[60]

Exhibit 5-1. Seven of the eight SIM states that enrolled half or more of all Medicaid beneficiaries into managed care organizations in 2016 leveraged their contracts to meet SIM value-based payment goals



Notes: Neither CT, nor ID contracted with MCOs in 2016; NY also used its MCO contracts to increase VBP use but did so outside of the SIM Initiative.

CO = Colorado; CT = Connecticut; DE = Delaware; IA = Iowa; ID = Idaho; K = thousand; M = million; MCO = managed care organization; MI = Michigan; NY = New York; OH = Ohio; RI = Rhode Island; SIM = State Innovation Models; TN = Tennessee; VBP = value-based payment; WA = Washington.

Source: Kaiser Family Foundation. (n.d.). *Total Medicaid MCO enrollment.* https://www.kff.org/other/state-indicator/total-medicaid-mco-enrollment/?currentTimeframe=2&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D

5.1 States' Approaches

The seven states can be divided into two groups based on whether they used a delivery system model oriented or spending goal oriented strategy to leverage their MCO contracts to increase VBP use (***Exhibit 5-2***). As discussed later in this section, Michigan ultimately used both strategies.

[60] Kaiser Family Foundation. (n.d.). *Total Medicaid MCO spending*. https://www.kff.org/other/state-indicator/total-medicaid-mco-spending/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D

Exhibit 5-2. All seven states that used managed care organization contracting to increase value-based payment use as part of their SIM Initiative reported success

	Model-Oriented VBP (Progress measured in % population)					Goal-Oriented VBP (Progress measured in % spending)		
State	MI	IA	OH	TN	RI	MI	DE	WA
Targeted model/ spending	PCMH	ACO	PCMH, EOC	PCMH, Behavioral Health Home, EOC, LTSS	PCMH	MCOs set own goals subject to Medicaid agency approval	20% for 2018; annual increases until reaching 60% for 2022	30% for 2017; annual increases until reaching 90% for 2021
HCP-LAN category	2c	3	3	Varied by reform	2c	3–4	2–4	2c–4
Year MCO contract first modified to implement SIM VBP strategy	2019	2016	2016	2015	2015	2016	2018	2017
Progress toward the 80% VBP goal among targeted population/ spending	N/A	50%	75%	100%	100%	N/A	25%	75%

Notes: HCPLAN categories: Category 1: FFS, no link to quality and value; Category 2: FFS link to quality and value; Category 2c: FFS link to quality and value, pay for performance; Category 3: APM built on FFS architecture; and Category 4: population-based payment.

"Progress toward 80%" categories: 25% = evidence of 20–39% targeted population/spending in VBP; 50% = 40–59% targeted population/spending in VBP model; and 75% = 60–79% targeted population/spending in VBP; 100% = 80% targeted population/spending in VBP.

When a state reported separate VBP usage for different VBP models, progress was measured based on the largest of those numbers.

ACO = accountable care organization; APM = alternative payment model; DE = Delaware; EOC = episode of care; FFS = fee for service; HCPLAN = Health Care Payment Learning & Action Network; IA = Iowa; LTSS = long-term services and supports; MCO = managed care organization; MI = Michigan; OH = Ohio; PCMH = patient-centered medical home; RI = Rhode Island; SIM = State Innovation Models; TN = Tennessee; VBP = value-based payment; WA = Washington.

Sources: Federal Evaluation Team review of state documents, state MCO contracts, SIM final reports, and Medicaid agency program updates.

5.1.1 Value-based payment as part of state-level delivery system reforms

Iowa, Michigan, Ohio, Tennessee, and Rhode Island chose to modify their MCO contracts to support implementation of one or more delivery system reforms by aligning payment policies across all MCOs, an approach referred to in this section as "model oriented VBP." These five states also established other requirements critical to administering the reform in contracts, such as patient-centered medical home (PCMH) qualification standards. These states defined a separate payment model for each reform, but all of the payment models defined by these states were VBP models (for more information about specific models, see ***Section 1****, Patient-Centered Medical Homes*, and ***Section 2****, Episodes of Care*). States' leadership's priority was to improve specific components of the delivery system (e.g., improving primary care by implementing PCMHs). States chose a model-oriented approach because they believed that it would most effectively incentivize providers' performance improvements and could achieve the maximum effect by requiring and standardizing how all Medicaid MCOs paid providers.

> "… because it [VBP model participation] was mandatory for the managed care plans to do, while there were challenges, I think it's forced them to think differently and maybe even approach providers differently. I think it forced this new way of thinking across the [Medicaid] enterprise, as well as the managed care plans … I think ultimately they saw value out of the work that we did."
>
> —Ohio state official

Ohio offers an example of this model oriented VBP approach. Ohio amended its MCO contracts to require all MCOs to support implementation of its SIM-funded PCMH and episode of care (EOC) reforms. The contracts included the requirement to pay all PCMH practices via the same VBP model. The Medicaid agency specified how MCOs were to attribute beneficiaries to PCMH practices, activities needed to complete to qualify for payment (e.g., follow-up after hospital discharge[61]), and which performance metrics factored into payment. The required EOC support included similarly detailed specifications, including the requirement to pay all providers designated as the responsible provider for an EOC by using the same VBP model. The Medicaid agency supplies providers participating in both reforms with quarterly reports showing provider performance on the specified cost and quality metrics, as well as other information needed to improve performance. Making participation in PCMH and EOC mandatory for MCOs helped greatly increase VBP usage statewide.

[61] Ohio defined "follow-up after hospital discharge" to mean that the practice has established relationships with all emergency departments and hospitals from which it frequently receives referrals and has an established process in place to ensure a reliable flow of information. Source: Ohio Department of Medicaid. (2020, December 31). *Ohio Comprehensive Primary Care: 2021 program overview*. https://medicaid.ohio.gov/static/Providers/PaymentInnovation/CPC/CPC-Program-Updates.pdf

5.1.2 Program-wide value-based payment spending goals

Delaware, Michigan, and Washington sought to increase VBP by establishing goals for the proportion of MCO Medicaid payments that flow through VBP models that met specific criteria. This approach is referred to in this section as "goal-oriented VBP." The VBP model criteria addressed only payment reform—not delivery system reform. These states' leadership sought to improve the delivery of care, but believed that the most effective approach would be to establish performance goals for both VBP and quality but then allow MCOs the flexibility to determine how to achieve those goals. This approach enabled MCOs to offer different VBP models to the same type of provider (e.g., primary care providers) and to move individual providers along the VBP continuum with their growing capabilities to manage their patient panels, conduct data-driven quality improvement, and manage financial risk. The purpose of including the quality goals in the VBP requirements was to foster alignment across MCOs. Although MCOs would implement different VBP models, the models would seek to improve performance on the same measures of quality. In keeping with their emphasis on goals, these states did not require MCOs to use these quality metrics in their VBP arrangements with providers, but rather, held the MCO itself accountable for care quality performance. Finally, all three states reinforced both the spending and quality performance goals with financial incentives.

> "We do use the [common measure] set in our VBP contracts with providers and … they are heavily linked to the withhold measures, those that are called out. They are part of the measure set, but they have significant [financial] implications and therefore they tend to get built into those value-based agreements, to the extent that it's serving a population that makes sense for that provider partner."
>
> —Washington MCO representative

Delaware offers an example of this goal-oriented VBP approach. In its 2018 MCO contract, Delaware used a two-part strategy that required MCOs to achieve performance goals for both VBP expenditures and quality metrics. The state described three specific types of VBP models that could be implemented, but MCOs could also propose other VBP models to count toward the VBP spending goals. (Although Delaware did not explicitly reference the Alternative Payment Model [APM] Framework,[62] the states' payment model descriptions parallel Categories 3 and 4 of the APM Framework.) The spending goal increased each year until 2022 when it reached 60 percent of Medicaid spending. MCOs were also required to meet performance goals for quality metrics. In 2018, the Medicaid agency specified seven quality metrics for this aspect

[62] The HCPLAN developed the APM Framework to standardize definitions and classifications of payment models. The APM Framework defines four categories and eight subcategories of payment models along a continuum from fee for service (Category 1) to population-based payment (Category 4). Each category represents a step away from paying for volume and toward paying for value. VBP is generally considered to be any model that meets criteria for APM Categories 2 through 4. Source: HCPLAN (Health Care Payment Learning & Action Network). (2017, July 11). Alternative Payment Model (APM) Framework white paper: Refreshed 2017. https://hcp-lan.org/apm-refresh-white-paper/

of its VBP strategy, three of which were drawn from a common scorecard developed with SIM funding. Failure to meet either the spending or quality goals could result in a financial penalty of up to 1 percent of the MCOs net revenue for all Medicaid beneficiaries covered under the contract—meaning that a total of 2 percent of net revenue was at risk.[63]

5.2 Cross-State Lessons

5.2.1 Choice of strategy

Each state's choice of strategy considered multiple factors, the most salient being the state leadership's priorities for delivery system transformation. Specifically, state leadership considered whether to support delivery system reforms that sought to improve a specific component of the delivery system (e.g., primary care) or to increase use of VBP throughout the Medicaid program.[64] States also built on previous efforts to reform the delivery system. Rhode Island, for example, adapted a VBP model that it used for adult PCMH for use in its Patient-Centered Medical Home-Kids (PCMH-Kids) reform. Medicaid officials also recognized the importance of setting realistic expectations and the readiness of Medicaid providers to operate successfully in a value-based landscape, including their experience with quality improvement and panel management.

States also considered their MCOs' established use of VBP in commercial, Medicare, and Medicaid markets. States officials, including those using a model-oriented VBP strategy, recognized the need for flexibility to enable MCOs and providers in negotiating payment. Iowa, for example, stated that its objective was to support Medicaid accountable care organizations (ACOs) but did not provide many guidelines. The state only specified that MCOs had to have 40 percent of their members in a VBP arrangement by 2018 and that the VBP arrangement had to address provider performance as measured by the Value Index Score (VIS)[65] and total cost of care (TCC) metrics. Late in their SIM Initiative, at the request of both providers and MCOs, Iowa removed the requirement to use the VIS.

> "From that perspective [goal-oriented VBP], the state hit a home run. They have brought all the plans along. They have been astronomical in bringing resources in and teaching us and training us and doing focus groups and having us report … We have brought a lot of groups on [into VBP] as part of that initiative."
>
> —Michigan MCO representative

[63] Delaware Health and Social Services, Division of Medicaid and Medical Assistance. (2017, December 19). *2018 MCO Master Service Agreement*. https://dhss.delaware.gov/dhss/dmma/files/mco_msa2018.pdf
[64] Reminder: This section refers to VBP requirements in support of a state-defined delivery system reform as "model-oriented VBP," and requirements to achieve VBP expenditure goals are referred to as "goal-oriented VBP."
[65] The VIS is a proprietary tool that generates a composite quality score based on provider (ACO) performance.

5.2.2 Value-based payment use increased

All seven states reported that their efforts made progress toward increased VBP usage (***Exhibit 5-3***). The five states that chose the model-oriented VBP strategy reported that the specified VBP model paid for a large portion of Medicaid beneficiaries' services. Among the three states that pursued goal-oriented VBP, both Delaware and Washington reported substantial increases in the portion of Medicaid spending flowing through VBP models. Michigan has not publicly reported its results. Although other factors also likely contributed, stakeholders in both groups of states reported that the contractual requirements were critical to that success.

5.2.3 Timing of contract requirements

Four out of the five states that selected the model-oriented VBP strategy (all but Michigan) had established their VBP payment requirements by 2016. Michigan established PCMH payment requirements in 2016 but the payment model was not a VBP model. In contrast, the three states that chose to seek goal-oriented VBP all established their requirements after 2016. Michigan amended its 2017 contract (effective October 2016–September 2017) to gather baseline data, and then subsequently amended its 2018 contract to require that the MCOs draft multi-year strategic plans for Medicaid agency approval that included VBP goals.

This difference in implementation dates likely stems from multiple factors. Most obviously, the four states that were pursing model-oriented VBP all selected the specific delivery system reforms (e.g., EOC) they planned to make during preparation of the SHIPs each developed with SIM model design funding in 2013 or 2014.[66] In other words, the states had secured MCO and provider buy-in to the VBP model before receiving their SIM award. This enabled these states to move quickly to amend their contracts and ensured that all parties entered contract negotiations with a common understanding of the model—and where there might be room for negotiation on model specifics. With this platform in place both Tennessee and Rhode Island were able to modify their MCO contracts to support their reforms before receiving their SIM model test awards.

[66] RTI International. (2014, July 25). *State Innovation Models (SIM) Initiative evaluation: Model design and model pre-test evaluation report.* https://downloads.cms.gov/files/cmmi/SIM-Round1-ModelDesign-PreTest-EvaluationRpt_5_6_15.pdf

Exhibit 5-3. Selected evidence of managed care organization contract requirements' effects on value-based payment usage

Selected evidence of effect is as follows:

- **Delaware:** All MCOs increased use of VBP during 2018; largest MCO moved 30% of members across all lines of business to a VBP model.
- **Iowa:** At the end of SIM award, the proportion of Medicaid providers participating in SIM-aligned VBP was close to 57%. At the start of the SIM Initiative, these models did not exist.
- **Michigan:** MCOs set VBP goals in 2018.
- **Ohio:** For 2021, more than 61% of beneficiaries were attributed to Medicaid PCMH practices that received VBP. This model did not exist before the SIM Initiative.
- **Rhode Island**: About 80% of Medicaid enrolled children attributed to PCMH being paid via associated VBP model by 2019. This model did not exist before the SIM Initiative.
- **Tennessee:** All Medicaid beneficiaries residing in nursing facilities are receiving LTSS services through a VBP model; all beneficiaries would receive services under the EOC-associated VBP model if that condition had an EOC; 47% of beneficiaries attributed to a behavioral health home; and 37% of beneficiaries attributed to a PCMH. These models did not exist before the SIM Initiative.
- **Washington:** Increased percent of MCO expenditures made via VBP from 28% in 2016 to 73% in 2019.

Note: EOC = episode of care; LTSS = long-term services and supports; MCO = managed care organization; PCMH = patient-centered medical home; SIM = State Innovation Models; VBP = value-based payment.

Sources: Federal Evaluation Team review of SIM Initiative reports and state documents.

In contrast, the states that chose a goal-oriented VBP strategy often launched their SIM Initiatives with MCO and provider buy-in but without specific performance requirements. These states found that they had to work with MCOs and providers to develop a common understanding of which VBP models would meet state criteria. The APM Framework, which offered a common language for describing and classifying VBP models, was instrumental to this effort. Both Michigan and Washington based their VBP criteria in the APM Framework categories and, as previously described, Delaware's criteria paralleled the APM Framework. In addition, Delaware, the last of the seven states to add VBP requirements to its MCO contracts, only added these requirements after initial efforts failed to encourage many MCOs to use VBP.

5.2.4 Using both strategies

States often have more than one goal. Michigan's SIM Initiative, for example, sought both to advance the PCMH model (a delivery system reform) and to increase the amount of Medicaid spending flowing through VBP models. The state implemented two separate MCO contracting strategies to support these goals. One contract change, implemented in 2017, required MCOs' to pass-through state Medicaid payments to PCMHs using a common PMPM payment model defined by the state.[67] A second change, implemented in 2016, set a requirement for MCOs to measure and report baseline data on their use of VBP throughout their Medicaid

[67] The PCMH payment model developed in 2016 was FFS plus a PMPM payment that was not linked to quality and value (i.e., not a VBP model). In 2019 Michigan modified the model to add a link to quality and value, thus evolving the model into one that met the criteria for Category 2c of the APM Framework.

line of business, negotiate with the Medicaid agency to establish individual VBP spending goals, and develop a strategy for meeting those goals. The state withheld a portion of MCO capitation payments that could be earned as a bonus payment if the MCOs met their VBP spending goals. This second change was delayed because the MCOs and the state had trouble agreeing on the types of baseline data the MCOs needed to report. As the SIM award wound down in 2019, Michigan decided to leverage its goal-oriented VBP strategy to help it maintain its PCMH delivery system reform. Effective January 1, 2020, MCOs were required to incorporate the PCMH model into their plans for increasing VBP use.[68]

5.2.5 Using managed care organizations contracting as a lever to achieve other SIM goals

Although this section focused on how states used their MCO contracts as a lever to increase VBP, these states also used that lever to achieve many other SIM goals. Two examples from previous sections of this report illustrate this point.

Section 2*, Episodes of Care,* described the different amounts of responsibility for operating the model that Ohio and Tennessee assigned to their contracted MCOs. Ohio Medicaid contractually required the MCOs to pay incentives and collect penalties from providers. However, the agency did not assign the MCOs a very active role in the model's operation and, in later years, the agency reduced the already limited MCO role when it began producing all performance reports centrally instead of requiring the MCOs to produce the reports. Like Ohio, Tennessee required MCOs to pay incentives and collect penalties. Unlike Ohio, Tennessee did assign MCOs an active role in other aspects of model operation. For example, each MCO was required to produce quarterly reports, provide both learning collaboratives to providers and individual technical assistance to poor performers, and set the commendable threshold limit. As reported in that section, at the end of the SIM Award period there were indications that providers in Tennessee had changed the way they delivered care in response to the EOC model but those in Ohio had not.

Section 3*, Integrating Behavioral Health,* described how, via its Integrated Managed Care (IMC) model, Washington used MCO contracting to improve access to behavioral health providers and increase BHI. The MCO contract developed by this state to implement IMC included numerous provisions designed to achieve those goals. Provisions established requirements for, among other things, behavioral health network adequacy, care coordination, screening for behavioral health conditions, and bi-directional clinical BHI. The Medicaid agency also tied MCO payment to performance on quality metrics, including those measuring performance in the delivery of behavioral health services.

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[68] State of Michigan. (n.d.). *Comprehensive Health Care Program for the Michigan Department of Health and Human Services*. https://www.michigan.gov/documents/contract_7696_7.pdf, page 29.

As reported in that section, the model-specific analysis of Washington's IMC model compared the experience of beneficiaries with behavioral health conditions who were enrolled in MCOs delivering IMC (IMC MCOs) with that of similar beneficiaries who were enrolled in non-IMC MCOs. That analysis found indications that IMC MCOs may have increased access/coordination for both physical/behavioral health for SMI population with multiple complex conditions. The analysis also found that although total per beneficiary per month spending increased for both the IMC and the comparison group, there was no significant difference in the rate of increase between the two groups. This indicates that the increased access and coordination may have been accomplished without increasing the total spending associated with serving MCO enrollees with behavioral health conditions.

5.2.6 Value-based payment use in non-Medicaid markets

Washington also leveraged its MCO contracts to support and track VBP in non-Medicaid markets. Washington tracks VBP uptake by plans and providers through an annual survey it has conducted since 2016 (for 2015 experience). This state leveraged its MCO (and state employee coverage) contracts to secure broad participation by health plans for all lines of business. Specifically, in 2017, Washington modified its contracts to require Medicaid MCOs with other lines of business to report VBP activity for those products in addition to their Medicaid products. All contracted MCOs have reported their Medicaid, Medicare Advantage, and commercial VBP usage since that time, thereby enabling Washington to create a comprehensive view of VBP usage statewide.

5.3 Sustainability and Future Directions

After the end of their SIM awards, all seven states continued to use Medicaid managed care contracting as a vehicle to expand and shape VBP activity statewide. The five states that implemented a model-oriented VBP strategy continued to operate, and in some cases expand, the delivery system reforms, including the reform's associated VBP model. The three states that implemented a goal-oriented strategy (i.e., Delaware, Michigan, and Washington) all continued to work toward their VBP expenditure goals. Washington, for example, issued both 2019 and 2020 VBP survey results after the end of the SIM Initiative.

The states using the goal-oriented strategy also continued to evolve their VBP goals and contract requirements. In 2020, Michigan strengthened its MCO contract requirements to sustain the activities put in place under the PCMH component of the SIM initiative. For the 2022 reporting period (October 2021–September 2022), MCOs must make at least 30 percent of health care service reimbursements under VBP with at least 1.5 percent of that reimbursement as a provider incentive (e.g., shared savings).[69] During 2020, Washington announced that it planned

[69] State of Michigan. (n.d.). *Comprehensive Health Care Program for the Michigan Department of Health and Human Services*. https://www.michigan.gov/documents/contract_7696_7.pdf

to update its VBP spending goals for 2022–2025,[70] perhaps by introducing provider-specific goals or establishing spending goals for more advanced VBP models (e.g., Categories 3 and 4 of the APM Framework).

Finally, almost all states modified their requirements due to the coronavirus disease 2019 (COVID-19) pandemic. For example, Tennessee made multiple changes, including incorporating a person-centered innovations incentive into its VBP model for nursing facilities. This new incentive rewards nursing facilities that establish "a person-centered innovations initiative to increase opportunities for residents to participate safely in social activities in the facility, maintain communication with family members and friends outside the facility, and reduce social isolation."[71]

[70] Washington State Health Care Authority. (2020, August). *Paying for health and value: Health Care Authority's long-term value-based purchasing roadmap 2022–2025*. https://www.hca.wa.gov/assets/program/vbp-roadmap.pdf

[71] Tennessee Division of TennCare. (2020, September 22). *Memo: Adjustments for QuILTSS #3 submission processes in light of the COVID-19 public health emergency*. https://www.tn.gov/content/dam/tn/tenncare/documents/QuILTSS13Memo.pdf

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6. Accelerating Value-Based Payment by Engaging Payer and Provider Stakeholders

- To increase overall prevalence of value-based payment (VBP) models statewide, SIM states used strategies that encouraged commercial payers to increase their own VBP model offerings.
- Less frequently, SIM states achieved alignment on some aspect of VBP models (payment structure, quality measures) or the design of a model itself, despite smaller primary care practices' concern about managing transformation for payer-specific VBP models.
- Payer and provider feedback on VBP models led to design changes that facilitated provider adoption and model sustainability.

In describing the work states would do under the SIM Initiative, CMMI stated that "award recipients [will] engage a diverse group of stakeholders, including public and commercial payers, providers, and consumers, in order to develop or implement a state innovation plan … to use all available levers to transform its health care payment and delivery system through multi-payer reform and other state-led initiatives."[72] Indeed, each state's SIM leaders dedicated SIM award funds to engage these stakeholders, taking advantage of the rare opportunity to have resources specifically for this purpose. As a result, the SIM Initiative offers lessons for other state policymakers in working to achieve multi-payer reform across commercial payers—who are often in competition with each other. Specifically, states sought to increase the prevalence of value-based payment (VBP) models across multiple payers, with payment as one tool for facilitating delivery transformation.

In addition to increasing VBP models across payers, provider engagement with (and acceptance of) VBP models is a critical pathway toward increasing the extent to which more care is paid through VBP, since participation in these models is usually voluntary for both providers and payers. State policy makers' interest in increasing VBP participation is driven in part by federal efforts set higher goals for the total percentage of health care dollars linked to quality and value through alternative payment models.[73]

This section describes how SIM state officials encouraged commercial payers to offer VBP models under their commercial lines of business (in Delaware, New York, Ohio, Rhode Island, Tennessee, and Washington), or coordinated commercial payers around existing efforts to increase collaboration (Colorado). This section also describes how providers gave input about the development or refinement of a VBP model that was a core accomplishment of their state's SIM Initiative (in Connecticut for their Medicaid-only Person-Centered Medical Home Plus

[72] CMS (Centers for Medicare & Medicaid Services). (2021, May 4). *State Innovation Models Initiative: General information*. https://innovation.cms.gov/innovation-models/state-innovations

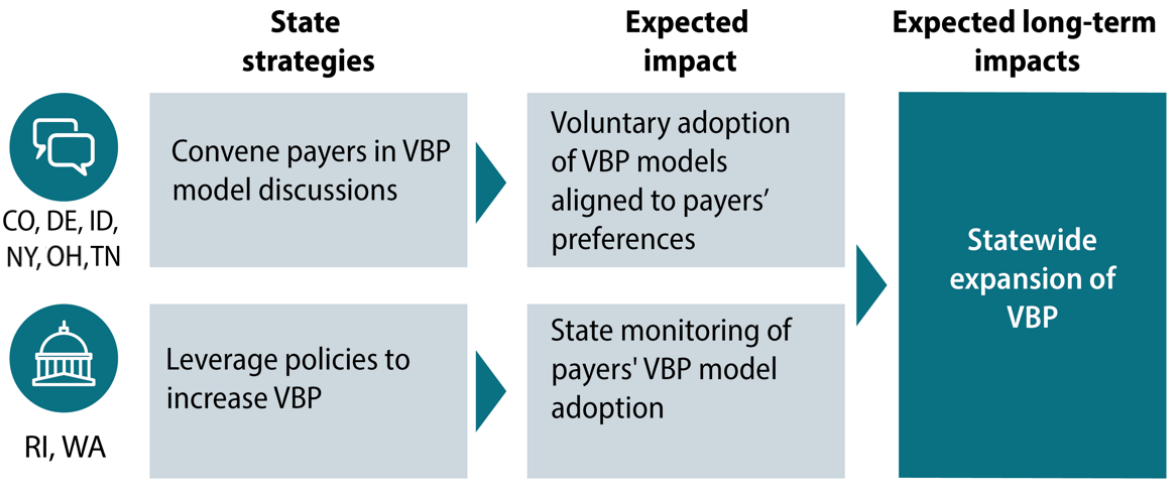
[73] Measuring the percentage of health care payments that meet these criteria over time, the federally supported Health Care Payment Learning & Action Network reports an increase from 23 percent in 2015 to 36 percent in 2018 nationwide. For more information, see slide 5, https://hcp-lan.org/2021-roadshow-deck/

[PCMH+] model, New York for the New York State patient-centered medical home [NYS PCMH], Ohio and Tennessee for their episodes of care [EOCs] and primary care-based models, Rhode Island for Patient-Centered Medical Home-Kids [PCMH-Kids], and Washington for its Federally Qualified Health Center [FQHC] model). Other types of policy levers to increase VBP model uptake are discussed in other sections (i.e., ***Section 4***, *State Employee Coverage;* ***Section 5***, *Medicaid MCO Contracting;* and ***Section 7***, *Quality Measures*). States also sought input from consumers and advocates about delivery transformation and VBP models (for more information, see ***Appendices A–K***).

6.1 State Approaches to Engage Commercial Payer Stakeholders

States engaged commercial payer stakeholders by establishing multi-stakeholder committees to seek commercial payers' voluntary offerings of their own VBP models (common) or multi-payer alignment regarding some aspects of a VBP model (less common). Some states tried to use policy levers beyond convening committees to accelerate VBP offerings among commercial payers (see ***Exhibit 6-1*** for an illustration of state strategies and expected impacts), though the states also convened payers to gather input and buy-in alongside the policy levers.

Exhibit 6-1. SIM Model Test states used multi-stakeholder committees and policy levers to expand value-based payment among commercial payers



Notes: MI attempted to use Medicaid managed care contracting (purchasing power) to influence contracted health plans' VBP model design in their commercial line of business, but was not ultimately successful.
CO = Colorado; DE = Delaware; MI = Michigan; NY = New York; OH = Ohio; RI = Rhode Island; SIM = State Innovation Models; TN = Tennessee; VBP = value-based payment; WA = Washington.

Sources: Federal Evaluation Team review of interviews, focus groups, and state documents.

6.1.1 Flexibility in model implementation

Colorado, Ohio, Tennessee, and Idaho achieved robust commercial payer participation in SIM-led discussions about increasing VBP model offerings, and Washington supported VBP model offerings by commercial payers through definition and reporting. To a large extent, these states achieved this level of commercial payer participation by allowing payers to choose VBP model payments and structures according to their own preferences (e.g., in Tennessee, not requiring downside risk in the EOC model implemented by commercial payers). This approach had the advantage of increasing commercial payer engagement in planning for and implementing VBP models, but the disadvantage of increasing the variability of—and thus provider time in navigating—models offered.

> "Our organization has been a strong supporter of it [the Multi-Payer Collaborative]. All of the health plans have participated in earnest and it's just been a really good thing … there's a lot of authentic support for it. It is not formalized; it's really just a voluntary collaborative convened to support payers' own programs and to leverage these federal programs that have been coming along."
>
> —Colorado commercial payer representative

For example, starting in 2013, Colorado convened its Multi-Payer Collaborative as part of its statewide participation in the federally led Comprehensive Primary Care initiative (CPCi). After receiving the SIM award, participating payers in the Multi-Payer Collaborative agreed to support primary care practices participating in SIM-funded practice transformation through their own existing VBP models or through a new model developed for the SIM Initiative. Stakeholders noted that a voluntary approach secured the engagement and involvement of commercial payers in discussing potential payment models to primary care practices for integrated behavioral health (IBH). However, primary care practices expressed frustration that an explicit payment model for the IBH activities they implemented did not emerge from these discussions (for more information on issues involved, see ***Appendix A****, Colorado*).

For its PCMH and EOCs models, Ohio had established Multi-Payer Charters in 2013. The charters identified areas in which, voluntarily, commercial payers could standardize versus innovate in their VBP models. Four commercial plans in Ohio agreed to align on principle (not on implementation details), for a small number of EOCs. Yet, even as Medicaid implemented EOCs statewide, individual commercial plans had used few or no EOCs as of August 2019. Regarding Ohio's PCMH model, prior to the SIM Initiative, Medicaid and some commercial payers were already involved in regional participation in CPCi. The state had convened commercial payers in developing its own statewide PCMH model adopted by Medicaid. That model then became Ohio Comprehensive Primary Care (Ohio CPC) model, and was later aligned where possible with Comprehensive Primary Care Plus (CPC+). Similar to Colorado, statewide participation in CPC+ in 2017 may have been useful in engaging commercial payers: payer and

provider stakeholders credited the state's participation in CPC+ for advancing transformation in their state.

Colorado and Tennessee were able to achieve alignment on elements of the VBP models. Specifically, multi-payer collaboration in Colorado sought alignment regarding requirements for quality measure reporting and practice transformation milestones, but not a VBP model itself (see ***Section 7**, Quality Measures*). Tennessee implemented a large set of EOCs statewide in Medicaid and solicited intensive input from a large group of stakeholders to design the EOC model with the intent that it would be used by both Medicaid and commercial payers. Tennessee had initially planned to mirror the risk and gain sharing with EOCs that it had in its Medicaid program, but strong stakeholder input convinced the state to remove downside risk for providers. By January 2021, commercial payers had implemented 12 EOCs (see ***Section 2**, Episodes of Care*).

In Idaho and Washington, commercial insurers showed strong interest in developing their own VBP models, which these states harnessed by implementing infrastructure to track and measure VBP offerings overall, rather than to align specific VBP models across payers. Commercial payer representatives in Washington reported that they recognized the benefits of pursuing greater VBP model adoption. Using its statewide leadership role, the Washington State Health Care Authority set consistent definitions for VBP arrangements, surveyed commercial payers annually about VBP offerings that met those definitions, and created a state *VBP Roadmap* with state goals and future directions. Washington exceeded its goal of 50 percent of commercial payers' payments to providers paid under VBP arrangements (64 percent reported in 2019).[74] Similarly, in Idaho, although commercial payers did not align around a common measure set or payment model, they implemented their own models and established the Healthcare Transformation Council of Idaho (HTCI) to focus on increasing VBP model participation overall as defined by Health Care Payment Learning & Action Network (HCPLAN) categories, rather than participation in a specific VBP model. However, the efficacy of the HTCI in the state to increase voluntary VBP model uptake among payers and providers in the post-SIM award period is still to be seen.

Delaware's experience serves as a counter-example to the success that some states realized in increasing commercial payers' VBP model offerings voluntarily. Delaware's SIM Initiative supported a public–private collaborative, the Delaware Center for Healthcare Innovation, in producing a consensus-based framework for VBP adoption, which encouraged payers to design their own VBP arrangements. However, commercial payers were slow to expand VBP models, citing as barriers the strong negotiating position of large health systems and a lack of readiness for VBP by primary care practices. Late in the award period, commercial

[74] Washington State Health Care Authority. (2020, August). *Paying for health and value: Health Care Authority's long-term value-based purchasing roadmap 2022–2025*. https://www.hca.wa.gov/assets/program/vbp-roadmap.pdf

payers reported making some progress with VBP contracting and predicted that progress would continue after the SIM award period.

6.1.2 Regional commercial payer collaboration for alignment

New York was the only state to take a regional approach to commercial payer collaboration because of high regional market variation. For its SIM Initiative, New York's state officials convened a Statewide Steering Committee, and, at first, tried to develop a statewide model that multiple commercial payers would support. However, due to the varied commercial payer regional market (some areas are very competitive, and some are dominated by a single payer), by late 2016, New York's SIM Initiative established three regionally based committees (Regional Oversight Management Committees [ROMCs]) to achieve voluntary commercial payer alignment of a VBP model to support practices that adopted the state's PCMH standard. SIM funds supported the staffing of these committees in the Hudson Valley and Capital District, New York City and Long Island, and Finger Lakes, and later a fourth in the Buffalo area. Without exception, payers believed that the ROMCs were an important development in the state.

Commercial payers in three of the four regions collaboratively targeted practices to which they would provide financial support through the process of NYS PCMH certification, which requires VBP model participation. The rationale among payers was that for these targeted practices, which tended to be small practices, financial incentives from only one payer may not be sufficient to undertake NYS PCMH certification, but multi-payer alignment could make certification more feasible. In these regions, participating payers aligned in the metrics they chose from a standard core of primary care performance metrics.

> "In general, I think the positive that has come out of them [ROMCs] is just bringing the payers together. It's been a great forum and information exchange that historically you don't find between payers. They're competitors, they're at odds, and this has been great to have a common goal that they can all talk about and agree to in one place. That's been really beneficial."
>
> —New York commercial payer

As a result of the regional approach in New York, payers had more flexibility in deciding payment approaches and identifying target practices based on the local market conditions (e.g., the level of VBP adoption among primary care practices). The extent of payer alignment differed by region. For example, payers in some regions decided to offer financial support to practices while they worked toward NYS PCMH certification. Some payers aligned with each other in the VBP model payment structure and amount offered. Representatives from payers who participated in these ROMCs praised the state for offering opportunities for high-level collaboration. The state insurance regulator's attendance at ROMC meetings and other SIM efforts may have also contributed to payers' willingness to engage in this type of collaboration.

6.1.3 Leveraging state policy actions

SIM states tested two policy approaches beyond the convening and voluntary alignment. First, Washington and Rhode Island monitored the extent of VBP payments made by commercial payers. Each state used different types of state policy actions to bring commercial payers into discussions about advancing VBP models—purchasing power and pre-SIM insurance regulation, respectively—in addition to convening payers for their input. The use of these policy actions resulted in achieving synergy between SIM-supported VBP models and the state's goals for increasing VBP participation. Second, Michigan sought to use Medicaid managed care contracting to influence commercial payer VBP offerings, which was not as effective to expand VBP models.

Washington used purchasing power as a key policy action to advance VBP models. By 2020, the Washington State Health Care Authority mandated that third-party administrators of the Uniform Medical Plan (UMP), which is the state employee health plan, offer options to its other customers (i.e., through commercial health plans, self-insured employers) similar to the SIM-designed Accountable Care Network. As an added incentive to increase VBP model offerings, effective January 1, 2020, 4 percent of administrative fees paid to these UMP third-party administrators were newly tied to achieving targets for offering VBP models broadly (that meet HCPLAN Category 2c or higher) across their entire book of business.[75]

Rhode Island's Office of the Health Insurance Commissioner regulates commercial insurers' adoption of VBP models, including leveraging affordability standards that require insurers to invest in primary care, and sets annual targets for PCMH and alternative payment (VBP) model participation.[76] The target for commercial payer payments made through VBP arrangements since 2018 has been 50 percent; as of 2018, the state achieved a rate of approximately 46 percent of payments made through VBP arrangements. The state's SIM-supported VBP model—PCMH-Kids—aligned Medicaid and commercial payers, whose participation expanded the program to cover half of the commercially insured pediatric population and more than 80 percent of children enrolled in Medicaid by the end of the SIM Initiative – thus leveraging this SIM-supported model to increase commercial payers' use of VBP arrangements.

Less successfully, Michigan attempted to use another policy lever, Medicaid managed care contracting requirements (see ***Section 5****, Medicaid MCO Contracting*), in hopes that the same health plans with products in both the Medicaid and commercial markets would adopt

[75] Request for proposals for UMP third-party administrators, page 128.
[76] For more information about the affordability standards, see Office of the Health Commissioner, State of Rhode Island. (2021). Reform and policy—Affordability standards. http://www.ohic.ri.gov/ohic-reformandpolicy-affordability.php

similar VBP models within their commercial lines of business. This approach was not effective in influencing commercial payers to expand their VBP model offerings.

6.2 State Responses to Provider Feedback

Being receptive to providers' feedback on specific VBP models can help states expand or sustain providers' VBP model participation. In Washington, the co-creation between Medicaid and FQHCs of a new VBP model led to positive changes in care delivery, as noted by FQHCs. In some states, state officials and health plans received substantial, negative feedback from providers over the course of implementation regarding the limitations of VBP models. Providers described problems that threatened their continued participation and the sustainability of VBP models. State officials or payers did not change in some cases (e.g., in response to concerns about the incentive amount allocated to practices on a per person per month basis for practice transformation), yet five states (Connecticut, New York, Ohio, Rhode Island, and Tennessee) made modifications in implementing payment and delivery system models (see ***Exhibit 6-2***).

Exhibit 6-2. States made changes to payment and delivery model based on provider feedback

- **Connecticut** changed attribution methods for its Medicaid PCMH+ program, leading to improved financial support to providers that increased program acceptance.
- **New York** aligned its VBP model with NCQA recognition standards, improving alignment in VBP transformation activities already underway in the state.
- **Ohio** developed CPC for Kids in part because of feedback that patient attribution and payment methodologies associated with the state's CPC adult model were a poor fit for the pediatric population.
- Medicaid and commercial plans in **Rhode Island** reduced the burden of administrative requirements for PCMH-Kids.
- Providers in **Tennessee** became more accepting of the EOC model after changes were made, including eliminating downside risk sharing in commercial payers' 12 EOCs and pausing the number of EOCs implemented by Medicaid at 48 so that the state could focus on quality enhancement of the existing measures.

Note: CPC = Comprehensive Primary Care; EOC = episode of care; NCQA = National Committee for Quality Assurance; PCMH+ = Person-Centered Medical Home Plus; PCMH-Kids = Patient-Centered Medical Home-Kids; VBP = value-based payment.

Sources: Federal Evaluation Team review of interviews, focus groups, and state documents.

6.2.1 Improved operationalization

States that made changes based on provider feedback often improved the operationalization of their VBP models. For example, providers in Connecticut noted that the method for attribution to Medicaid's PCMH+ program in Wave 1 implementation dropped a significant proportion of beneficiaries who became ineligible for Medicaid, even if only for a short time. By correcting the process (i.e., maintaining attribution to providers for beneficiaries whose eligibility status was reinstated within a 120-day period), providers participating in the

PCMH+ program saw positive financial changes, contributing to their sustained support for the program.

Provider feedback also had an impact on VBP model development for pediatric practices in Ohio and Rhode Island. Pediatric practices noted that Ohio CPC patient attribution and payment methodology was poorly suited to the pediatric patient population. This engagement from pediatric practices was a factor in Ohio Medicaid announcing the development of "CPC for Kids" with tailored quality measures and financial incentives. In Rhode Island, providers noted that the administrative requirements for PCMH-Kids were burdensome and duplicative of the National Committee for Quality Assurance (NCQA) certification process. In response, Medicaid and participating commercial plans agreed to remove requirements for duplicate documentation to reduce some barriers to model participation.

6.2.2 Increased trust and buy-in through invited feedback

Tennessee intentionally invested in formal venues to solicit input from a wide range of stakeholders. State officials established Technical Advisory Groups of payers, providers, and state staff; meetings with provider associations; community forums; annual EOC design feedback sessions; and robust technical assistance to providers to help them understand the VBP models that the state launched. For the EOCs specifically, this strategy worked to increase support and acceptance. Individual providers and provider associations were largely opposed to the model early in the SIM Initiative, but by 2020, they had dropped that opposition as a result of the state's response to feedback. Changes to the programs based on stakeholder feedback were made each year and were predominantly related to quality metrics, but also included modifications to costs included in specific episodes. Changes—including eliminating downside risk in the commercial EOC program and pausing the implementation of the number of episodes at 48, rather than implementing 75 episodes as originally planned, to focus on quality enhancements—helped Tennessee drive acceptance for VBP models.

> "From the beginning and ongoing, those programs are really engaging stakeholders from design to continuing to evolve the program. And we've seen a lot of benefits from that and how we can evolve the programs over time."
>
> —Tennessee state official

> "Episodes have undergone continued improvement based on provider feedback."
>
> —Tennessee commercial payer

Ohio tried different methods for obtaining physician feedback on the design of different EOCs in Medicaid, starting with a smaller group of expert providers and later opening feedback to the broader provider community. Efforts to obtain provider feedback on EOC design was one

of several strategies proposed by the Ohio Department of Medicaid to engage more providers in the EOC program.

Although Colorado did not change its models based on provider feedback, state officials used SIM Initiative funds to convene payers, primary care practices, and community mental health centers for Multi-Stakeholder Symposiums. At the symposiums, participants exchanged ideas about VBP models, in particular sharing ways to integrate behavioral health and primary care. Stakeholders credited the symposiums with achieving greater understanding across payers and providers and building a foundation for future VBP model designs.

6.2.3 Changed delivery model

In New York, state officials made a major change to their model design as a result of payer and provider input. Initially, New York developed and implemented its own homegrown PCMH model, called the Advanced Primary Care (APC) model. Though payers and providers agreed in principle with the foundations of the APC, they were reluctant to engage with a primary care model in addition to NCQA's PCMH model. Soon after the APC model was launched, NCQA released 2017 PCMH standards that aligned well with the APC model. In fairly short order, New York scrapped the APC model and switched to the 2017 NCQA model, adding a few criteria unique to the state. By revising the initial plan to align payers with a state-specific model, primary care practices in New York were more willing to adopt the NYS PCMH model based on NCQA's 2017 recognition standards. By the end of the SIM Initiative, more than 2,800 practices had enrolled in NYS PCMH, exceeding the state's enrollment goal of 2,400 practices. Eighty percent of these practices did so by building on the 2014 NCQA PCMH standards they had achieved previously, demonstrating how NYS PCMH became more easily accessible to more practices after the state responded to stakeholder input in defining its PCMH delivery model.

6.3 Cross-State Lessons

For states seeking to build VBP model alignment among commercial payers—or offer VBP models to providers from any payer, including Medicaid—the SIM states offer the following lessons for why and how to engage commercial payers and providers in VBP model uptake:

- For states with highly variable regional commercial payer market dynamics (such as New York), regionally focused multi-payer efforts can allow for more flexible participation.
- State participation in a federally driven model such as CPC or CPC+ can offer an opportunity to convene commercial payers in multi-payer dialogue that lays the groundwork for future discussion about VBP (as in Colorado and Ohio); however, discussions alone do not guarantee the acceleration of commercial payers' VBP offerings (as in Delaware).

- States can use regulation as a policy lever to encourage commercial payers to offer more VBP models to providers, such as Rhode Island; however, not all states have the context or market characteristics to do so.
- States can survey commercial payers about VBP arrangements, as in Washington, to: (1) develop a statewide strategy (such as a VBP Roadmap), (2) make VBP models a policy priority, and (3) find other levers, such as purchasing power for state employee health plan administration, to nudge commercial payers toward greater VBP participation.
- Provider input early during the delivery and payment model design phase may help drive model awareness and acceptance among providers and produce intended care delivery changes.

6.4 Sustainability and Future Directions

The SIM Initiative offered funds to states to start new venues for obtaining commercial payer and provider input in support of new payment and delivery model design and to expand or enhance meetings of commercial payers to discuss and align VBP models. Not all stakeholder engagement would be appropriately sustained because groups convened for a specific purpose disband when that purpose was achieved, for example, as newer VBP models mature or the policy context changes.

That said, the experience of the SIM states suggests some probable future directions for engaging commercial payers' and providers' participation in VBP models. First, continued federal investment in nationwide models for care delivery or VBP models, such as CPC+, will likely help states encourage payers and providers toward VBP participation. Moreover, federal incentives such as Medicare payment rates tied to participation in Other-Payer Advanced Alternative Payment Model (A-APM) under the Medicare Access and Children's Health Insurance Program (CHIP) Reauthorization Act of 2015 (MACRA) Quality Payment Program (i.e., alternative payment models with shared savings and downside risk)[77] can help sustain provider interest in Medicaid-developed models that qualify as A-APMs. Many SIM states (Iowa for its Medicaid accountable care organizations; Ohio and Tennessee for its EOCs, and others among the Round 1 states[78]) recognized benefits of using VBP models that met A-APM criteria.

Second, states benefit from a short-term infusion of funds and federal policy direction to convene payers and providers in discussions of the costs and benefits associated with transforming care delivery, to improve the overall value of health care provided. Payers found the Multi-Stakeholder Symposiums in Colorado valuable enough to fund two additional meetings after the SIM award ended. States that otherwise did not engage commercial payer

[77] CMS (Centers for Medicare & Medicaid Services), Quality Payment Program. (n.d.) *APM overview: All-payer advanced alternative payment models (APMs) option*. https://qpp.cms.gov/apms/all-payer-advanced-apms
[78] RTI International. (2018). *State Innovation Models (SIM) initiative evaluation: Model Test year five annual report*. Prepared for CMS. https://downloads.cms.gov/files/cmmi/sim-rd1-mt-fifthannrpt.pdf

engagement in model design during the SIM Initiative, such as Iowa and Idaho, still used SIM funds to plan and develop the infrastructure for multi-stakeholder collaboration on VBP model deployment (the Healthcare Innovation and Visioning Roundtable in Iowa and HTCI) that would continue after the SIM award.

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7. Aligning Quality Measures to Support Value-Based Payment

- Anchoring common measures around a specific model enabled states to achieve a degree of measure alignment that stakeholders considered satisfactory by prioritizing common areas for quality improvement.
- States moved away from the goal of full measure alignment as impractical for payers, and unnecessary to meet value-based payment (VBP) objectives.
- Partial alignment provided payers with enough flexibility, practicality, and relevance for their populations and products to secure payer buy-in.
- Stakeholders emphasized the importance of seeking consensus on the objectives of alignment during the design phase in order to facilitate buy-in and expedite payer adoption of common measures.

Improving coordination among payers on quality measurement in value-based payment (VBP) contracting—referred to as measure alignment—was an early priority in all 11 SIM Initiative states for three major reasons. First, the sheer number of clinical quality measures that a provider might be required to construct and submit to different health plans cast a heavy burden on practices, deterring wider uptake of VBP in many SIM Initiative states.[79, 80] Second, payers rewarding different performance areas sent providers mixed signals about where to target practice improvement resources. Third, where different health plans measured the same performance area using different specifications or methods, providers could glean little usable data from feedback reports to improve their performance. Aligning the use and specification of performance measures across payers promised to lower provider burden, widen VBP participation among providers, and yield better data for quality improvement.

Before the SIM Initiative began, or early in the SIM award periods, states drew on extensive input from commercial and Medicaid payers to develop common measure sets.[81] Although most states succeeded in choosing common measures, state strategies to encourage adoption of common measures in Medicaid and commercial markets varied considerably. In this section, we describe the states' experiences with implementing common measure sets as a support for VBP contracting, including intended purposes, stakeholder feedback, state strategies to address concerns, and the integrated cross-state lessons derived from the states' experiences.

[79] RTI International. (2018, December). *State Innovation Models (SIM) Initiative evaluation: Model Test year five annual report.* Chapter 2. https://downloads.cms.gov/files/cmmi/sim-rd1-mt-fifthannrpt.pdf
[80] RTI International. (2018, July). *SIM Round 2: Model Test year two annual report*. Chapter 2. https://downloads.cms.gov/files/cmmi/sim-round2test-secondannrpt.pdf
[81] Colorado developed a common measure set later during its award period. Idaho sought to produce common measures through a data analytic system and experienced technical challenges during implementation that led the state to end the effort. However, Idaho stakeholders continued to work on measure alignment as its award period ended.

7.1 Purpose and Implementation Approach

A major distinction in state approaches was the choice to focus alignment on a set of measures for a specific program (see ***Exhibit 7-1*** for state measure requirements and purchasing levers). Four states anchored measure alignment around a specific model or models: Person-Centered Medical Home Plus (PCMH+) in Connecticut; episodes of care (EOCs) and Ohio Comprehensive Primary Care (Ohio CPC) in Ohio; EOC, Medicaid PCMH, and Medicaid Behavioral Health Homes in Tennessee; and the Medicaid Federally Qualified Health Center (FQHC) Alternative Payment Model (APM) and Public Employee Benefits purchasing contracts in Washington. In Colorado, the Multi-Payer Collaborative developed a core set of measures that were aligned with Medicare's Comprehensive Primary Care (CPC) program but did not have a state program on which to anchor measures.

Exhibit 7-1. SIM states achieved partial measure alignment between payers in value-based payment by anchoring measures to a specific program, adding requirements to Medicaid contracts, and other strategies

State		CO	CT	DE	IA	ID	MI	NY	OH	RI	TN	WA
Required commercial plans to use common measures under specific conditions										✓		
Anchored measure subsets to a specific state model			✓						✓	✓	✓	✓
Required Medicaid MCOs to use common measures in VBP contracts with providers			N/A		✓	N/A			✓	✓	✓	
State or payers generated measures for providers		✓							✓		✓	✓
Used systematic stakeholder feedback to inform periodic revision of measures									✓		✓	✓
Modified measures based on payer and provider feedback				✓	✓			✓	✓		✓	✓
Achieved partial alignment	Commercial		✓					✓		✓		✓
	Medicaid		✓	✓				N/A	✓	✓	✓	✓

Notes: States were flagged as reaching partial alignment if at least one payer reported use of some of the common measure. "N/A" indicates that Connecticut and Idaho did not use managed care contracting in Medicaid programs. Medicaid was not a participant in New York's SIM Initiative.

CO = Colorado; CT = Connecticut; DE = Delaware; IA = Iowa; ID = Idaho; MCO = managed care organization; MI = Michigan; NY = New York; OH = Ohio; RI = Rhode Island; SIM = State Innovation Models; TN = Tennessee; VBP = value-based payment; WA = Washington.

Sources: Federal Evaluation Team review of interviews, focus groups, and state documents.

These state models could achieve a high degree of alignment between payers through participation requirements. For example, Ohio and Tennessee contractually required Medicaid MCOs to participate in each VBP model and adhere to the corresponding measure set. Both Connecticut and Washington drew model-specific measures from a broader measure set developed for statewide use in VBP contracting. Although Connecticut did not require commercial payers to align on measures, state officials reported achieving 98 percent alignment of claims-based measures by commercial plans. Rhode Island experienced widespread adoption of common measures by mandating use of the state's measure set for all licensed commercial plans but leaving payers flexibility to use a subset appropriate for their VBP products.

7.2 Payer and Provider Feedback

> "You see practices really set themselves up to cater to specific populations, or they have density in certain population groups … This whole concept of needing to be perfectly aligned across payers because it makes it easier on providers, I don't think that's true."
>
> —Tennessee payer

Representatives of commercial and Medicaid health plans primarily cited four challenges to aligning with a state's common measure set: requirements of national VBP product lines, lack of practical application, competing priorities, and the need to remain responsive to provider needs. For example, local affiliates of national insurers (commercial and Medicaid) tended to offer providers a VBP product developed for multiple states, with measure specifications dictated by the plan's national policy. In some states, commercial and Medicaid plans offered VBP products to provider types that were not represented by common measures—for example, common measures built for PCMH models when the plan's VBP products were designed for hospitals. In some states, the common measure set had been developed primarily with the state's Medicaid population in mind but could not be practically applied to a commercial patient population because of large differences in prevalence of a disease or medical event. Commercial plans wanted to focus on conditions important for their own bottom lines. MCOs also made the point that if the state's primary objective was to expand VBP uptake, then they needed flexibility to modify measure requirements in their negotiations with providers (see also ***Section 5****, Medicaid MCO Contracting*).

Providers' concerns tended to focus on a measure specification or how a specific measure was tied to performance, rather than disagreement with measurement goals. For instance, providers described dissatisfaction with performance incentives based on measures that did not apply to their patient population, did not fairly represent the underlying quality of care, or did not fairly exempt patients from the denominator. Although such concerns were widespread early in the award period, they were less frequently reported in the last year of the award period.

7.3 State Strategies to Address Concerns

Only three states (i.e., Ohio, Tennessee, and Washington) put in place a systematic process for soliciting provider and payer feedback after implementation of measure sets that was used in formal review and revision of measures. Tennessee's approach is described in ***Section 7.6***. Before finalizing measures for use in their SIM Initiative models, Colorado aligned some measures with the Medicare Comprehensive Primary Care Plus (CPC+) model to make reporting easier for the SIM Initiative practices that were also participating in CPC+. Ohio allowed Medicare CPC+ providers to meet measure criteria for Ohio CPC by using measures required for CPC+.

> "Some of these groups have complained that certain payers are asking them for 20 or 30 measures and the way they report to one is different than what they have to report for another, so trying to get that number down was a step in the right direction."
>
> —New York payer

Whether the state had a systematic feedback process in place, several states did describe modifying their alignment objectives or specific measures in response to stakeholder feedback after implementation (see also ***Section 6***, *Stakeholder Engagement*). Specifically, states removed measures that had been customized from national specifications, dropped or modified measures that were problematic for providers, and reduced the number of measures payers were required to use. State officials described making such changes after more dialogue with payers led to a new and shared understanding about the level of alignment needed—which led state officials to scale back expectations. Iowa's experience in this regard is informative. Medicaid leadership there chose performance measures for accountable care organization (ACO) contracts that aligned with the state's largest payer. However, this decision was not informed by input from other payers because it was made prior to Medicaid's transition to managed care contracting. Once Medicaid MCOs initiated contracts with ACOs, the MCOs and ACOs expressed many concerns about the measures that were eventually addressed when the requirement to use these measures was removed from MCO contracts near the end of the SIM award. Having learned from this experience, Iowa expected to convene a working group with the Medicaid MCOs to agree on common measures for its 2021–2022 MCO contracts.

States also leveraged SIM Initiative funding and MCO contracting to put in place processes to generate common measures on behalf of providers, thereby addressing widespread complaints from providers prior to the SIM Initiative about the burden of submitting their own performance measures. States leveraged their multi-payer claims database or other state databases (in Colorado, Delaware, Ohio, New York, and Tennessee) to produce claims-based measures. Ohio and Tennessee eventually assigned the responsibility for measure production to Medicaid MCOs for specific models and providers. However, centralized production of measures presented tradeoffs, according to stakeholders. Providers in several states, for example,

reported that claims-based measures produced specifically for them often turned out to be less useful than expected because the data were too old and did not align with practice records.[82]

Delaware offers an example of the impact of feedback on the alignment objective. State officials initially expected Medicaid MCOs to voluntarily adopt nearly a dozen quality measures in their VBP contracts, but uptake was minimal. State plan affiliates of national insurers were not allowed to deviate from uniform policies set by national headquarters when offering a product sold in multiple states. Payers also emphasized the need to be flexible in negotiations with providers with limited reporting capacity, or large practices that needed to accommodate multiple VBP contracts. Eventually, Delaware narrowed the focus to seven measures that the state prioritized based on Medicaid's objectives in primary care. Delaware also added language to Medicaid MCO contracts requiring MCOs meet minimum performance thresholds annually on the measures. The state's Medicaid program did not require MCOs to use these measures in provider contracts, but the change encouraged MCOs to select from these measures to incentivize providers to improve performance. Payers described all of these strategies as increasing their willingness to buy into the objectives of alignment or to remove barriers to securing VBP contracts with providers.

7.4 State Experiences in Measure Alignment

Tennessee, Washington, and Rhode Island offer examples of different approaches to implementing a robust set of measures to achieve enough measure alignment for VBP objectives. Stakeholders in these states viewed their state's objectives and implementation approach favorably, and the states maintained all measure sets after the award period ended.

Tennessee: State leadership designed SIM Initiative programs with a strong emphasis on stakeholder feedback (more than 1,000 meetings) to promote stakeholder investment, including providers, and incorporate feedback as part of a continuous quality improvement program. The design process resulted in unique measures sets for use in three programs: a Medicaid PCMH program, a Medicaid Behavioral Health Home program (Health Link), and an EOC program. (For stakeholder processes in the EOC program, see ***Section 2****, Episodes of Care*). The PCMH and Health Link programs used 18 core quality Healthcare Effectiveness Data and Information Set (HEDIS) measures aligned across the two programs, with the intent of promoting the integration of behavioral and physical health care. Payers and providers viewed this coordinated approach favorably. To aid practice-level quality improvements, the state and Medicaid MCOs produced measures and supplied quarterly provider feedback reports to providers that reflected quality and cost metrics for Medicaid beneficiaries enrolled in a PCMH or behavioral health home. Stakeholders attributed the success to the extensive stakeholder feedback process that

[82] RTI International (2019, March). *SIM Round 2: Model Test year three annual report*. Chapter 2. https://downloads.cms.gov/files/cmmi/sim-rd2-test-ar3.pdf

state officials established during the SIM Initiative's design phase and maintained during the award period.

Washington: The state legislature passed legislation requiring the development of a common measure set to "inform public and private purchasers" prior to the SIM Initiative. This legislation specified the makeup of a performance measure committee and that the process be transparent and provide opportunities for public comment.[83] This legislation was still in effect at the time of writing, and Washington continued to conduct its annual process after the end of the award period. The legislation directed state agencies to use the measure set in purchasing decisions and establishing contractor benchmarks; other stakeholders could purchase the measure set for their own use. Officials chose measures to support performance goals in all contracts through which they purchased health care, including contracts with plans, MCOs, and hospitals. The legislation also required measures to be included in provider agreements that defined a new SIM-developed FQHC payment model. Contracts with Medicaid MCOs did not require MCOs to use specific measures in their VBP contracts with providers, instead establishing incentive payments based on the MCO's overall performance on selected measures. Because performance of providers in their network would drive MCO performance, MCOs had the incentive to add the same measures to provider contracts (and some reported doing so) in order to harness providers to achieve the MCO's objectives.

Rhode Island: Regulation established a state process for designing a common measure set, which brought an intensive, defined process for annual public review driven by stakeholder input.[84] All commercially licensed plans were required to use measures from the common set in all contracts that included financial incentives tied to quality. Rhode Island eased adoption by creating three subsets of measures for use in different types of contracts (i.e., PCMH, ACO, and hospital), from which plans and providers could choose the measures that they would use. Only practices that served children were required to use pediatric measures. Both plans and providers ultimately reported that they appreciated the measure flexibility—providers for reducing burden and plans for easing provider negotiations. The Medicaid agency also used the measure set in its contracts with Accountable Entities (ACOs).

[83] House Bill. (2014). *Certification of enrollment. Engrossed second substitute House Bill 2572*. Chapter 223, Laws of 2014. Section 6. http://lawfilesext.leg.wa.gov/biennium/2013-14/Pdf/Bills/Session%20Laws/House/2572-S2.SL.pdf?q=20210211155051

[84] Office of the Health Insurance Commissioner, State of Rhode Island. (2017, May 17). *Final guidance on use of aligned measure sets*. http://www.ohic.ri.gov/documents/Aligned%20Measure%20Set%20Interpretive%20Guidance%202017%205-16.pdf

7.5 Cross-State Lessons

Stakeholders in many SIM Initiative states changed their views over the award period about the degree of measure alignment needed to achieve statewide payment transformation. State officials and payers acknowledged that achieving a satisfactory level of alignment had required more dialogue about the objectives of alignment than originally envisioned, and health plan willingness to adopt common measures often required states to change their approach during the award period. The following cross-state lessons highlight strategies stakeholders reported as most helpful for facilitating adoption of common measures.

> "On the whole, we realize that asking providers to do very different things than what everyone else is asking them to do doesn't really achieve goals. We hear a lot of feedback from providers that if providers are measured on too many things they won't be successful, so we try to align in a way that makes sense to provide quality and the value we're looking for."
>
> —Ohio payer

First, state officials and health plans noted that partial alignment of measures is a feasible goal; it provides payer flexibility, practicality, and relevance for different populations and products. In hindsight, Medicaid and commercial payers and state officials emphasized the practical limits to coordinating on measurement—in response mainly to varied patient populations, but also to proprietary interests and the contracting needs of individual providers. According to stakeholders, rigid requirements for alignment tended to discourage payer adoption and not be in all patients' and providers' best interests. Although adoption of common measures by commercial plans was reportedly low in some states, plan representatives interviewed late in the state award period noted that the value of alignment had become evident through provider negotiations; these representatives believed that alignment should remain a high priority after the SIM Initiative. States learned that payers find it easier to align on a small number of validated constructs developed by national sponsors. As a result, several states decided over time to reduce the number of measures on which they sought alignment or required payers to align on, and they dropped locally developed, customized measures. These accommodations increased the willingness of payers to adopt a strategy of alignment in their own products.

Second, state officials and health plans emphasized the importance of taking the time early on to seek consensus on alignment objectives. Stakeholders in states that did not take this step expressed regret, stressing the importance of such a consensus for creating a common understanding of the *level* of alignment needed to achieve payer buy-in to VBP. As problems arose for both providers and payers, stakeholders gained a better understanding of where coordination between payers could help, as well as where it created unforeseen barriers to expanding VBP participation. As the objectives for alignment became clearer and informed further revisions, payer adoption accelerated.

Third, in the three states that put in place systems for soliciting stakeholder feedback and updated measure sets regularly—Ohio, Washington and Tennessee—stakeholders praised these feedback systems as important for securing and maintaining stakeholder buy-in. Regular review of measure sets helped maintain measure relevance for quality improvement and encouraged continued use. Stakeholders stressed that the entity charged with maintaining measures should seek regular feedback from payers and providers as to how specific measures were operating to improve quality or efficiency; to drop, add, or modify measures as needed; and to consider aligning with emerging Medicare programs or state-specific objectives.

8. Context for the State Innovation Models Initiative: Characteristics of States' Primary Care Practice and Payer Markets

- The varying composition of primary care practices in SIM Initiative states confirms stakeholder perceptions that many small primary care practices in a state—and in some states, many rural practices—may confound efforts to increase uptake of value-based payment (VBP) models.
- Primary care practices with non-physician clinicians participated in SIM Initiative models to a disproportionately greater degree than physician-only primary care practices.
- Regardless of statewide payer mix or commercial insurer market competition versus concentration, most SIM Initiative states observed increased VBP model offerings among commercial insurers between 2014 and 2018, in line with Medicare and Medicaid trends.

In negotiations around payment, the dynamics between health care providers and payers can hinge on regional characteristics such as payer purchasing power (i.e., the share of patients covered by an insurer) or health system dominance. For primary care practices specifically, practice size and composition can determine the readiness or capacity to achieve specific care delivery goals. Stakeholders often cited provider and payer characteristics as facilitators or hindrances to reaching their goal of delivering a preponderance of care through value-based payment (VBP) arrangements. Providers reported frustration when participating in commercial insurance–led VBP arrangements that would require major changes in care delivery but offered limited financial incentives—for example, covering only a small share of a provider's patients in insurance markets fragmented across Medicare, Medicaid, and many commercial insurers. Payers reported challenges in contexts where small and independent practices were prevalent—where payer efforts to expand VBP faced contract negotiation with multiple provider entities.[85]

This section examines statewide primary care practice and health care insurance markets that likely contributed to the design, implementation experience, and outcomes of SIM-supported delivery and payment reforms:

- Characteristics (size, rurality, and composition) of primary care practices statewide and primary care practices participating in SIM-supported delivery transformation and payment models;
- Relative share of Medicaid, Medicare, and commercial insurers among a state's payers; and
- Concentration or competition within commercial insurance markets in a state.

Not addressed here, because of a lack of state-based data on physician practice ownership or affiliation, are the following: (1) integrated health systems' presence or market concentration

[85] RTI International. (2019). *State Innovation Models (SIM) Round 2: Model Test annual report three.* https://downloads.cms.gov/files/cmmi/sim-rd2-test-ar3.pdf

in SIM Initiative states and (2) the degree to which health system ownership or affiliation may have influenced practices' participation in SIM-supported activities. Within-state regional differences in health care payer characteristics were also not available because of data limitations. The degree to which these factors may have influenced expansion of VBP arrangements in each state could only be assessed qualitatively (for more information see the state chapters in ***Appendices A–K***).

8.1 Provider Market: Characteristics of Primary Care Practices

The characteristics of primary care practices generally,[86] and those involved with the SIM Initiative in particular (in the states where data are available),[87] offer insight into the types of practices reached by the SIM Initiative, and perhaps by extension, the types of practices most prepared for care delivery transformation and/or participation in VBP. As described in the cross-state analysis of the implementation and impacts of patient-centered medical home (PCMH) or similar models under the SIM Initiative (see ***Section 1****, Patient-Centered Medical Homes*), primary care practices were frequently the focus of SIM Initiative states' efforts to engage providers in Medicaid VBP models, in technical assistance to transform care delivery, or both.

Primary care practices involved in SIM Initiative efforts comprised the following:

- **4 percent to 15 percent** of primary care practices statewide, and
- **3 percent to 22 percent** of primary care practitioners statewide.

Notes: "Primary care practitioners" are defined as physicians, nurse practitioners, and physician assistants with a primary care specialty; SIM = State Innovation Models.

Sources: ***Exhibit 8-7*** in **Section 8.4**; data available for seven SIM Initiative states.

The estimated percentage of primary care practices statewide that are small (i.e., solo practitioners) varied slightly by state, but in all states comprised a sizable proportion of all practices (see ***Exhibit 8-1***). The size of primary care practices had real implications for commercial payers in SIM Initiative states. As noted in ***Appendices A–K***, commercial payer representatives in many SIM Initiative states described challenges in recruiting providers to participate in VBP contracts at the start of the award period. These payers observed that many primary care practices had not yet adopted PCMH-type care delivery models, were too small to invest in delivery changes, or both. In turn, as state officials

[86] The source for estimated characteristics of primary care practices in a state is the Characteristics of Primary Care Practice Sites data set, which was developed for this federal evaluation from a combination of self-reported individual provider information that is publicly available, and sources of information about Medicare providers' billing relationships (for more information, see a full description of the methods in ***Appendix L***, *Data and Methods*). Missing from these data are other potentially important contextual factors such as hospital ownership or affiliations among practices.

[87] "SIM Initiative participation" is counted for Colorado SIM-funded technical assistance to integrate behavioral health in primary care; Connecticut Person-Centered Medical Home Plus (PCMH+); Delaware Practice Transformation Initiative (PTI); Idaho Medicaid PCMH; Ohio Comprehensive Primary Care (Ohio CPC) Rhode Island Patient-Centered Medical Home-Kids (PCMH-Kids); Tennessee Medicaid PCMH.

in SIM Initiative states strongly encouraged commercial payers to expand VBP offerings or to align payment models across payers to orient toward paying for value over volume, readying primary care practices for these models became an area of focus for SIM Initiative investments.

Exhibit 8-1. Among states with available data (2017), solo practitioners' participation in the SIM Initiative was proportional to their statewide prevalence in only Colorado and Connecticut

Notes: States ordered by difference between practice subsets.

CO = Colorado; CT = Connecticut; DE = Delaware; ID = Idaho; OH = Ohio; RI = Rhode Island; SIM = State Innovation Models; TN = Tennessee.

Source: Analysis of practices flagged as likely SIM Initiative participants in Characteristics of Primary Care Practice Sites data set.

Exhibit 8-1 illustrates the disproportionately smaller share of practices with solo practitioners participating in SIM-related primary care transformation activities. For the seven states shown (where SIM Initiative participation information is available for providers), only Colorado and Connecticut recruited solo providers proportional to the statewide prevalence. States with Medicaid-specific PCMH models (i.e., Idaho, Tennessee, and Ohio) achieved the most significant proportion of participation in the SIM Initiative across all primary care *practitioners* (individuals) in the state (see ***Exhibit 8-7*** in ***Section 8.4***)—an association consistent with having relatively few solo practitioner practices as a share of primary care practices in each of those states. For practices with solo practitioners, the odds of participating in the SIM

Initiative were even lower than the odds of participating in a Medicare-led VBP model[88] such as Comprehensive Primary Care Plus (CPC+) (data not shown).

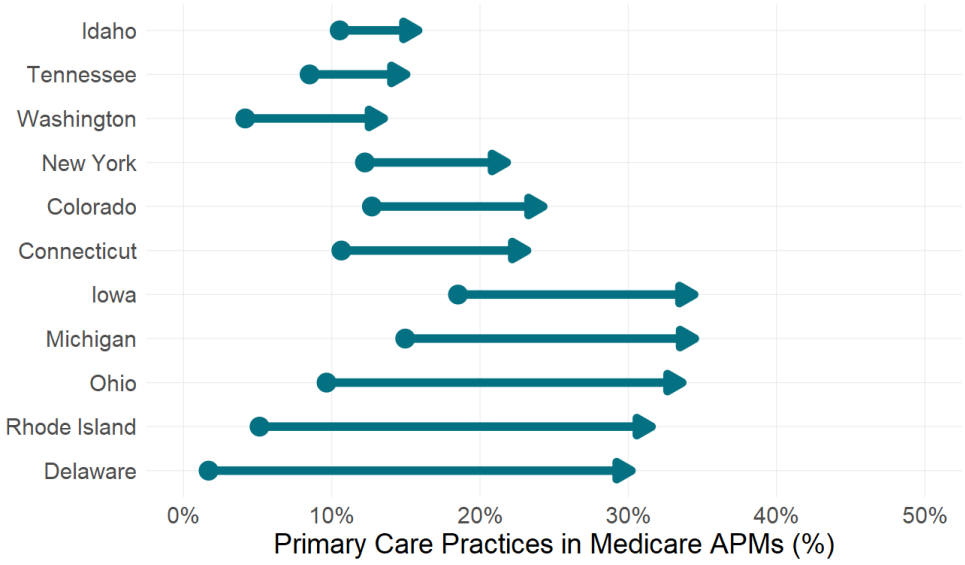
The statewide percentage of rural[89] primary care practices varied widely across SIM Initiative states. In contrast to lower participation among practices with solo practitioners, SIM Initiative-supported efforts focused on primary care were successful in recruiting rural providers, with rural primary care practices *more* likely than non-rural practices to participate in SIM-related activities and models (except in two states: Connecticut and Tennessee). More data and a discussion of the strategies SIM Initiative states used to engage rural primary care practices are presented in ***Section 12****, Rural Communities*. These findings suggest that rural practices with more than one practitioner may be more ready to participate in SIM-supported transformation efforts; with some exceptions, states with relatively more urban practices had relatively more practices with solo practitioners (see ***Exhibit 8-8*** in ***Section 8.4***).

Medicare VBP model participation may have prepared some practices for SIM-related care delivery or payment model participation by offering financial support for changing practice and quality measurement experience similar to what was required under SIM-supported models. Across all SIM Initiative states, the estimated prevalence of primary care practices participating in Medicare alternative payment models (APMs) steadily increased between 2013 (ranging from 1.7 percent to 18.5 percent) and 2017 (ranging from 13.5 percent to 34.5 percent) (see ***Exhibit 8-2***). In the seven states for which SIM Initiative participation could be identified at the practice level, many primary care practices that participated in SIM Initiative care delivery and/or payment models were not already participating in a Medicare VBP model, ranging from 32.2 percent in Ohio to 88.2 percent in Idaho (***Exhibit 8-3***).

[88] Medicare VBP participation was operationalized as the following subset of Medicare APMs in the CMS Master Data Management system: Pioneer Accountable Care Organization (ACO), Medicare Shared Savings Program (SSP) ACO, Next Generation ACO, Physician Group Practice (PGP) Transition Demonstration, Multi-Payer Advanced Primary Care Practice (MAPCP), Medicare–Medicaid Coordination Office (MMCO) Financial Alignment, Comprehensive Primary Care (CPC), Medicare Health Care Quality Demonstration for Indiana, Comprehensive End-Stage Renal Disease (ESRD) Care, CPC+, Vermont All-Payer Model, and Maryland Total Cost of Care.

[89] Practices were classified as rural if they were located in a ZIP code that was either (a) not part of a core-based statistical area (for more information, see https://www.census.gov/topics/housing/housing-patterns/about/core-based-statistical-areas.html) or (b) Federal Office of Rural Health Policy (FORHP) eligible (for more information, see https://www.hrsa.gov/rural-health/about-us/definition/datafiles.html).

Exhibit 8-2. Primary care practices' estimated participation in Medicare alternative payment model models increased in all SIM Initiative states between 2013 and 2017

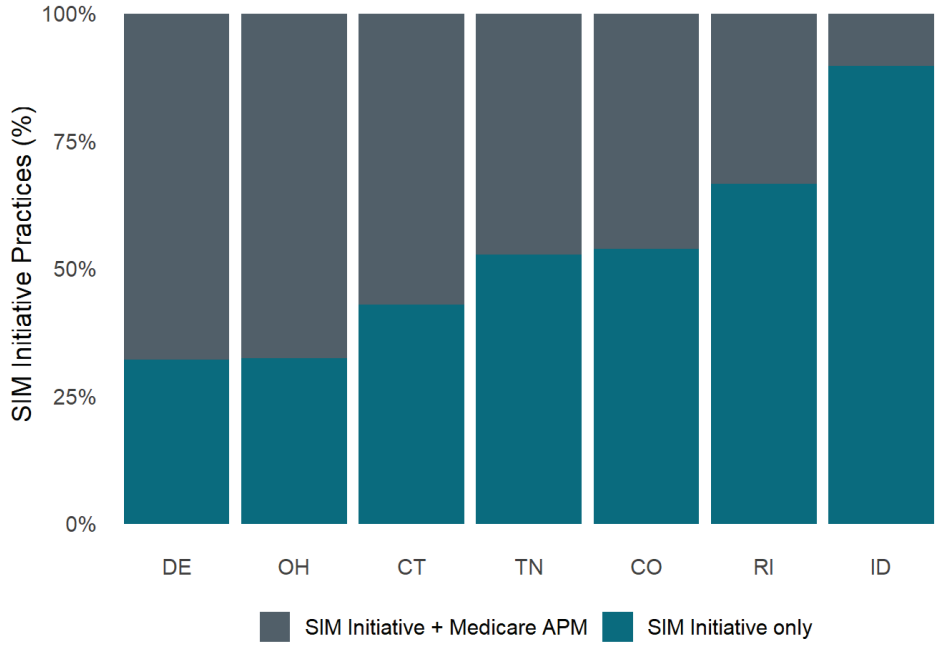


Notes: Arrows pointing to the right indicate the extent to which the percentage of practices participating in Medicare APMs increased between 2013 and 2017. States ordered by amount of change.

APM = alternative payment model; SIM = State Innovation Models.

Sources: Federal Evaluation Team analysis of practices in Characteristics of Primary Care Practice Sites data set.

Exhibit 8-3. The percentage of SIM-participating primary care practices with Medicare alternative payment model experience varied widely across seven states with available data (2017)



Notes: States ordered by Medicare APM participation.

APM = alternative payment model; CO = Colorado; CT = Connecticut; DE = Delaware; ID = Idaho; OH = Ohio; RI = Rhode Island; SIM = State Innovation Models; TN = Tennessee.

Sources: Federal Evaluation Team analysis of practices flagged as likely SIM Initiative participants in Characteristics of Primary Care Practice Sites data set.

The presence of non-physician clinicians such as nurse practitioners and physician assistants—especially in states where non-physician clinicians can practice autonomously from physicians—can increase patient access to care,[90] a common goal for VBP models that seek to reduce avoidable emergency department visits. In six of the seven states with practice-level data (all but Rhode Island), non-physician clinicians at a primary care practice were more often associated with both Medicare VBP model participation and SIM Initiative participation than were primary care practices statewide (***Exhibit 8-4***). However, except for Colorado and Rhode Island, the presence of nurse practitioners and physician assistants increased the likelihood of SIM Initiative participation *more* than it increased the likelihood of Medicare VBP model participation (data not shown).

[90] Richards, M. R., & Polsky, D. (2016). Influence of provider mix and regulation on primary care services supplied to US patients. *Health Economics, Policy, and Law, 11*(2), 193–213. doi:10.1017/S1744133115000390

Exhibit 8-4. Except for in Rhode Island, primary care practices with nurse practitioners or physician assistants participated in the SIM Initiative in greater proportions than their prevalence among all primary care practices (2017)

Notes: States ordered by difference between practice subsets.

CO = Colorado; CT = Connecticut; DE = Delaware; ID = Idaho; NP/PA = nurse practitioner/physician assistant; OH = Ohio; RI = Rhode Island; SIM = State Innovation Models; TN = Tennessee.

Sources: Federal Evaluation Team analysis of practices flagged as likely SIM Initiative participants in Characteristics of Primary Care Practice Sites data set.

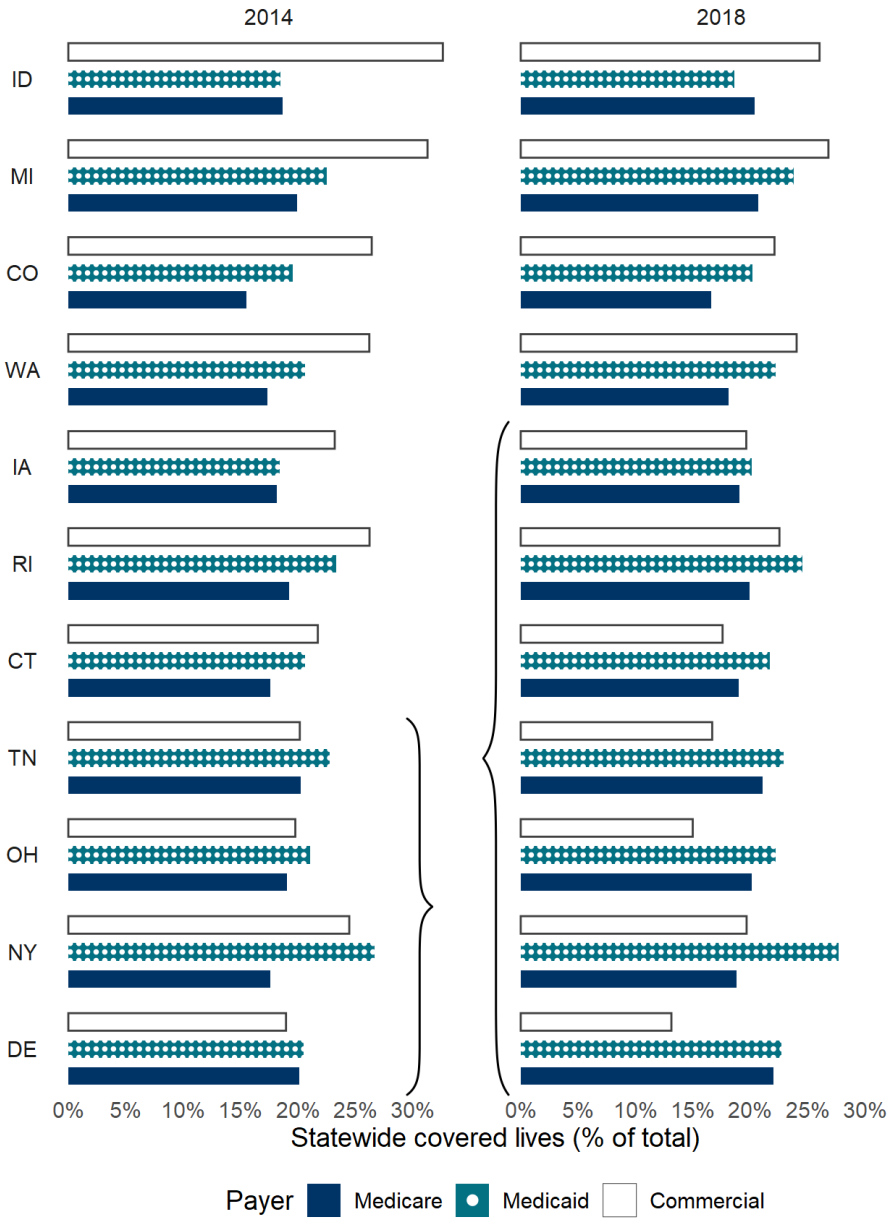
Additional statistical analysis (for the details of this analysis, see ***Appendix L***, *Data and Methods*) of primary care practices' participation in the SIM Initiative largely accorded with the descriptive findings reported in this section. Namely, on average, primary care practices were more likely to participate in the SIM Initiative if they had previously participated in a Medicare alternative payment model, were rural, and included nurse practitioners and/or physician assistants. However, the size of these influences varied between SIM Initiative states.

8.2 Payer Market: Characteristics of Public and Private Payers

To increase payers' offering of VBP models to health care providers, SIM Initiative states used different strategies to increase VBP models offered in Medicaid through managed care contracting (see ***Section 5***, *Medicaid MCO Contracting*) and by commercial payers through state employee health plan contracting and stakeholder engagement (see ***Section 4***, *State Employee Coverage,* and ***Section 6***, *Stakeholder Engagement*). Both strategies promise to change the landscape of VBP offerings statewide. As illustrated in ***Exhibit 8-5***, in seven out of 11 SIM Initiative states, Medicaid was the dominant payer (as a percentage of all covered lives in the

state) by 2018.[91] Commercial payers dominated market share in just four of the states by 2018, and the share of lives covered by commercial payers decreased over time in all states—even in those that had chosen not to expand Medicaid by the start of the award period.

Exhibit 8-5. Medicaid overtook commercial payers as the most common payer in SIM Initiative states between 2014 and 2018



(continued)

[91] Payer market information comes from the National Association of Insurance Commissioners (NAIC) Supplemental Health Care Exhibit Reports for 2014 and 2018 and from the Health Insurance Coverage from the American Community Survey (HIC ACS) Historical Tables, All Persons: 2008 to 2019, civilian noninstitutionalized population.

Exhibit 8-5. Medicaid overtook commercial payers as the most common payer in SIM Initiative states between 2014 and 2018 (continued)

Notes: Asterisks (*) and darker bars identify the payer with the largest market share in each state and year. Curly braces identify states where Medicaid was the most common payer. Within states, payers are ordered from top to bottom: commercial, Medicaid, Medicare.

CO = Colorado; CT = Connecticut; DE = Delaware; HIC ACS = Health Insurance Coverage from the American Community Survey; IA = Iowa; ID = Idaho; MI = Michigan; NAIC = National Association of Insurance Commissioners; NY = New York; OH = Ohio; RI = Rhode Island; SIM = State Innovation Models; TN = Tennessee; WA = Washington.

Source: Federal Evaluation Team analysis of NAIC Supplemental Health Care Exhibit Reports for 2014 and 2018 and HIC ACS Historical Tables, All Persons: 2008 to 2019, civilian noninstitutionalized population.

Payers, providers, and state officials in SIM Initiative states viewed concurrent implementation of payment models in Medicaid and Medicare as an accelerant for delivery reform. Although Medicare implementation of CPC+ during the award period led to some confusion initially, toward the end of the SIM Initiative, payers and providers described Medicare APMs as sending a strong market signal to providers that evolution away from a fee-for-service model was inevitable. Stakeholders believed the result was a paradigm shift in provider attitudes, prompting providers to actively work toward readiness for VBP and enter into VBP contracts. Also, by the end of the award period, Tennessee and Ohio[92] were working to leverage the Quality Payment Program (which affects Medicare payment rates depending on provider participation status)[93] to increase provider uptake of their VBP models, which qualified as Other Payer—Advanced APMs.

> "I think it's safe to say that the landscape today is very different than it was when we started … I am seeing providers across the state being more thoughtful now about value and making it a pillar of their organization."
>
> —Ohio state official

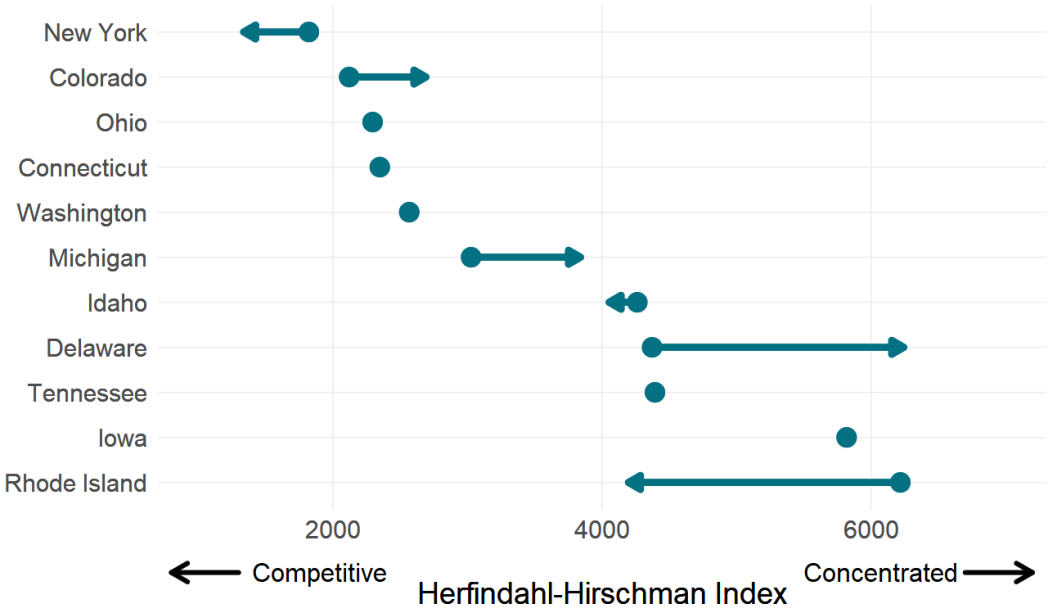
Commercial payer VBP model offerings were another area of focus for SIM Initiative states, given that commercial payers covered nearly as many lives as Medicare or Medicaid—or more—within SIM states. The extent to which all three payer types offer VBP models—and align incentives across models, or not—could affect the degree to which providers respond to needed care delivery changes to optimize outcomes measured under VBP models. Commercial payer market alignment, in particular, could be more difficult in states with a competitive market and more commercial insurance carriers overall total, unless strong policy levers or leadership can achieve insurers' coalescence around a specific approach or model. In contrast, states with a concentrated commercial insurer market

[92] Episode of care model in Tennessee and Ohio. This alignment was also a goal in Iowa.
[93] CMS, Quality Management Program. (n.d.). *All-payer advanced alternative payment models (APMs) option*. https://qpp.cms.gov/apms/all-payer-advanced-apms

and a dominant payer may be able to increase provider participation in VBP models by offering their own independent model to providers, who then adopt it because it covers most of their patients.

The experience of SIM Initiative states suggests neither that a competitive commercial insurer market necessarily hinders VBP offerings, nor that market concentration necessarily facilitates alignment around VBP offerings. In Colorado, for example, which had a relatively competitive commercial payer market (***Exhibit 8-6***), commercial payers attributed both the pre-SIM Initiative multi-payer cooperation required by Medicare's Comprehensive Primary Care Initiative (2013) and competition across payers as factors prompting more commercial payer VBP offerings. In contrast, Delaware's commercial insurance market in 2018 was the most highly concentrated across the SIM Initiative states, but SIM Initiative efforts in that state did not yield voluntary alignment or agreement among commercial payers regarding a specific VBP model.

Exhibit 8-6. Commercial insurer market concentration varied greatly between SIM Initiative states, and only Rhode Island and Delaware had substantial changes between 2012 and 2018



Notes: A higher HHI value indicates a more concentrated market share. Dots indicate 2012 HHI value. Arrows pointing left indicate increasing market competition. Arrows pointing right indicate increasing market concentration. For states with small changes between 2012 and 2018 (less than 200), only 2012 values are depicted. States ordered by 2012 HHI value.

HHI = Herfindahl–Hirschman Index; NAIC = National Association of Insurance Commissioners; SIM = State Innovation Models.

Source: Federal Evaluation Team analysis of NAIC Supplemental Health Care Exhibit Reports, 2012–2018.

That said, although commercial insurance market concentration seems not to have been associated with changes in commercial insurers' VBP offerings, the path a state takes toward increasing commercial insurers' VBP offerings may be explained by the intersection of market factors and SIM Initiative strategies. Six states that used strategies to encourage commercial payers to accelerate their VBP offerings voluntarily produced more independently driven VBP models among commercial payers (i.e., Colorado, Delaware, Idaho, Iowa, New York, and Washington). These six states are split evenly between those with competitive insurance markets (i.e., Colorado, New York, and Washington) and those with a concentrated commercial insurance market (i.e., Delaware, Idaho, and Iowa)—the latter group notably not participating in CPC+.

Thus, commercial insurers tended to increase their multi-payer VBP offerings in states where Medicare-led CPC+ was active. As a multi-payer model, by definition, CPC+ helped raise multi-payer VBP participation by commercial payers in Michigan, Ohio, Rhode Island, and Tennessee—of which all states but Rhode Island were relatively competitive markets. According to an environmental scan of VBP models that commercial insurers *offered,*[94] between 2014 and 2018:

- Michigan, Ohio, and Rhode Island (all CPC+ states, two with competitive commercial insurer markets) saw an increase in the number of commercial insurers offering **multi-payer VBP models**, i.e., models that involved at least one commercial payer and Medicare and/or Medicaid, without a change in independent VBP model offerings.
- Tennessee, also a CPC+ state with a relatively competitive commercial insurer market, saw an increase in **both independent and multi-payer VBP** offerings among its commercial insurers.
- Delaware, Idaho, and Iowa (non-CPC+ states, more concentrated insurer markets) saw an increase in the number of commercial insurers offering an **independent VBP model** (i.e., not aligned with Medicare or Medicaid) without a change in multi-payer VBP offerings. Colorado also saw an increase in insurers offering an independent VBP model, but is an outlier in this group as a CPC+ state with competitive commercial insurer market.

8.3 Implications for State-Led Delivery and Payment Model Changes

- State-led, multi-payer or Medicaid-oriented initiatives can prepare different types of primary care providers than Medicare VBP offerings do—specifically reaching more

[94] The environmental scan tracks the count of unique payers in a state participating in an individual or multi-payer VBP program in 2014 and 2018. (For more information, see a full description of the methods in ***Appendix L***, *Data and Methods*.) Somewhat complicating the linkage between the number of payers offering VBP models is the decrease in the number of insurers participating in any given state market over time. Between 2012 and 2018, nine SIM Initiative states saw the number of insurers in their state decrease, whereas Connecticut gained one insurer and Ohio gained three.

rural providers. Thus, Medicaid and commercial sector VBP can be important complements to Medicare-led models to increase statewide VBP participation.

- Medicare-led VBP models can help align commercial insurers regarding a VBP model, even in states with competitive commercial insurance markets.

8.4 Addendum

Exhibit 8-7 and ***Exhibit 8-8*** provide supplemental contextual quantitative information and data about the states evaluated.

Exhibit 8-7. Percentages of primary care practices and individual primary care practitioners reached by SIM technical assistance activity or Medicaid patient-centered medical home model infrastructures to improve population health (2017)

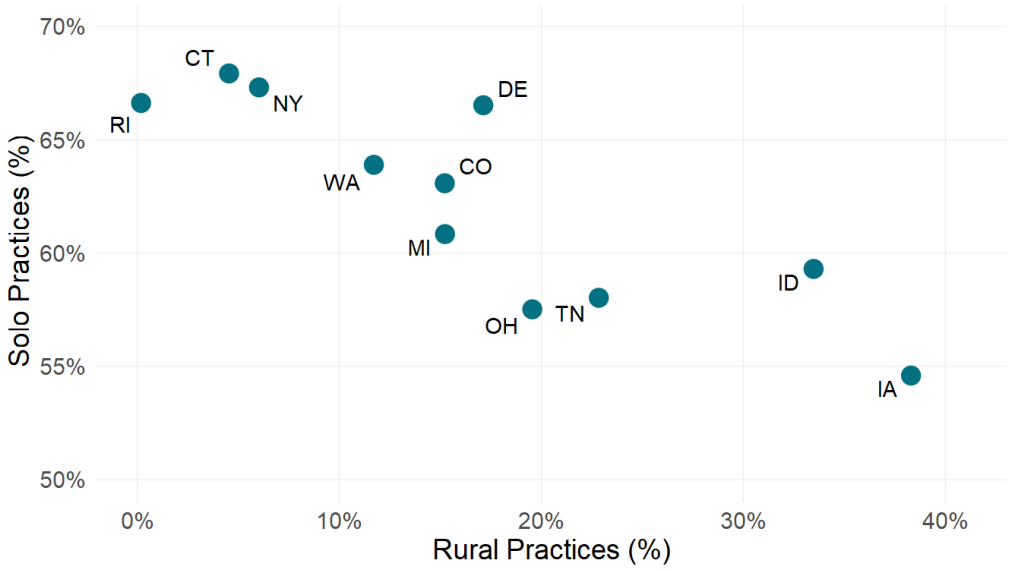
	Practices			Individual practitioners		
State	Reached by SIM	Percentage (%)	Total	Reached by SIM	Percentage (%)	Total
TN	538	14.5	3,711	3,481	21.6	16,115
DE	119	11.9	998	351	10.2	3,431
CO	402	9.1	4,240	982	5.5	17,882
ID	68	6.6	1,038	689	18.9	3,643
CT	231	6.5	3,541	517	3.9	13,104
RI	52	4.9	1,058	144	3.0	4,858
OH	290	4.2	6,883	6,608	19.9	33,267

Notes: States ordered by percentage of practices reached by the SIM Initiative.

CO = Colorado; CT = Connecticut; DE = Delaware; ID = Idaho; OH = Ohio; RI = Rhode Island; SIM = State Innovation Model; TN = Tennessee.

Sources: Federal Evaluation Team analysis of practices flagged as likely SIM Initiative participants in Characteristics of Primary Care Practice Sites data set.

Exhibit 8-8. States with fewer estimated rural primary care practices also had fewer estimated solo-practitioner practices in 2015



Note: CO = Colorado; CT = Connecticut; DE = Delaware; IA = Iowa; ID = Idaho; MI = Michigan; NY = New York; OH = Ohio; RI = Rhode Island; TN = Tennessee; WA = Washington.

Source: Federal Evaluation Team analysis of practices in Characteristics of Primary Care Practice sites.

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9. Building Architectures to Improve Population Health

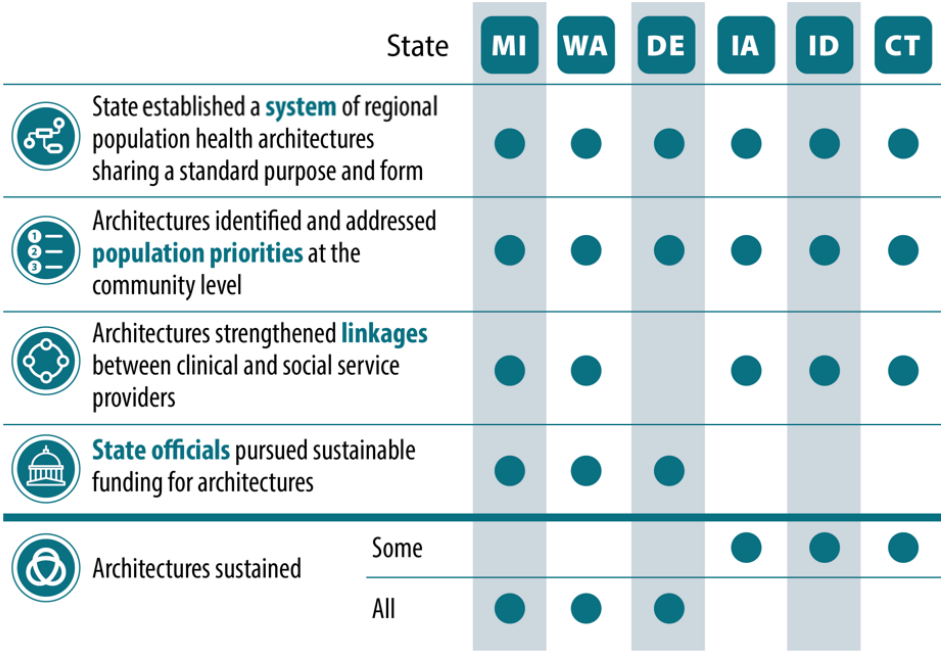
- Connecticut, Delaware, Idaho, Iowa, Michigan, and Washington established coordinated systems of population health architectures that benefited from flexibility and strong leadership.
- Population health architectures identified and addressed population priorities at the community level and strengthened linkages between clinicians and social service providers.
- Population health architectures needed data to inform and evaluate their strategies and lacked the time to demonstrate a return on investment.
- The states that fully sustained their population health architectures secured post-SIM funding at the state level.

"Population health" is defined as the health outcomes of a group of individuals, including the distribution of such outcomes within the group.[95] Stakeholders in six states (i.e., Connecticut, Delaware, Idaho, Iowa, Michigan, and Washington) established a diverse set of organizations and coalitions, referred to here as "architectures," to (1) help identify priority population health needs at the local or regional level and (2) design and implement interventions to address local or regional population health priorities. The form of these infrastructures varied across states. Connecticut, Delaware, Idaho, and Michigan used local or regional "backbone" agencies to coordinate population health activities across sectors, whereas Iowa and Washington established independent organizations to manage their population health work. Regardless of their form, states intended for these architectures to increase their capacity to improve population health beyond the SIM Initiative, and three states fully achieved this goal (see ***Exhibit 9-1***).

This section describes the form and purpose of the SIM Initiative population health architectures, whether they were sustained in each state, and, if so, how they were sustained.

[95] Kindig, D., & Stoddart, G. (2003). What is population health? *American Journal of Public Health, 93*(3), 380–383. https://ajph.aphapublications.org/doi/10.2105/AJPH.93.3.380

Exhibit 9-1. Six SIM Initiative states sought to establish architectures to improve population health; three states sustained their architectures



Notes: States ordered based on grouping of population health architecture characteristics.
CT = Connecticut; DE = Delaware; IA = Iowa; ID = Idaho; MI = Michigan; SIM = State Innovation Models; WA = Washington.

Sources: Federal Evaluation Team interviews, focus groups, and state documents.

9.1 State Approaches

Michigan and Iowa made the largest SIM financial investments in population health, developing regional architectures to address behavioral health and social determinants of health. The architectures were comprised of clinical and community stakeholders who collectively developed and implemented community-level interventions to improve population health by addressing gaps in services or care. The stakeholders also implemented universal processes for screening individual patients for medical, behavioral health, and health-related social needs; referring patients to community resources; and providing care coordination to improve access to resources (see ***Section 10****, Screening and Referral*). Michigan's systematic collection of screening data helped to inform the community-level interventions that the state pursued such as "Health Through Housing," an initiative to address unmet housing needs throughout the state.

Washington established nine regional architectures, reflective of the entire state, to develop and implement projects to improve population health and support local implementation of statewide payment reforms. Although these architectures were not explicitly tasked with improving the linkages between clinical and social services providers, they were expected to

increase collaboration across sectors through activities such as compiling local health priorities into a regional needs inventory. After Washington received a $1.1 billion Medicaid Transformation waiver early in the SIM Initiative, the architectures shifted their focus away from population health and toward supporting health care system redesign.

Delaware had originally intended to implement 10 local population health architectures during the SIM Initiative, but decided to concentrate its efforts and pilot three. These local councils and their community partners applied for grants to pursue pilot projects to address non-clinical needs prioritized by the community. Examples include a program to divert individuals with behavioral health problems from the criminal justice system and into treatment, and a project to prevent domestic violence and substance use among at-risk middle school students.

Idaho designated its seven local public health districts as backbone agencies for regional architectures designed to support patient-centered medical home (PCMH) practice transformation at the local level, foster connections between PCMHs and their medical-health neighborhood, and identify and meet local population health needs. For example, one architecture aimed to improve nutrition in a rural portion of the state by partnering with area grocery stores. Local leaders had significant discretion to operate their population health architectures without state direction.

Connecticut intended to form two types of population health architectures. The first type of architecture, which was implemented as intended following delays, created partnerships between health systems and community-based organizations to expand delivery of preventive services within the community. The second type of architecture, which was only just starting work at the end of the SIM Initiative, manifested as local collaboratives to mitigate health-related social, economic, and physical needs within communities.

9.2 Cross-State Lessons

9.2.1 Coordinated systems benefits

The concept of a regional population health architecture was new for many states; therefore, creating systems of these architectures often involved large time and monetary investments. Because the architectures were mostly new, they benefitted from the flexibility to identify effective strategies within the bounds of a clear vision for translating theoretical ideas for improving population health into coordinated actions. The importance of this vision was clear in Connecticut. Although stakeholders applauded the state's framework for improving population health, they were concerned about implementation delays, ambiguous goals, and a lack of alignment of the local collaborative initiative with other ongoing initiatives. In Idaho, stakeholders were ambivalent regarding the autonomy granted to local or regional architectures. For instance, some believed that the flexibility was freeing, whereas others recommended greater

coordination by the state—particularly as the population health architectures began to identify best practices and opportunities for standardization.

9.2.2 Population priorities

Population health architectures convened clinicians, social service providers, and other community stakeholders to plan and implement population health projects focusing on specific health problems or subpopulations (see ***Exhibit 9-2***). The diversity of the projects reflected the variable needs of the localities or regions that the population health architectures represented.

Exhibit 9-2. SIM Initiative states implemented a variety of community-level interventions targeting key health problems and patient populations

Example interventions

- **Delaware's** architectures addressed concerns that included, but were not limited to, domestic violence, homelessness, and behavioral health.
- An **Idaho** architecture developed a program to address high rates of suicide by delivering training sessions and toolkits to primary care providers.
- **Iowa's** architectures focused on community-based strategies for diabetes management.
- In **Michigan**, one architecture created an emergency department alternative for people experiencing behavioral health crises.
- **Washington's** architectures developed initiatives to address the opioid crisis in their catchment areas.

Notes: Connecticut did not implement community-level interventions.

SIM = State Innovation Models.

Sources: Federal Evaluation Team review of interviews, focus groups, and state documents.

9.2.3 Strengthening of linkages

> "I think that our most successful efforts have been in areas where folks embraced the need to break down barriers between the different sectors and services."
>
> —Michigan state official

Population health architectures commonly prioritized efforts to address social determinants of health by strengthening the linkages between clinicians and social service providers. In most states, these linkages resulted from engaging representatives from different sectors to identify population health priorities and implement community-level interventions that required cross-sector action. In Iowa and Michigan, linkages also resulted from bidirectional referrals between clinical and social service agencies to meet the health-related social needs of individual patients. Stakeholders from across states reported that population health architectures strengthened linkages by facilitating communication and coordination between clinicians and social service providers that would not have occurred without the SIM Initiative. In Connecticut, stronger linkages were associated with tangible benefits, including improved capacity for chronic disease management, new workflows and

staffing models, and new data sharing arrangements. Additional benefits include the adoption and refinement of evidence-based care, new interventions to address social determinants of health, and increased experience with pay-for-performance models.

9.2.4 Data use

Population health architectures used data to determine the needs of their populations and show the value of their efforts. Data were needed to identify key regional health problems and address those problems through well-designed interventions. For example, Washington developed interactive dashboards with claims, immunization, and Behavioral Risk Factor Surveillance System data to inform the population health architectures' planning. These dashboards were supported at the state level by a dedicated team of analysts, developers, and managers. In contrast, the lack of data to guide population health improvements was particularly challenging in Idaho, where delays led the state to abandon plans to compile data to inform the work of its regional population health architectures. Without data from the state, the population health architectures were forced to select projects on their own. Although some architectures were able to compile data from their members, local clinics, Medicaid, and community health assessments, others struggled. The lack of data ultimately constrained efforts to coordinate population health work across regions and sustain their architectures.

> "While we picked priority areas to go ahead and focus on, and we could follow up with some Medicaid data, we weren't really able to measure the full population impact."
>
> —Idaho population health architecture representative

Stakeholders likewise described mixed access to data for evaluating population health architectures' interventions. Available data were often limited to isolated pilot projects. For example, Iowa conducted a pilot study to assess the impact of its regional architectures and found evidence that the coalitions reduced the total cost of care, but the study was limited to a small cohort of patients. Delaware lacked funding to evaluate its architecture's pilot projects during the SIM Initiative, but investors facilitated evaluation during the post-award period by creating a population health data portal. Although the portal was launched after the SIM award period, the state intends for local stakeholders to use the data to inform and evaluate future population health activities.

9.2.5 Return on investment

Stakeholders commonly believed that population health architectures could only be fully sustained if there was evidence of a return on investment. States could not often produce such evidence during the SIM Initiative for two reasons. First, the previously mentioned lack of data precluded states from assessing the impact of their population health interventions. Second, the duration of the SIM Initiative was usually sufficient for population health architectures to become operational, but was insufficient for them to demonstrate their effectiveness. Population

health architectures addressed complex health problems and vulnerable populations for which quick and easy solutions were rarely an option.

The Federal Evaluation Team had data from Iowa and Michigan to investigate whether counties with population health architectures had better health and utilization outcomes than comparison counties without such architectures. The impact analyses revealed few near-term improvements in the outcomes examined (see ***Appendix E****, Iowa*, and ***Appendix F****, Michigan*). Although population-level improvements are expected to result from the architectures, it is likely that insufficient time has passed for the impacts to appear. Furthermore, more targeted analyses focusing on the specific patients that the architectures served could yield different results. The complexities affecting the Federal Evaluation Team's analysis are thus consistent with the difficulty that the states encountered when attempting to demonstrate the impact of their architectures. The lack of evidence for impact underscores the need to consider the evaluability of architectures moving forward, which was beyond the scope of the SIM Initiative evaluation.

9.3 Sustainability and Future Directions

Consistent with mostly positive feedback from stakeholders involved in population health architectures, most states planned to sustain or grow at least some of their architectures after the end of the SIM Initiative. Recognizing that the duration of the SIM Initiative was not long enough to improve population health outcomes or show a return on investment, Delaware, Michigan, and Washington fully sustained their architectures after state officials pursued and secured state-level funding. Delaware stakeholders created a new entity to serve as a backbone organization by using a blend of state, private, and local government funding to prioritize, fund, and evaluate new local initiatives. Michigan similarly sustained its architectures by using state funding allocated by the Governor. The funding was supplemented in some cases with payments from health plans, local philanthropy, and other resources pursued by the architectures themselves. Washington planned to fully sustain its architectures by using Delivery System Reform Incentive Payment (DSRIP) funds.

In contrast, Connecticut, Iowa, and Idaho did not pursue sustainable funding for population health architectures at the state level, and only some of their architectures secured additional resources. Connecticut provided an additional year of funding for its local collaboratives but discontinued plans to seek additional funding because of ambivalence among participating payers, providers, and funders. Iowa and Idaho provided technical assistance to help the states' architectures develop their own sustainability plans, which stakeholders regarded as helpful, even if results were mixed.

Across states, stakeholders reported that additional time and data to demonstrate the effectiveness of and return on investment for population health architectures would have helped them sustain their work more easily.

10. Using Statewide Screening and Referral Processes to Meet Patients' Health-Related Social Needs

- Iowa and Michigan developed and distributed standardized screening tools that helped them identify health-related social needs (HRSNs) at the patient and population levels.
- Processes for screening patients and referring them to community services strengthened linkages between providers and social service agencies.
- Community resources were not always sufficient to meet the HRSNs of all patients.

Social determinants of health (SDoH) are the social and economic factors that shape individuals' lived experiences and drive variation in many health outcomes.[96] SDoH include economic stability, education, social and community contexts, health and health care, and the neighborhood and built environment.[97] Professionals in the medical and public health communities are increasingly focused on SDoH because they drive more variation in health outcomes than clinical care.[98]

One way health systems can start to address SDoH is by implementing processes to screen and refer patients for unmet health-related social needs (HRSNs).[99, 100] Screening and referral processes commonly support other population health strategies, such as improving the linkages between health and social service providers, promoting payment models designed to improve population-level health outcomes, and increasing workforce capacity through additional training and new types of providers (see ***Section 11**, Community Health Workers*).

As part of the SIM Initiative, Iowa and Michigan each developed and distributed standardized screening tools to identify individuals with unmet HRSNs (***Exhibit 10-1***). These tools were deployed fairly uniformly across the states, although some localities in Michigan used a slightly modified form of the tool. To help address individuals' unmet needs, Iowa and Michigan complemented the screening efforts with large investments in regional architectures

[96] Braveman, P., & Gottlieb, L. (2014). The social determinants of health: It's time to consider the causes of the causes. *Public Health Reports, 129*(Suppl. 2), 19–31. doi:10.1177/00333549141291S206

[97] Healthy People 2020. (2020). *Social determinants of health*. Washington, DC: U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health

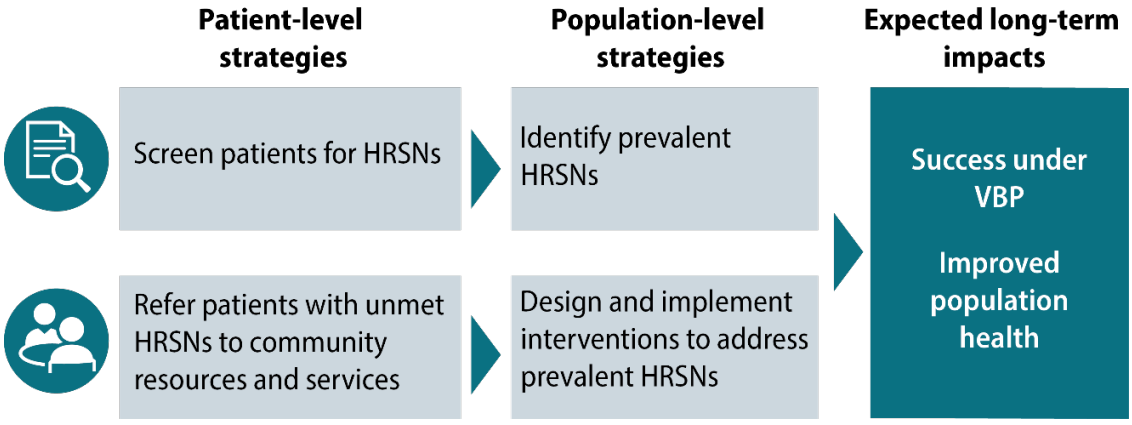
[98] Hood, C. M., Gennuso, K. P., Swain, G. R., & Catlin, B. B. (2016). County health rankings: Relationships between determinant factors and health outcomes. *American Journal of Preventative Medicine, 50*(2), 129–135. doi:10.1016/j.amepre.2015.08.024

[99] Billioux, A., Verlander, K., Anthony, S., & Alley, D. (2017). Standardized screening for health-related social needs in clinical settings: The Accountable Health Communities screening tool. *NAM Perspectives*. Discussion paper, National Academy of Medicine, Washington, DC. https://nam.edu/standardized-screening-for-health-related-social-needs-in-clinical-settings-the-accountable-health-communities-screening-tool/

[100] Alley, D. E., Asomugha, C. N., Conway, P. H., & Sanghavi, D. M. (2016). Accountable health communities—Addressing social needs through Medicare and Medicaid. *New England Journal of Medicine, 374*(1), 8–11. doi:10.1056/NEJMp1512532

that facilitated referrals between clinicians and social service agencies (see ***Section 9***, *Population Health Architectures*). This current section describes Iowa's and Michigan's screening and referral processes and provides integrated lessons based on their implementation experiences.

Exhibit 10-1. Two SIM Initiative states aimed to improve population health by meeting patients' health-related social needs



Notes: Both IA and MI pursued patient-level strategies during the SIM award period; MI also pursued population-level strategies. Long-term impacts were not measurable during the SIM evaluation.

IA = Iowa; HRSN = health-related social need; MI = Michigan; SIM = State Innovation Models; VBP = value-based payment.

Sources: Federal Evaluation Team review of interviews, focus groups, and state documents.

10.1 State Approaches

In Iowa, a SDoH work group developed a screening tool based on 13 SDoH measures. This screening tool was designed to standardize data collection on SDoH so that providers would be prepared to succeed under alternative payment models (APMs).[101] Iowa's managed care organizations (MCOs) and 24 regional population health architectures administered the screening tool to patients. The patients who were identified as having unmet HRSNs were electronically referred to social service agencies or population health architectures to have their needs resolved.[102]

[101] Heeren, T., Conrad, A., Schultz Spinarski, R., Ronnenberg, M., Momany, E., & Damiano, P. (2019). *State Innovation Model (SIM) evaluation report on award year 4 (AY4) activities.* University of Iowa Public Policy Center. https://ppc.uiowa.edu/sites/default/files/sim_evaluation_ay4.pdf

[102] Iowa Department of Public Health. (2017). *Community and Clinical Care (C3) initiative: Referral process resulting from patient visit to primary care provider*. https://idph.iowa.gov/Portals/1/userfiles/38/C3%20Referral%20Flow%20Process%20-%20Provider.pdf

In Michigan, the Department of Health and Human Services developed a 12-item SDoH screening tool[103] from an existing toolkit, the Health Leads Social Needs Screening.[104] Patient-centered medical homes (PCMHs), social service agencies, faith-based groups, and schools began administering this screening tool in select settings in late 2017. By the end of the award, PCMH staff, such as care coordinators, care managers, and SIM-supported community health workers (CHWs), were administering the screening to all patients. Patients identified as having unmet needs received services from care coordinators, care managers, CHWs, and other staff from the screening organization. When patients' needs could not be met by the screening organization, the patients were referred to regional population health architectures that provided care coordination and care navigation services.

10.2 Cross-State Findings

10.2.1 Identification of patient needs

Stakeholders in Iowa and Michigan reported that screening and referral processes helped identify vulnerable populations so that providers could prevent adverse health outcomes. Providers in Michigan were initially hesitant to address non-medical issues in the clinical setting but grew to value the screening process for offering new insights about their patients' health. The providers' insights then created opportunities to refer patients to helpful resources accessible directly from the clinic or from their community partners. In Iowa, community partners, payers, provider associations, and state officials alike reported that provider support for screening grew as providers realized that population health outcomes rewarded under new APMs could not easily be improved without attention to patients' HRSNs.

> "Through the data we have collected through our SDoH assessments, we provided capacity building in areas of social resources so providers could better serve their patients either through referrals to another agency or as an opportunity to rebuild and re-establish relationships at the clinical level with the people they serve. It increased trust."
>
> —Michigan population health architecture staff

> "Even if we did clinical health care perfect, we could only affect about 20 percent of the cost … As providers begin to realize that they will be assuming whole-dollar risk, and they can only affect 20 percent of it, they are much more interested in figuring out how to actually move the community."
>
> —Iowa community partner

In Michigan, screening also led stakeholders to implement systems-level changes to address needs they identified throughout the population. Screening data compiled across regions revealed a statewide gap in housing services, which led the state to develop a

[103] Michigan Department of Health and Human Services. (2017). *SIM brief screening questions*. https://www.michigan.gov/documents/mdhhs/SIM_Brief_Screening_Questions_552705_7.pdf
[104] Health Leads (2018, September 17). *The Health Leads screening toolkit.* https://healthleadsusa.org/resources/the-health-leads-screening-toolkit/

pilot initiative to identify and direct resources to individuals experiencing homelessness and frequently using the emergency department (ED). Although Iowa had not yet aggregated screening data when the SIM Initiative ended, state officials planned to compile a data dashboard on Medicaid beneficiaries' social needs.

10.2.2 Cross-sector coordination

Screening and referral processes in each state included feedback loops and strong communication that allowed social services agencies and clinical providers to better coordinate their services. Stakeholders in both states believed that the coordination achieved would not have been possible without SIM Initiative investments. For example, a population health architecture in Iowa developed an intervention linking paramedics and a local health department to reduce inappropriate ED use by identifying and addressing social needs that led some patients to request ambulances when it was not medically necessary.

> "[When] we first rolled out requirements on social needs screening … we saw [providers] were resistant, generally. There wasn't a concept of how it could be utilized in the care delivery space and have it impact the delivery of services. We are now to that space. We have seen positive comments from providers … They were able to gain rapport and trust with clients and leverage information in ways they didn't think about—"Why didn't we know this 10 years ago about someone we have been seeing for 25 years?" It was definitely a culture shift here in Michigan."
>
> —Michigan state official

Stakeholders from each state believed that even greater coordination might have been possible, had they been able to resolve challenges associated with exchanging patient data. Clinical providers and social service agencies use different information technology platforms, and differences in each organization's data formats, definitions, and workflows make it difficult to aggregate meaningful data needed to coordinate services effectively. Patients' privacy concerns compounded the difficulties in aggregating data. For example, in Michigan, providers said that when they asked their patients if they could share their health information with social service agencies and population health architectures, some of their patients refused.

10.2.3 Sufficiency of community resources

Although providers and patients in Iowa and Michigan generally supported screening and referral processes, they also indicated that community resources were not always sufficient to meet the community's HRSNs. Providers indicated that communities sometimes lacked resources corresponding to specific needs, patients were not always eligible for the available resources, and social service agencies could not always provide enough services to fully resolve patients' needs.

In Michigan, housing, transportation, and behavioral health needs were especially difficult to meet. Recognizing the limits of community resources, some population health architectures developed community-level pilot projects to address gaps.

> "We had representatives from Goodwill or housing authorities and others that saw the unmet needs or gaps in care in mental health … and pharmacists were an untapped resource for behavioral health services."
>
> —Iowa community partner

10.3 Sustainability and Future Directions

Both Iowa and Michigan sustained screening and referral processes after the SIM Initiative ended. Effective July 2019, Iowa required that Medicaid MCOs report on the SDoH measures selected by the state's workgroup. State officials intended to compile the measures in a data dashboard that they will use to assess the performance

of their APMs and inform value-based payment strategy. In Michigan, PCMHs and population health architectures sustained screening and referral processes first implemented during the SIM Initiative. The state further signaled its commitment to scaling SIM population health activities by developing a state health improvement plan aligned with its standardized screening tool. Compared with state improvement plans used by many other states, Michigan's plan has a distinct focus on addressing SDoH and health equity by using cross-sector, evidence-based, and preventive interventions. All together, both Iowa and Michigan ended the SIM Initiative with the tools in place to achieve widespread screening for HRSNs, but required additional work to understand patients' needs and implement population-level changes.

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11. Using Community Health Workers to Transform Delivery

- Connecticut, Idaho, Michigan, and Rhode Island trained and deployed community health workers (CHWs) as part of their SIM Initiative activities.
- CHWs were perceived to increase the capacity of health care teams and improve patient satisfaction and health.
- Although stakeholders viewed CHWs as valuable members of care teams, only some CHWs could be sustained.

Community health workers (CHWs) are frontline public health workers with lay knowledge of and close relationships with the communities they serve.[105] CHWs are also known as health promoters, patient navigators, peer counselors, or outreach educators.[106] CHWs enhance health care teams through outreach, trust building, patient and community engagement, and activities to address social determinants of health.[107]

Four states (i.e., Connecticut, Idaho, Michigan, and Rhode Island) developed the role of CHWs to increase the quality of care and improve health outcomes as a core SIM strategy. Prior to the SIM Model Test award period, Ohio was the only SIM Model Test state that had established a certification program for CHWs, although New York had identified CHWs as an optional team member in its Medicaid Health Home program.[108] Through the SIM Initiative, Connecticut, Idaho, Michigan, and Rhode Island sought to expand the CHW workforce by subsidizing training and certification of CHWs and funding CHW positions in clinical and community settings.[109]

In this section, we describe each state's approach to and stakeholder feedback regarding the value of CHWs in their roles as designated through the SIM Initiative. The federal evaluation revealed that CHWs in all four states were universally regarded by stakeholders as valuable members of the health care team, improving patient satisfaction and health.

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[105] APHA (American Public Health Association). (n.d.). Community health workers. https://www.apha.org/apha-communities/member-sections/community-health-workers

[106] National Center for Chronic Disease Prevention and Health Promotion. (2015, April). *Addressing chronic disease through community health workers: A policy and systems-level approach.* 2nd Ed. https://www.cdc.gov/dhdsp/docs/chw_brief.pdf

[107] Malcarney, M-B., Pittman, P., Quigley, L., Horton, K., & Seiler N. (2017). The changing roles of community health workers. *Health Services Research, 52*(Suppl 1), 360–382. doi:10.1111/1475-6773.12657

[108] London, K., Carey, M., & Russell, K. (2016). *Community health worker certification requirements by state.* https://www.cthealth.org/wp-content/uploads/2016/02/CHW-Certificaiton-by-State-Final-Final.pdf

[109] Delaware and Washington also included SIM strategies for CHW workforce development but are not described in this section. Washington's funding was limited to subsidizing a small number of CHWs in clinical settings, and Delaware terminated its effort during the planning stage.

11.1 State Approaches

Connecticut issued grants that allowed primary care practices to hire CHWs to provide comprehensive care management in community and clinical settings. Within the clinics, CHWs provided health education, helped patients manage chronic illnesses, and coordinated resources to meet patients' health-related social needs (HRSNs).

Idaho developed CHW training recommendations and partnered with Idaho State University to train new and existing practice staff to function as CHWs. A total of 107 individuals received training. Stakeholders then used SIM funds to deploy CHWs to clinical and community settings in rural and underserved areas of the state to increase the capacity of health care teams and improve health equity.

In Michigan, Medicaid provides reimbursement for the services of CHWs and other care coordinators who work in health care teams in patient-centered medical homes (PCMHs).[110] The state facilitated CHW adoption by requiring Medicaid managed care organizations (MCOs) to provide CHW services themselves or to contract with local clinics or community-based organizations to do so. CHWs facilitated practice transformation by screening patients for HRSNs, helping patients manage chronic diseases, referring patients to community resources, and conducting follow up with patients who used emergency care.

Prior to and independent of the SIM Initiative, Rhode Island established a process whereby CHWs could undergo training with an organization of their choosing and achieve certification through the Rhode Island Department of Health after meeting state requirements.[111]

CHWs were deployed as part of Community Health Teams (CHTs) assigned to specific geographical areas and comprised of at least two CHWs and a community-based licensed health professional. The SIM Initiative allowed the state to increase the number of CHTs to support primary care providers in new locations, each with CHWs as team members. The team members worked together to assess patient needs, develop care plans, and coordinate with referring primary care providers, providing services in both clinical settings and the community.

[110] State of Michigan. (n.d.). *Comprehensive Health Care Program for the Michigan Department of Health and Human Services*. https://www.michigan.gov/documents/contract_7696_7.pdf
[111] Alexander-Scott, N., Garneau, D., & Dunklee, B. (2018, January). *Community health workers in Rhode Island: Growing a public health workforce for a healthier state.* Rhode Island Department of Health. https://health.ri.gov/publications/reports/CommunityHealthWorkersInRhodeIsland.pdf

11.2 Cross-State Lessons

11.2.1 Health care team capacity

Providers viewed CHWs as increasing the capacity of health care teams by providing additional supports for high-risk patients and removing barriers to care. For example, in Connecticut, practice staff regarded CHWs as particularly helpful when serving patients with high utilization of health care services and difficult-to-manage conditions. CHWs helped providers by monitoring patients and delivering services to prevent inappropriate health care use and poor health outcomes. Providers in Michigan similarly regarded CHWs as an integral part of the health care team, especially critical for identifying unmet social needs that could undermine patient health and treatment (see ***Section 10***, *Screening and Referral*). Idaho's SIM Initiative experience underscored the perceived value of CHWs among providers. Although state officials initially believed that they would need to incentivize CHW adoption by using practice recognition and funding, they instead found that providers were eager to add CHWs to their workforce and upskill existing staff regardless of the incentives.

> "I think that's something that people are understanding, that [CHWs] are a valuable component of the health care team and can really have an understanding of the patients. A lot of times, the CHW has some experiences and can provide a different perspective to the health care team that somebody on the medical side would not have."
>
> —Idaho state official

11.2.2 Patient satisfaction and health

CHWs were also well-received by patients, improving both patient satisfaction and patient health. Stakeholders in Connecticut reported that patients were excited to have access to CHW services. In Idaho, providers said that CHWs helped engage patients in care, meeting a range of patient needs and improving health outcomes. The Rhode Island state evaluator determined that CHTs, including CHWs, successfully delivered quality care associated with high patient satisfaction.[112] The Rhode Island state evaluator also found that CHTs reduced patients' health risk, social needs, and behavioral health symptoms.

> "When [CHWs] make that connection, you see what a huge gift it is for that person or for their family. There's that tangible connection of support and something that above and beyond what most of the beneficiaries would think would be available from a health system and really kind of meeting them where they're at."
>
> —Connecticut provider

[112] University of Rhode Island, Rhode Island State Evaluation Team. (2019, August 7). *SIM Community Health Team final evaluation report.* http://www.eohhs.ri.gov/Portals/0/Uploads/Documents/SIM/CommunityHealthTeamStateEvaluation-Final.pdf

11.3 Sustainability and Future Directions

In response to stakeholder enthusiasm for expanding the CHW role, states planned to continue training and certifying CHWs after the SIM Initiative ended, but sustainable funding for CHW services was sometimes complex and difficult to achieve. In July 2019, the Connecticut state legislature approved a CHW certification program that established expectations for CHW education, training, and experience to be delivered by providers approved by the state's CHW Advisory Body. As of February 2020, nine CHWs were certified. Stakeholders believed that the certification program would eventually support the case for reimbursement, though state officials feared that long-term sustainability would require a return on investment. Entities that hired CHWs using SIM funds through Connecticut's Community and Clinical Integration Program nevertheless intended to fund the CHW positions after the SIM Initiative ended.

In Idaho, university partners agreed to continue CHW training without SIM funding, but stakeholders believed continued growth of value-based payment models would be necessary to enable practices to retain CHW positions long term.

In Michigan, Medicaid officials created billing codes for CHW services and scaled up the CHW workforce by requiring Medicaid MCOs to increase the ratio of CHWs to MCO members. The contracts for Medicaid Health Plans also provide incentives to continue training for CHWs and other care coordinators.

In Rhode Island, CHTs, including CHWs, will be sustained through strategies employed prior to the SIM Initiative by braiding funding from Medicaid, federal grants, and commercial health plans.

12. Improving Care Delivery for Rural Communities

- Six states promoted participation from rural providers in SIM delivery reforms by providing free technical assistance for practice transformation and offsetting practice costs for participation in value-based payment.
- Using peer-mentoring models, states improved the capabilities of providers in rural areas.
- Expanding telehealth required significant investment in practices and was hindered by policy and payment barriers.
- Many of the rural models implemented through states' SIM efforts received widespread support from stakeholders and have been sustained in the short term.
- Long-term sustainability could be facilitated by policies that target rural transformation, multi-payer participation, or rigorous evaluations.

Inclusion of rural providers in SIM initiatives was perceived as an essential strategy for reaching statewide transformation goals in some SIM states with large rural communities. Across SIM states, over one-fifth of households live in rural counties in Iowa, Idaho, Tennessee, Michigan and Ohio.[113] However, rural delivery systems experience critical deficits in infrastructure, primary care workforce shortages, and limited access to specialist services, which hinder transformation and disadvantage providers seeking to participate in value-based payment (VBP) arrangements.[114] Barriers to full participation in VBP because of infrastructure deficits are often compounded for rural primary care practices by their small size and a lack of affiliation with a larger health system. As a result, rural primary care practices may fall short of the minimum patient panel size requirements or lack internal resources necessary to participate in VBP models. The SIM Initiative presented a unique opportunity for states to support health care transformation in rural areas in part because rural health providers are heavily reliant on public financing and disproportionately treat uninsured and Medicaid patients.

This section describes states' strategies and lessons learned related to transforming care in rural provider networks in six SIM states: Colorado, Delaware, Idaho, New York, Ohio, and Washington. These states employed recruitment strategies or included program features that would broaden participation among primary care practices expected to have a high impact on rural practices. Some of these states also sought to address specific barriers to access that are prominent in rural communities through models such as telehealth infrastructure, which are also described. While this section highlights the potential for models to work in rural areas, models frequently benefited other communities. Uniquely, Washington developed two payment models

[113] The SIM states with the highest percentages of households living in rural counties were Iowa (37 percent), Idaho (33 percent), Tennessee (34 percent), Michigan (28 percent) and Ohio (21 percent). Source: Calculations based on U.S. Census Bureau (2010). *2010 Census Congressional District Summary File (113th Congress), Table H2.*

[114] American Hospital Association. (2019). *Rural report: Challenges facing rural communities and the roadmap to ensure local access to high-quality, affordable care*. https://www.aha.org/system/files/2019-02/rural-report-2019.pdf

for safety net providers, which included rural health centers, other community health centers and rural hospitals. The section concludes with several considerations for state and federal policy makers based on cross-state lessons learned.

12.1 Recruitment to Statewide Reforms

Most SIM Initiative states successfully recruited rural practices to statewide delivery and payment reforms. ***Exhibit 12-1*** compares the percentage of providers in rural areas in each state compared with the same percentage among providers participating in SIM-initiated delivery or payment reforms. Practices were designated as rural if they were located in ZIP codes with populations of less than 10,000 in core-based statistical areas[115] and other rural ZIP codes identified by the Federal Office of Rural Health Policy.[116] In six out of the nine SIM states for which data from SIM initiatives were available, there were greater proportions of rural SIM-participating practices than expected, based on the proportion of rural primary care practices in the state (Rhode Island has no rural providers and is not shown).[117] For instance, in Colorado, 15 percent of primary care practices were in rural ZIP codes, but rural practices accounted for 26 percent of practices participating in Colorado's multi-payer SIM initiative by the end of 2017.

Strong participation among rural providers was likely attributable to recruitment strategies intended to attract practices with specific features that are prominent among rural primary care practices. These recruitment strategies included offering free technical assistance (TA) and practice coaches without requiring participation in a VBP program or achievement of PCMH certification first, as well as mini-grants to fund small infrastructure upgrades. These strategies appealed to practices that had not yet embarked on transformation or lacked readiness for VBP, as well as those without the internal resources to undergo transformation on their own, usually small and independent practices. Another recruitment strategy that was potentially helpful for practices with limited resources was the use of criteria for participation in a VBP program that did not impose high upfront costs, (e.g. not requiring national certification). In addition, most states anchored SIM payment models in Medicaid, which is a prominent payer in rural areas. Medicaid's participation provided some assurance to practices with low investment capacity that they would see a return on their investments through enhanced Medicaid payments. Flexible terms in Medicaid MCO contracting likely contributed to increasing participation in VBP by rural practices in Delaware and Iowa. Individual Medicaid plans in these two states noted that the flexibility to negotiate terms for VBP contracts, which the states afforded them through MCO contracts, allowed them to recruit new practices to VBP products and specifically

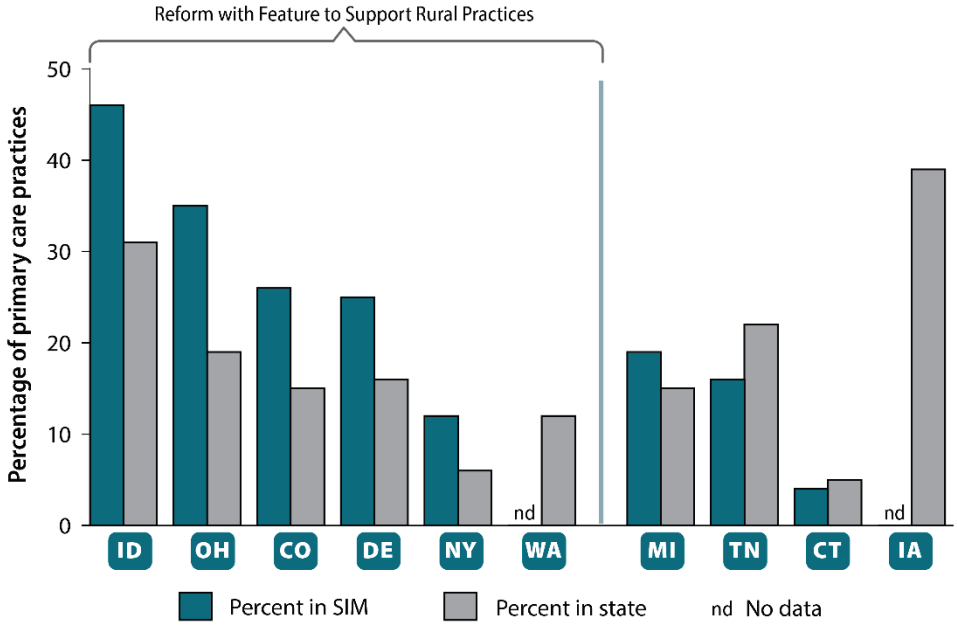
[115] U.S. Census Bureau. (n.d.). Core-based statistical areas. https://www.census.gov/topics/housing/housing-patterns/about/core-based-statistical-areas.html

[116] HRSA (Health Resources and Services Administration).(n.d.). Federal Office of Rural Health Policy (FORHP) data files. https://www.hrsa.gov/rural-health/about-us/definition/datafiles.html

[117] Characteristics of SIM practices were derived from practice identifiers supplied by SIM states, data merged with these identifiers to derive practice locations and practitioner composition at those locations, and other procedures to validate participation of practice locations in specific state programs. For more information, see ***Section 8***, *Market Characteristics*.

described rural and small practices as benefiting. In Iowa, this flexibility came late in the award period. For details about the use of Medicaid MCO contracting to further VBP, see ***Section 5***, *Medicaid MCO Contracting*.

Exhibit 12-1. SIM states that aimed to support rural practices were successful in recruitment



Notes: States ordered by percentage of primary care practices participating in the SIM Initiative. Practices were designated as rural if they were located in ZIP codes with populations of less than 10,000 in core-based statistical areas[a] and other rural ZIP codes identified by the Federal Office of Rural Health Policy[b]. Practice locations were not available for IA and WA, and RI does not have rural ZIP codes

[a] U.S. Census Bureau. (n.d.). *Core-based statistical areas*. https://www.census.gov/topics/housing/housing-patterns/about/core-based-statistical-areas.html

[b] HRSA (Health Resources and Services Administration).(n.d.). *Federal Office of Rural Health Policy (FORHP) data files*. https://www.hrsa.gov/rural-health/about-us/definition/datafiles.html

CO = Colorado; CT = Connecticut; DE = Delaware; IA = Iowa; ID = Idaho; MI = Michigan; nd = no data; NY = New York; OH = Ohio; RI = Rhode Island; SIM = State Innovation Models; TN = Tennessee; WA = Washington.

Source: RTI International Consolidated Provider Database, 2017 data.

12.1.1 State experiences with rural recruitment

State experiences with recruitment to statewide initiatives suggest that a combination of approaches is most effective for increasing rural provider participation in statewide reforms. Relative to other states, Idaho and Ohio were especially successful in recruiting rural practices to SIM models for primary care. In Idaho, rural practices accounted for 46 percent of practices participating in the state's PCMH SIM model, yet accounted for 31 percent of primary care practices statewide. In Ohio, rural practices accounted for 35 percent of practices participating in the state's Medicaid PCMH program, yet accounted for 19 percent of primary care practices

statewide. Both Idaho and Ohio used a combination of approaches that could benefit practices with features prominent in rural areas, yet not every strategy worked as anticipated.

Idaho included design features in its PCMH program that would specifically benefit rural practices. The aim of the virtual PCMH component was to expand rural access by providing practices the option to add one of the following three capabilities: telehealth, community health workers, or community health emergency medical services (CHEMS) within their primary care practices. A practice could apply for telehealth grants and receive free telehealth consulting to establish it as a telehealth site. Although the cost of upfront investments could be partially offset by a lump-sum payment earned by practices attaining national PCMH recognition, stakeholders reported that this lump-sum payment was too small relative to costs to be a strong incentive.

In Ohio, Medicaid simplified enrollment in its PCMH program, the Ohio Comprehensive Primary Care (Ohio CPC), for practices participating in Medicare's Comprehensive Primary Care Plus (CPC+) alternative payment model by conferring their eligibility for Ohio CPC. In addition, the Ohio CPC aligned quality metrics with the CPC+. After early enrollment demonstrated low participation from rural and small practices in Ohio, Medicaid removed national PCMH recognition as a requirement for Ohio CPC and created a practice partnership option that was intended to allow small practices to group together to reach minimum panel size requirements for participating in the Ohio CPC. Ohio added 20 newly created practice partnerships to the OH CPC by January 2019. It is important to note that the small practices that leveraged the partnership option were nearly all affiliated with the same health system.

Examples of approaches used by other states are presented in ***Exhibit 12-2***.

Exhibit 12-2. State examples of recruitment strategies and supports to primary care practices in SIM delivery reforms to improve rural health

- **Colorado** offered TA and provided practice facilitators to help practices assess and address gaps in care, report quality measures, and integrate BH with primary care. Primary care providers also could apply for grants, which they used to improve health IT systems, hire case managers or in-practice BH clinicians, and add other infrastructure.
- **Delaware** provided TA and practice coaches to assess practice readiness for VBP, support progression toward milestones aligned with common PCMH standards, and advance practices' goals for BHI. Primary care and BH practices also could apply for grants, which they used for EHR upgrades and other investments related to their transformation goals.
- **New York** offered TA to support primary care practices in achieving PCMH certification, generated quality measurement feedback reports to practices receiving TA, paid practices' first year of national certification fees, and offered grants to offset subscription fees for the state's health information exchange.
- **Washington** offered TA through a web-based resource portal and on-site coaching to support primary care transformation and BHI.

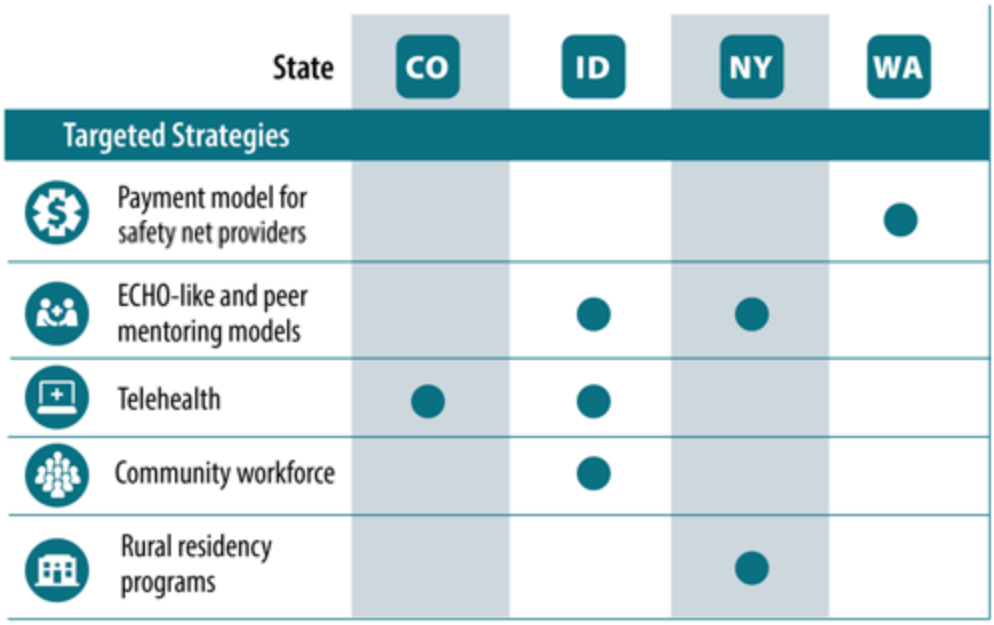
Note: BH = behavioral health; BHI = behavioral health integration; EHR = electronic health record; health IT = health information technology; PCMH = patient-centered medical home; SIM = State Innovation Models; TA = technical assistance; VBP = value-based payment.

Sources: Federal Evaluation Team review of interviews, focus groups, and state documents.

12.2 Models for Rural Communities

Colorado, Idaho, New York, and Washington implemented smaller, targeted models specifically designed to improve access to care in rural communities and, in some cases, to benefit other regions experiencing workforce shortages (***Exhibit 12-3***). States used these strategies to expand access to specialty care, enhance primary care providers' (PCPs') capabilities, and expand or stabilize the rural workforce.

Exhibit 12-3. Targeted SIM strategies enhance access for rural communities



Note: CO = Colorado; ECHO = Extension for Community Healthcare Outcomes; ID = Idaho; NY = New York; SIM = State Innovation Models; WA = Washington.

Sources: Federal Evaluation Team interviews, focus groups, and state documents.

Strategies included telehealth or telehealth infrastructure, Extension for Community Healthcare Outcomes (ECHO)–like and peer mentoring models, workforce models, and, in Washington, payment models for safety net providers. We do not include a discussion of Rhode Island's implementation of its telephonic consultation service, the Pediatric Psychiatry Resource Network (PediPRN), although the model could be applied to support rural providers (for more details about the PediPRN, see ***Appendix I****, Rhode Island*).

12.2.1 Payment models

Washington designed two payment models for safety net providers with their SIM award: a Medicaid payment model for Federally Qualified Health Centers (FQHCs) and a multi-payer model for rural hospitals. The state intended rural health clinics to participate in both models. Washington's SIM experience demonstrated that states, as purchasers, have leverage to initiate payment reform for FQHCs but may experience harder limits to payment reforms in rural delivery systems where dependence on Medicare revenue is greater.

With support from the SIM Initiative, the Washington State Health Care Authority (HCA) created a voluntary per member per month (PMPM) payment option for FQHCs and rural health clinics. Alternative payment models for FQHCs have been implemented in at least 20

state Medicaid programs,[118] and state officials drew from Oregon's model to inform Washington's model design.[119] Sixteen FQHCs participated in the PMPM model, reflecting half of all of the health centers in Washington State. Interviewees from the FQHCs cited many reasons for non-participation. The reasons included reluctance to move away from accustomed approaches, a lack of clear financial benefit to the clinic, and an insufficient number of attributed patients to produce reliable performance measures.[120] In addition, the state was unable to recruit many rural clinics. Rural clinic interviewees explained that there was the lack of sufficient infrastructure and only a small portion of patients at their clinics were attributed to the program (Medicaid managed care enrollees).[121] Despite barriers to recruitment, participating FQHCs reported changes in the ways in which they delivered care, including conducting more outreach to families, more efforts to obtain services for Medicaid beneficiaries outside the clinic, additional quality improvement and health IT resources, and improved workflows. As of April 2019, the Washington State HCA planned to sustain the PMPM model with some adjustments.

Washington developed a multi-payer payment model to improve the financial stability of rural hospitals and their primary care networks but did not implement it. The model was informed in part by a VBP pilot in Medicaid for critical access hospitals (CAHs) that provided additional lump-sum payments for achieving quality benchmarks.[122] Washington intended the multi-payer model to move hospitals away from incentives based on visit volume, create predictable budgets for providers and payers, encourage hospitals to invest in and coordinate with other providers on care management, and address social determinants of health.[123] Despite several years of planning and model revision, Washington decided not to implement the rural multi-payer model when state officials did not receive approval in 2019 for participation by Medicare. The Washington State HCA made this decision out of concern that omitting a major payer of CAHs would undermine success, despite receiving 23 letters of interest from organizations hoping to participate, including many rural health clinics. Although Medicaid programs can effectively implement payment and delivery system reforms with FQHCs as their largest payer, state reforms are more difficult to implement in rural hospitals where Medicare is a

[118] NACHC (National Association of Community Health Centers). (2020). *Payment and delivery reform*. https://www.nachc.org/focus-areas/policy-matters/medicaid-and-medicare/payment-and-delivery-reform/
[119] NACHC (National Association of Community Health Centers). (2018, May). *Spotlight on health center payment reform: Washington state's FQHC alternative payment methodology*. https://www.nachc.org/wp-content/uploads/2018/05/NACHC-WA-APM-Case-Study-2018.pdf
[120] Nichols D., Ghandi S., Ayub, A. et al. (2018, July). *SIM Round 2: Model Test year two annual report*. Appendix K. https://downloads.cms.gov/files/cmmi/sim-round2test-secondannrpt.pdf
[121] Bir A., Ghandi S., Berkman, N. D., et al. (2020). *SIM Round 2: Model Test year three annual report*. Appendix K. https://downloads.cms.gov/files/cmmi/sim-rd2-test-ar3.pdf
[122] Washington State Health Care Authority. (2018, December 1). *Report to the legislature*: *Washington rural health access preservation pilot*. Interim status report. https://app.leg.wa.gov/ReportsToTheLegislature/Home/GetPDF?fileName=HCA%20Report%20-%20WA%20Rural%20Health%20Access%20Preservation%20Pilot_76d9c5ac-a010-4c22-9b1e-ec4de76c7371.pdf
[123] Washington State Health Care Authority. (2019, June 24). YouTube video: *Washington rural multi-payer model*. https://www.youtube.com/watch?v=ELbAU067i8c

larger payer than Medicaid. Washington has continued to explore opportunities for Medicaid to sustain CAHs after the SIM award period.

12.2.2 Extension for Community Healthcare Outcomes–like and peer mentoring models

Idaho and New York designed their peer mentoring programs on a widely replicated model, which is referred to as technology-enabled collaborative learning and capacity building, or ECHO and ECHO-like models (EELM).[124] EELM offer didactic and case-based presentations through interactive videoconferences between specialists and PCPs who are often based in remote and underserved locations. To increase the capabilities of PCPs, the curricula focus on narrow areas of common clinical and disease management care because this information can help reduce the need for patients to travel to see specialists. A federal review of EELM programs found a modest level of evidence supporting positive health impacts.[125]

Idaho and New York selected topics for peer mentoring to fit the needs of their rural and underserved communities. Idaho implemented programs through the University of Idaho in two clinical areas—opioids and behavioral health—reaching more than 60 and 34 organizations, respectively.[126] Idaho initially combined SIM funds with private foundation and federal grants and will sustain their program in the short term with a grant from the Substance Abuse and Mental Health Services Administration. New York established programs in four clinical areas, behavioral health, reproductive health, immune disorders, and infectious disease, together reaching more than 171 primary care spoke sites.[127] New York State officials were helping ECHO sites make the business case to attract private-sector financing as the SIM award period ended. This evaluation did not evaluate the impact of peer monitoring programs implemented by Idaho and New York.

12.2.3 Telehealth

Colorado and Idaho supported the expansion of telehealth into rural areas. Telehealth serves as a substitute for an in-person, patient–practitioner interaction by using technologies that support real-time (synchronous) visual, audial, and sometimes digital transferring physiological or diagnostic data between a practitioner at an originating site and a patient at a distal site.[128]

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[124] University of New Mexico, School of Medicine. (2020, May 12). *ECHO hubs & superhubs: United States*. https://echo.unm.edu/locations-2/echo-hubs-superhubs-united-states/

[125] U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation. (2019, March 1). *Report to Congress: Current state of technology-enabled collaborative learning and capacity building models*. https://aspe.hhs.gov/pdf-report/report-congress-current-state-technology-enabled-collaborative-learning-and-capacity-building-models

[126] University of Idaho. (2021). *Project ECHO: ECHO Idaho*. https://www.uidaho.edu/academics/wwami/echo

[127] NYSDOH (New York State Department of Health). (2019). *SIM progress to date*. Presentation during the SIM Statewide Steering Committee meeting, December 9, 2019. https://www.health.ny.gov/technology/innovation_plan_initiative/docs/ssc_meeting_6.pdf

[128] Telehealth technology also supports asynchronous transfer of data, but this mode was not pursued by SIM states.

Colorado's telehealth strategy was intended to build infrastructure and address the behavioral health workforce shortage. Using SIM funds, Colorado expanded broadband access to 300 health care sites to improve provider infrastructure and capacity to deliver services via telehealth. State officials collected information from the Colorado Medicaid office, experts, and providers about the utility and feasibility of telehealth. However, this assessment uncovered a rapidly changing telehealth environment in the state. Ultimately, SIM officials transitioned to an e-consult pilot when it appeared that a SIM-funded telehealth project would most likely be duplicative of other ongoing efforts in Colorado.

Idaho's telehealth expansion was integral to its broader PCMH initiative. A total of 13 telehealth sites were established, and practices were supported by telehealth grants and TA. Stakeholders' experience with telehealth during SIM led to a widespread conviction that telehealth could improve access to care statewide and mitigate provider shortages in rural regions.[129] However, Idaho shifted remaining SIM funds from the telehealth grant program to support the implementation of Project ECHO (Project Extension for Community Healthcare Outcomes). As SIM ended, a state commission, advisory council, and task force began efforts to address barriers to telehealth.

A major challenge reported by stakeholders in Colorado and Idaho was the high financial and resource burden placed on individual practices, such as requiring them to invest in new technology, change workflow, and establish new reimbursement mechanisms. Idaho's telehealth consultant was instrumental in helping practices overcome these challenges. Other challenges that contributed to states' decisions to shift resources to other initiatives involved state policy and payer reimbursement, including the following:

- The need for changes in state policies related to telehealth payment;
- State requirements prohibiting telehealth visits in patients' homes;
- The need to expand broadband access to new regions; and
- Frequent non-payment for telehealth services.

12.2.4 New workforce programs

Idaho developed the CHEMS program, which was informed by an established Canadian community paramedicine program.[130] The Idaho CHEMS programs trained emergency medical services (EMS) personnel to work with patients in their communities on discrete tasks, such as

[129] Healthcare Transformation Council of Idaho, Idaho Department of Health and Welfare. (2020, October). *Final Telehealth Task Force report recommendations and action plan*. https://publicdocuments.dhw.idaho.gov/WebLink/DocView.aspx?id=7824&dbid=0&repo=PUBLIC-DOCUMENTS&cr=1

[130] Ontario. (2014, January 21). *Ontario expanding community role for paramedics: Community paramedicine programs improving access to care for seniors*. https://news.ontario.ca/en/release/28189/ontario-expanding-community-role-for-paramedics#resources

helping patients with transitional care or implementing patients' care plans.[131] Idaho established 13 CHEMS programs as part of the state's efforts to expand access to care in rural areas during its SIM award period. Stakeholders were enthusiastic about sustaining CHEMS and believed that the new workforce enhanced connections between individuals and clinical providers in rural communities. However, the costs and impacts of the model have not yet been evaluated, dampening payers' willingness to finance the new workforce. Although Idaho was unable to sustain funding for CHEMS through state appropriations or existing Medicaid programs, state officials were optimistic that, because of the widespread support, a financing model would sustain the program in the future. For more details about the CHEMS model, see ***Section 11***, *Community Health Workers*.

New York sought to address its rural health workforce shortage by establishing four rural residency programs. New primary care residency programs offer students training at local, rural hospitals and ambulatory care training sites.[132] The primary goals of the initiative were to support the development of accredited rural-based graduate medical education programs, alleviate primary care workforce shortages, and prepare rural physicians to deliver quality services in a networked, team-based, and value-driven primary care model. As of July 2019, three of the developed programs had achieved accreditation, thereby enabling them to participate in the National Residency Matching Program. In addition to its SIM funding, New York State was able to leverage the resources of existing academic institutions to plan and establish its rural residency programs, a strategy that may work only for other larger states that have institutional resources.

12.3 Sustainability and Considerations for Policy Makers

Many of the rural models implemented through states' SIM efforts received widespread support from stakeholders and have been sustained in the short term. Long-term sustainability could be facilitated by state and federal policy interventions that target rural transformation, multi-payer participation, or rigorous evaluations of designs, return on investment, and impacts. This section identifies the areas for consideration by state and federal policy makers based on cross-state experiences.

Transforming entire delivery systems in underserved and rural communities will likely require involvement of all the major players shaping system-level financing arrangements and incentives. SIM states put significant effort into recruiting rural providers to statewide delivery and payment reforms and demonstrated success when they modified statewide reforms to accommodate rural PCPs and addressed barriers to participation that were commonly experienced by small and independent practices. However, rural practices are still challenged by

[131] Idaho Department of Health and Welfare.(n.d.). *EMS Agencies: CHEMS.* https://healthandwelfare.idaho.gov/providers/emergency-medical-services-ems/ems-agencies
[132] NYSDOH (New York State Department of Health). (2020, January 28). SHIP/DSRIP Workforce Workgroup meeting. https://www.health.ny.gov/technology/innovation_plan_initiative/docs/wrkfrce_2020-01-28.pdf

underlying structural deficits in infrastructure, which may be best addressed by federal action to coordinate with states rather than individual payers. The role of the Health Resources and Services Administration in the architecture and payment of FQHCs and rural health clinics should not be overlooked when designing future supports for state-initiated payment models involving these providers.

EELM models emphasizing peer mentoring offer an efficient pathway to transfer knowledge from specialists to PCPs anywhere within a state with minimal burden for primary care settings. EELM models have several advantages over telehealth or workforce expansion as a vehicle for achieving statewide transformation because they leverage a centralized resource for planning and investment—at an academic medical center or other large health system—where expertise and capital are concentrated. Virtual communication supports efficient dispersion of benefits to any region of the state, thereby increasing the overall reach and impact. Indeed, more community stakeholders (and payers) may support program investments designed to benefit broad constituencies (both rural and non-rural).

Although challenges remain, widespread experience with telehealth during the coronavirus disease 2019 (COVID-19) pandemic may change the calculus among stakeholders for future telehealth expansion. In Idaho, under public health emergency waivers in 2020, many federal policies were temporarily changed to support rapid expansion of telehealth practice and use.[133] Medicaid and Medicare loosened payment policies that limited the technology modes that could be reimbursed, the settings where telehealth visits could originate, and where patients could access a telehealth visit. These changes expanded the number of available billing codes, allowed FQHCs and rural practices to host telehealth visits, and allowed patients to remain at home. In Idaho, the lifting of many policy barriers to telehealth in 2020 resulted in the widespread adoption and use of telehealth that added to stakeholder resolve for continued telehealth expansion.[133] Idaho's Telehealth Task Force issued recommendations in October 2020 that prioritized the alignment of definitions, streamlining of regulations, development of a clearinghouse of information, the expansion of broadband, and the provision of training and education. The state legislature subsequently amended the Telehealth Access Act based on recommendations from Idaho's Telehealth Task Force.

Although a new workforce model in Idaho demonstrated the potential to fill gaps in services that promote population health, the model produced incremental solutions and requires long-term financing. In the long term, the use of multi-payer resources may be a better strategy than reliance on Medicaid, given the population health objectives and wide community presence of EMS personnel. Where other states consider adopting the CHEMS model, state leadership and planning could facilitate training and curricula for a new personnel and new certification process.

[133] Center for Connected Health Policy. (2021). *COVID-19 related state actions, Idaho*. Updated January 27, 2021. https://www.cchpca.org/covid-19-related-state-actions

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13. Improving Pediatric Care

- Most SIM states addressed pediatric needs through broader programs; Rhode Island created a program specifically designed for children.
- To improve children's health care, states involved pediatric stakeholders in reform discussions, included pediatric practices in their adult-focused reforms, and/or created separate programs for pediatric care.
- States offered pediatric-focused quality measures to assess and provide feedback to pediatric practices.

More than 15 million children are residing in SIM Initiative states as of 2019,[134] and an average of 36 percent of them were covered by Medicaid.[135] Comprehensive age-appropriate services that treat illnesses and support optimal development are important for children's health and development. Many value-based payment reforms focus on improving the quality of care and lowering spending on services delivered to adults, who typically have higher spending than children. The SIM Initiative presented an opportunity for states to create additional reforms to address the needs of the large pediatric populations in each state.

Most SIM Model Test states opted to address children's health within broader delivery system and payment reforms, in lieu of designing reforms specifically for pediatric populations. States with broader programs then had to balance children's needs with the needs of broader adult populations. Only Rhode Island implemented a delivery system and payment reform during the SIM Initiative designed exclusively for children (i.e., Patient-Centered Medical Home-Kids [PCMH-Kids]). This section describes how states approached transforming pediatric care, how programs that specifically targeted children versus broader reforms states were implemented and received, and the lessons learned for pediatric populations and providers.

13.1 Child-Focused Delivery System and Payment Reforms

Many states aimed to transform and improve health care for children within the planning and implementation of larger reform initiatives. Because children's needs are unique to their development stages (e.g., more frequent vaccinations, greater emphasis on well-care visits), including them in reforms designed for adults may not always meet their needs. Rhode Island

[134] U.S. Census Bureau. (2021). *ACS demographic and housing estimates—2019: ACS 1-year estimates data profiles*. https://data.census.gov/cedsci/table?q=United%20States&g=0100000US_0400000US08,09,10,16,19,26,36,39,44,47,53&y=2019&tid=ACSDP1Y2019.DP05&moe=false&tp=false&hidePreview=true

[135] Kaiser Family Foundation. (2021). State health facts: Health insurance coverage of children 0–18. Timeframe 2019. https://www.kff.org/other/state-indicator/children-0-18/?currentTimeframe=0&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D

opted to create a program specifically designed to transform pediatric practices because they had already created a patient-centered medical home (PCMH) model focused on the adult population.

13.2 Planning and Implementation

As SIM Initiative states developed their initiatives, most included both pediatric primary care providers (PCPs) and children's advocates in their stakeholder engagement groups. This approach enabled pediatric stakeholders to shape SIM planning and decision making from the start. Some states also involved pediatric stakeholders to participate in the design of the innovation. Colorado convened a SIM Pediatric Stakeholder Group during the SIM Initiative to make recommendations about alternative payment models focused on child health promotion, though ultimately such payment models were not developed.[136] Tennessee and Ohio involved relevant providers in the development of their pediatric-focused episode of care models, such as for oppositional defiant disorder, ADHD, and otitis media.

13.3 Models Adapted for Children

Many states developed and implemented broader reforms that encompassed multiple types of practices, including pediatric practices. Stakeholders had mixed views about models that included pediatric practices in their adult-focused models.

Ohio pediatric practices were initially included in the wider Ohio Comprehensive Primary Care (Ohio CPC) model, with some negative reactions. Pediatric stakeholders did not believe that the model's risk adjustment method accurately captured the health risks of pediatric patients, and providers expressed concern that adult-focused models and measures were being applied to the pediatric population. With the Ohio governor's prioritization of children's health, Ohio Medicaid officials announced a plan in June 2019 to create an Ohio CPC for Kids track of the Ohio CPC model that began in January 2020. In this new track, Ohio practices are considered eligible for Ohio CPC for Kids if they are attributed with sufficient pediatric patients. If eligible, the practices receive enhanced per member per month (PMPM) payments and are assessed on pediatric-focused quality and utilization measures, in addition to those measures used in the broader Ohio CPC model.

> "All of this I think is great theory. It simply doesn't work when you take adult focused improvement efforts and apply them to kids. The pediatric implications for the adult focused episodes and CPC have not translated to pediatrics. The definitions don't work. The savings have not been generated … We've not been able to unlock those payments to come all the way through to those of us who did the work. And it was quite time consuming."
>
> —Ohio provider

[136] Colorado SIM Office. (2019, September 4). *Colorado State Innovation Model*. Final report. https://www.colorado.gov/pacific/sites/default/files/Colorado%20SIM%20Final%20Report_0.pdf

In Tennessee, all children receiving Medicaid benefits are part of TennCare Kids. In all of the TennCare managed care organizations' (MCOs') health plans, enrolled children are assigned to either a PCP in a pediatric PCMH or with their parents in a family PCMH. The PCMHs are responsible for well-child checkups, dental checkups and services, medical services, behavioral health services, and interperiodic screenings. Tennessee provided technical assistance (TA) to pediatric practices regarding pediatric-specific topics; this assistance may have contributed to the reported improvements in pediatric care quality measures.[137] Tennessee's PCMH model provided to all PCMH providers the opportunity for gainsharing based on meeting efficiency and quality metrics. The state's formula for gainsharing does not vary based on patient population, so pediatric practices could receive similar amounts compared with other practices. Overall, the PCMH model was viewed favorably by stakeholders, which included the pediatric practices.

13.4 Patient-Centered Medical Home Model Designed for Children

Out of the 11 SIM Initiative states, Rhode Island was the only state to have an exclusively pediatric-focused model in its PCMH-Kids program, which started in April 2015 and was enhanced with SIM Initiative funding beginning in 2016. This model was an adapted extension of the state's earlier adult PCMH model. The expansion of the PCMH model to the pediatric population resulted in approximately 50 percent coverage of the commercial pediatric population and approximately 80 percent coverage of the Medicaid population across 37 practice sites. The Rhode Island PCMH-Kids program was designed around furthering the integration of behavioral health and primary care through PCMH certification of pediatric primary care practices, catering care coordination to the pediatric population, and implementing new health information technology developed as part of the PCMH program. By the end of the SIM Initiative, Rhode Island reported improvements in developmental screening and counseling in its PCMH-Kids patients.[138] The findings from the federal evaluation of the first cohort of PCMH-Kids practices did not show

> "… there have been challenges for providers. There are administrative burdens across the board … the other piece is … It was a difficult negotiation to get the practice PMPM up to $3.50 when the adult is around $5.00. Kids got a lower PMPM, shorter contract and fewer incentives."
>
> —Rhode Island state official

> "The bulk of the transformation work is the same."
>
> —Rhode Island state official

[137] Division of TennCare. (2019, October). *TennCare delivery system transformation: Patient centered medical home analytics report*. https://www.tn.gov/content/dam/tn/tenncare/documents2/PatientCenteredMedicalHomeAnalyticsReport.pdf

[138] Rhode Island Executive Office of Health and Human Services. (2019). *SIM project summary: PCMH-Kids*. http://www.eohhs.ri.gov/Portals/0/Uploads/Documents/SIM/PCMHKidsProjectSummary-Final.pdf

consistent improvements in spending and utilization for participating children, relative to the pre- and post-implementation trends for their comparison counterparts (for the complete federal evaluation results, see ***Section 1**, Patient-Centered Medical Homes*, and ***Appendix I**, Rhode Island*).

Many aspects of Rhode Island's PCMH-Kids program were viewed positively by stakeholders; however, with the lower payments compared with adult practices, pediatric providers sometimes struggled with creating

or managing reforms. Stakeholders recognized that several features of the existing PCMH model were not as relevant for pediatric care (e.g., the focus on chronic disease management) and that tailoring care coordination training, focusing on family-centered care and behavioral health integration strategies, was important for the success of pediatric practices.[139] Pediatric-specific TA, training, and resource education were all cited by stakeholders as integral to the success of the PCMH-Kids program. Participating providers praised the model for helping to improve care coordination, enhance the referral process, and connect providers and children to the appropriate resources. However, although Rhode Island recognized the need for pediatric-specific care requirements that differed from the adult population, the PMPM payment for PCMH-Kids practices was less than 70 percent of the adult practices' PMPM. Although the introduction of additional Medicaid financing in 2019 has alleviated this difference slightly (i.e., by increasing the PMPM from $3.00 to $3.50), the practices reported that the real cost of care for the pediatric population did not match the PMPM care coordination incentive.

13.5 Broader State Efforts with Pediatric Provisions

All SIM Initiative states identified other ways to address children's health in their initiatives. For instance, Connecticut established Health Enhancement Communities and included improving child well-being and improving healthy weight and physical fitness as key activities. Colorado's SIM Initiative funded several local public health agencies, which focused some of their efforts on suicide prevention, stigma reduction, and general behavioral health promotion for children and adolescent boys. Colorado's SIM Initiative also funded two behavioral health transformation collaboratives that focused specifically on public school students in certain counties. One of these collaboratives implemented a behavioral health awareness curriculum among adolescent and teens, while the other coordinated behavioral health screenings and service referrals for students and their

> "… PediPRN has probably the best chance of having a long-term impact on the delivery of behavioral health care, just by the fact that the earlier you're able to identify and intervene, the less impact that has on the adult system … ."
>
> —Rhode Island state official

[139] Flanagan, P., & Lange, E. (2018). *A statewide pediatric care transformation journey*. http://www.rimed.org/rimedicaljournal/2018/12/2018-12-20-pcmh-kids-flanagan.pdf

families. In Ohio, the launch of a school-based health care initiative aimed to improve patient engagement among children covered by Medicaid and to foster partnerships between schools and nearby primary care practices. Similarly, in Rhode Island, the Autism Project provided training to staff from three schools on how to better engage the students with social-emotional challenges in learning. Rhode Island also established the Pediatric Psychiatry Resource Network (PediPRN), which is a telephone consultation service to help pediatric PCPs better serve their patients with behavioral health conditions. Following the end of the SIM Initiative, Rhode Island state officials received a waiver that would enable Medicaid reimbursement for this telephone-based psychiatric consultation.

Additionally, as a way of integrating pediatric providers into the broader reform, all states included at least one pediatric-focused quality measure in a menu of measures used to assess providers. Rhode Island allowed plans and providers to select measures relevant to the practice's panel (i.e., pediatric providers could select pediatric-focused measures), which afforded greater flexibility. Washington State's Medicaid agency and Public Employee Benefit Board both tied payment to performance on measures selected from a common measure set. For example, Federally Qualified Health Centers that chose to participate in a new PMPM payment model were assessed on nine measures selected from the set; four out of the nine were pediatric-focused measures. Performance and improvement on these measures were used to adjust participants' PMPM rates in a subsequent year.

Among SIM Initiative states, there were approximately 30 pediatric-focused measures used by various combinations of states. Feedback reports were viewed as more useful when the quality measures reflected a greater proportion of the practice's patient panel (for more discussion, see ***Section 7,*** *Quality Measures*). As shown in ***Exhibit 13-1***, several pediatric-focused quality measures for well child and adolescent visits, immunizations, and weight (body mass index [BMI]) assessments and developmental screenings were used by four or more states. The remaining measures were used by only one or two states and included appropriate testing for children with pharyngitis, fluoride varnish, and depression screening.

Exhibit 13-1. Pediatric-focused quality measures most frequently used by SIM Initiative states


Well child and adolescent visits


Immunizations


Body Mass Index assessments


Developmental screenings

Note: SIM = State Innovation Models.

Sources: Federal Evaluation Team review of interviews, focus groups, and state documents.

13.6 Cross-State Lessons and Future Directions

States' experiences with both approaches, developing pediatric-specific reforms and weaving pediatric care into broader initiatives, revealed several important lessons learned, which are presented as follows:

- **Rhode Island created a program specifically designed for children.** Rhode Island's pediatric-focused model was generally viewed positively by stakeholders and providers. The state, recognizing that pediatric-specific care is fundamentally different from adult care, provided practices with tailored TA and training, which were appreciated by providers. After the end of the SIM Initiative award period, Ohio followed suit and created Ohio CPC for Kids to support practices serving pediatric populations.
- **States offered pediatric-focused quality measures to assess and provide feedback to pediatric practices**. By offering quality measures to providers that best fit their populations, states can comprehensively assess the care provided to their patient population. Many states provided pediatric-specific quality measures that could be used to assess pediatric providers.
- **States involved pediatric stakeholders or created separate programs for pediatric care and included pediatric practices in their adult-focused reforms.** Although the cost of treating children is often lower than the cost of treating adults, pediatric and adult practices may experience similar costs for developing, implementing, and meeting the requirements to participate in broader value-based purchasing models. Thus, pediatric providers need sufficient funding to improve or maintain the delivery of high-quality care.

At the end of the SIM Initiative, states with stand-alone pediatric programs planned to sustain those efforts. In Ohio, there were plans to sustain the episodes of care model, but no indication of how it would be financed. However, Ohio's budget for 2020–2021 incorporated funding for Ohio CPC, including for Ohio CPC for Kids. Tennessee shifted management of its PCMH model to its Medicaid MCOs. In Rhode Island, Medicaid and commercial health plans partnered with Tufts University and the American Academy of Pediatrics to provide continued TA to PCMH-Kids practices.

14. Patient Engagement for Individuals with Serious Illness

- Rhode Island, Washington, and Tennessee developed varied strategies to increase patient engagement for patients with serious illness.
- By investing in training and patient outreach efforts, states expanded provider capacity and engaged more patients in their care.
- Although some challenges remain and incentives may be needed for widespread implementation, states' strategies were generally well-received.

Effectively engaging patients can guide individuals and their providers in making health care decisions and may reduce overall burden on the health care system.[140] Patient engagement occurs when individuals are actively involved in their care and supported to fully participate in treatment decisions, quality improvement, and policy change.[141] Patients who are more engaged in their care have better outcomes,[142] use fewer resources,[143] and report more satisfaction with the care they receive.

For state Medicaid programs, engaging individuals with serious and chronic conditions is a particular focus. These patients and their families are increasingly required to make difficult decisions that determine the course of treatment for a range of costly and complex disorders. Understanding effective patient engagement strategies is becoming increasingly important and may have heightened relevance during the coronavirus disease 2019 (COVID-19) pandemic. A recent study indicated a nearly five-fold increase in the use of advance care planning tools since the onset of the pandemic in March 2020.[144] When implementing patient engagement strategies, providers experience numerous hurdles, including low patient health literacy and scarcity of provider time, financial incentives, and training. Although state SIM activity occurred pre-COVID-19, SIM states' strategies can offer lessons in designing and implementing patient engagement efforts.

This section describes the work of three SIM states (i.e., Rhode Island, Washington, and Tennessee) that allocated resources and used diverse strategies to increase provider capacity to engage patients in their care (see ***Exhibit 14-1***). In Rhode Island and Washington, SIM efforts

[140] Greene, J., Hibbard, J. H., Sacks, R., Overton, V., & Parrotta, C. D. (2015). When patient activation levels change, health outcomes and costs change, too. *Health Affairs, 34*(3). https://doi.org/10.1377/hlthaff.2014.0452
[141] James, J. (2013). Health policy brief: Patient engagement. *Health Affairs*. doi:10.1377/hpb20130214.898775
[142] Krist, A. H., Tong, S. T., Aycock, R. A., & Longo, D. R. (2017). Engaging patients in decision-making and behavior change to promote prevention. *Studies in Health Technology and Informatics, 240*, 284–302. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6996004/
[143] Pearse, W., Oprescu, F., Endacott, J., Goodman, S., Hyde, M., & O'Neill, M. (2019). Advance care planning in the context of clinical deterioration: A systematic review of the literature. *Palliative Care: Research and Treatment, 12*. https://doi.org/10.1177/1178224218823509
[144] Auriemma, C., Halpern, S. D., Asch, J. M., Matthew Van Der Tuyn, M. A., & Asch, D. A. (2020). Completion of advance directives and documented care preferences during the coronavirus disease 2019 (COVID-19) pandemic. *JAMA Network Open, 3*(7), e2015762. doi:10.1001/jamanetworkopen.2020.15762

focused on improving patient–provider communications, decision making, and planning for treatment or course of care. In Tennessee, patient engagement strategies focused on changing the culture of care within nursing facilities, through an emphasis on direct service worker training, patient and family satisfaction, and quality improvement. This section describes the states' strategies, cross-state lessons, and sustainability of states' programs.

Exhibit 14-1. Three SIM states developed strategies to better engage patients in care and health care systems

State	RI	TN	WA
Public process for input		●	●
Outreach/patient education	●		
Provider training	●	●	●
Development of tools and resources	●	●	●
Value-based payment		●	●
Sustainability strategy	Grant funding	VBP	Developer fees VBP

Note: RI = Rhode Island; SIM = State Innovation Models; TN = Tennessee; VBP = value-based payment; WA = Washington.

Sources: Federal Evaluation Team interviews, focus groups, and state documents.

14.1 State Approaches

Rhode Island funded the following three efforts through the SIM Initiative that supported patient engagement for individuals with serious or complex illness.

- **Advance Care Planning:** Rhode Island contracted with HealthCentric Advisors to raise public awareness about the importance of end-of-life planning. This program convened public events, used social media, and provided direct training to individuals to have planning conversations with families and care providers. By partnering with

Latino and faith-based organizations, the program targeted both Spanish- and English-speaking communities.

- **Complex Care Conversations Training:** Hope Hospice and Palliative Care Rhode Island trained clinicians to engage in effective "goals of care" conversations and to support patients in developing advance care plans.
- **Health Information Technology Consumer Platform:** The state piloted a web-based consumer engagement platform that can be incorporated into the state's Health Information Exchange, CurrentCare. The platform facilitated the sharing of documents related to advance care planning and end-of-life care.

Washington used SIM resources to identify, certify, and train providers on the use of 36 distinct Patient Decision Aids (PDAs). PDAs are tools that help patients understand the options and potential outcomes regarding treatment decisions. This effort was built on state legislation that was passed before the SIM Initiative[145], which authorized the Washington State Health Care Authority to certify the use of PDAs and allowed clinicians to use these tools as evidence of patients' informed consent. During the SIM Initiative, Washington trained providers (in person and through online courses) about the use of the state's certified PDAs, and further promoted uptake by requiring PDAs to be used in the state's Public Employees Benefits contracts. Although most PDAs focused on end-of-life and complex care, the state also piloted and evaluated the implementation of maternity-related PDAs.

Tennessee used SIM resources to move the state's long-term care system toward a more person-centered approach to service planning and delivery with value-based payments (VBPs). As part of the Quality Improvement in Long-Term Services and Supports (QuILTSS) initiative, the state embedded patient engagement measures into its VBP reimbursement strategy for nursing facilities. TennCare, the state's Medicaid agency, worked with a contractor, NRC Health, to select and track a set of measures that TennCare describes as "Culture Change/Quality of Life," which include respectful treatment, resident choice, member or resident and family input, and meaningful activities.

NRC Health conducted annual surveys with patients, family members, and nursing facility staff to collect data for reporting quality measures. As part of a broader quality framework, quality measures are used to compute a score for each nursing facility to determine value-driven reimbursement payments. Additional points are allotted to facilities that use feedback from patients and families to improve care. The nursing facility reimbursement structure includes both a quality incentive pool and additional "quality-informed levers" based on a facility's quality performance. The quality-based component of the reimbursement methodology is set at a maximum of 10 percent of the total projected fiscal year (FY) expenditures. For FY 2019, the quality incentive pool was valued at $55 million (for more details

[145] Washington State Legislature (n.d.). *Consent form—Contents—Prima facie evidence—Shared decision making—Patient decision aid—Failure to use*. https://app.leg.wa.gov/RCW/default.aspx?cite=7.70.060

see ***Appendix J***, *Tennessee*). To support these efforts, TennCare developed a competency-based curriculum for nursing home staff that includes modules about person-centered planning and supporting patient choice within nursing facilities.

14.2 Cross-State Lessons

14.2.1 Provider training

Tennessee, Washington, and Rhode Island all used SIM funds to train providers; training increased providers' capacity to support patients in their health care planning and decision-making. In Tennessee, employee participation in QuILTSS training contributes to agency value-based reimbursement scores, so direct care staff in all Medicaid-funded nursing homes across the state have access to the training and are encouraged to participate. Washington trained 600 clinicians on how to use the state's certified PDAs; the training included an online course on shared decision-making through the healthier Washington Collaboration Portal. In Rhode Island, the state conducted 31, 8-hour clinician workshops focused on goals of care and advance care planning conversations. Through pre- and post-training assessments, there was "a significant positive impact on attendee's knowledge, attitudes and behavior."[146] Providers in Rhode Island reported increased comfort in having advance care planning conversations and were engaged in a greater number of care planning discussions with their patients. An evaluation conducted by the University of Rhode Island and Brown University found a significant uptick in billing for Advance Care Planning codes.

> "When we talk about the advanced directive piece, which I think has been really valuable, there's still a lot of work to do, but … it's own [momentum] that we hope we can continue to build."
>
> —Rhode Island state official

> "We really work on trying to make sure that we honor peoples' choices. Hearing it anecdotally from so many different staff about the impact that [honoring choices] had on their facilities was huge. And we've seen facilities do better in their CMS quality rankings."
>
> —Rhode Island state official

14.2.2 Strategies to reach patients

Strategies, such as direct outreach, state endorsement and dissemination of standardized tools, and targeting key populations, enhanced the ability of patients to engage in treatment across all three states. Rhode Island engaged patients directly by using social media and contracting with diverse community organizations to facilitate advance care planning discussions with underserved populations, such as Latino and faith-based communities. Outreach efforts reached almost 600,000 people across the state. Washington is currently the only state in the

[146] Rhode Island State Evaluation Team, the University of Rhode Island, and Brown University. (n.d.). *SIM end of life projects: Evaluation report.* http://www.eohhs.ri.gov/Portals/0/Uploads/Documents/SIM/EndofLifeStateEvaluation-Final.pdf

country that certifies PDAs to promote their use. Through SIM, the state certified 39 PDAs about diverse health care topics and provides access to these tools on the Washington State Health Care Authority website.

Tennessee, by including the Culture Change/Quality of Life measures within the state's nursing home value-based payment methodology, is able to better engage patients throughout the state's nursing home system. Patient feedback is used by nursing facilities and leveraged by TennCare to improve quality of care. Although each state used unique strategies, all states managed to reach underserved communities, stressing the importance of partnering with local organizations and providers to increase patient engagement.

14.2.3 Challenges for widespread implementation

Although many stakeholders perceived positive changes from the states' patient engagement strategies, others were more resistant to their implementation. Washington's pilot of maternity-related PDAs early in its SIM project was met with resistance from some providers because of the high cost, time investment, and complexity of implementation.[147] In Rhode Island, pre-training surveys showed that clinicians often believe that they already have the capabilities to conduct advance care planning, so this can create resistance to training and adoption.

In all three states, stakeholders mentioned the importance of provider incentives or contract requirements for patient engagement strategies. Pilot sites in Washington noted that contract mandates were a strong motivator in implementing PDAs. State evaluators in Rhode Island projected an accelerated uptake in advance care planning tools if the state required all commercial payers using VBP incentives to include advance care planning measures. In Tennessee, patient engagement training and measures were incorporated into the QuILTSS initiative and required for all nursing facilities being reimbursed by Medicaid.

14.3 Sustainability and Future Directions

All three states anticipate sustaining some or all of their work on patient engagement in the post-SIM Initiative period. Rhode Island's Department of Health will support the continuation of the Complex Conversations initiative for up to three years through its Comprehensive Cancer Control Program. Additional funding may be available from both state and private sources. The state also embedded an Advance Care Planning measure into the quality framework for its proposed Long-Term Services and Supports (LTSS) Accountable Entities

[147] Bowen, D. J., LeRouge, C., & Kwan-Gett, T. S. (2017). *Implementation of shared decision making in three obstetric clinical settings: Final report*. https://www.hca.wa.gov/assets/program/acp-shared-decision-making-maternity-pilot.pdf

structure, which will continue after the SIM Initiative as part of the state's 1115 Medicaid waiver.[148]

Washington will continue to support the PDA certification process through licensing fees. The state also identified patient engagement as a key element to be addressed by managed care plans participating in its self-insured state employee health coverage. Plans must "support and encourage" the use of PDAs through provider agreements and member and provider communications.[149]

In Tennessee, the LTSS industry associations have been generally supportive of the QuILTSS Initiative. Associations successfully lobbied for the passage of legislation in 2018 that embedded a 10 percent quality threshold goal and ensured the sustainability of the value-based nursing facility reimbursement structure. TennCare has also embedded patient engagement measures into its VBP strategy and quality framework, which was formalized within state Medicaid nursing home regulation promulgated in 2019. The COVID-19 pandemic has taken a toll on nursing home capacity and state budgets, resulting in deferring some features of the program. For example, TennCare made the 2020 NRC Health survey optional for nursing facilities[150] and, per the state's final budget, deferred wage increases for direct care staff who had completed QuILTSS Institute training modules that were slated for January 2021.

[148] Department of Health & Human Services, Centers for Medicare & Medicaid Services. (2020). *Centers for Medicare & Medicaid Services waiver list*. https://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/ri/ri-global-consumer-choice-compact-ca.pdf

[149] WA HCA RFP

[150] Tennessee Division of TennCare. (2020, September 22). *Memo: Adjustments for QuILTSS #3 submission processes in light of the COVID-19 public health emergency*. https://www.tn.gov/content/dam/tn/tenncare/documents/QuILTSS13Memo.pdf

15. Conclusions and Implications

15.1 Conclusions from the State Innovation Models Initiative Evaluation

The SIM Initiative funded states to test new models of health care payment and delivery. This federal evaluation was conducted beginning the year of Model Test awards were made in 2015 through 2021, allowing for qualitative data collection during the states' award period and quantitative analysis using data through the end of the award period. The evaluation documented states' implementation efforts and assessed the impacts on health care spending, health outcomes, quality of care, and population health, yielding two main conclusions.

First, the 11 SIM Model Test states generally achieved favorable results from their implementation of value-based payment (VBP) models or from SIM-funded technical assistance to providers to prepare them for VBP models. Among the state models that were assessed quantitatively, the findings were generally, as follows[151]:

- Spending decreased for patients in patient-centered medical homes (PCMHs).
- Emergency department use decreased for patients in PCMHs and behavioral health integration models.
- Likelihood of primary care use increased for patients in PCMHs; behavioral health visits increased for patients in behavioral health integration models.
- No clear patterns across states in quality improvements. Although qualitative findings support improvements in care quality and some states showed significant positive changes in some quality measures, cross-state interpretations of quality improvement were limited because of the variation in state-specific quality metrics.

Second, SIM states succeeded in implementing new care delivery and population health initiatives and increasing VBP use. States made substantial progress towards the SIM Initiative goal of moving at least 80 percent of population, expenditures, or practices to VBP or alternative payment models (APMs). States successfully changed care delivery and created local structures to address population health and create linkages between communities and health care. To promote these arrangements, states used three main strategies:

- States increased provider participation in VBP as payers, purchasers, and by convening commercial payers. Seven states increased VBP use through Medicaid managed care contracting; all seven states experience substantial gains in managed care enrollment. Three states (Delaware, Tennessee, Washington) leveraged contracts for state employee health care coverage to increase VBP use.
- States increased care coordination and integration of primary and behavioral health care. Primary care and behavioral health providers used care coordination tools and

[151] Reported results are relative to a comparison group.

screening and referral systems to help patients access care, especially when co-located services were not available (e.g., rural areas).

- States built infrastructure to address population health priorities at the local level. Six states (Connecticut, Delaware, Idaho, Iowa, Michigan, and Washington) identified priorities at the community level and strengthened linkages between clinicians and social service providers. Michigan and Iowa also created systems for identification, screening, and referral of patients with health-related social needs.

15.2 Implications of This Federal Evaluation

15.2.1 States implemented strategies that best fit their health care context

States context prior to the SIM Initiative varied greatly, with different priorities and needs regarding practice transformation for each state. The flexibility of the SIM award allowed states to complement ongoing state efforts and tailor SIM-supported activities to their populations. Many states built on existing models (e.g., PCMHs). These states sustained prior transformation efforts and found ways to advance or expand their models. Other states had less experience with VBP or APMs and focused their funds on building new models or infrastructures.

15.2.2 The State Innovation Models award enabled implementation and tests of novel strategies

Stakeholders generally agreed that without the SIM Initiative, states could not have achieved the same levels of success, particularly in terms of practice transformation or stakeholder engagement. SIM funding allowed for states to implement novel strategies, particularly behavioral health integration and population health efforts. These strategies required time and resources to implement, and stakeholders felt that efforts provided significant contributions to patient-centered care, care coordination or integration, and population health by filling gaps in care and addressing social needs.

15.2.3 Centers for Medicare & Medicaid Services set expectations for value-based payment expansion

State government convening with commercial insurers to discuss, plan for expanding, and measure VBP. Payers and providers described the expansion of Medicaid and Medicare APMs as sending a strong market signal to providers that evolution away from fee-for-service was inevitable. Stakeholders believed the result was a paradigm shift in provider attitudes, prompting providers to actively work toward readiness for VBP and enter into VBP contracts. Most states observed increased VBP model offerings among commercial insurers during the SIM Initiative.

15.2.4 Initiatives were sustained after the State Innovation Models award

Payment models were sustained beyond the SIM Initiative period. All seven states that used Medicaid MCO contracting continued to expand and coordinate VBP contracting after the end of the SIM Initiative. Population health initiatives, including population health architectures, community health workers, and Community Health Teams, were highly valued by stakeholders as they helped with coordination and filling gaps in care. Based on this widespread support, many of the strategies and initiatives were sustained using available state levers. In nearly all cases, stakeholders found revenue sources to sustain programs, at least in the short term, using foundation grants, federal grants, and annual state appropriations. Rigorous evaluation and multi-payer subsidy likely are needed for long-term sustainability of strategies that tested new infrastructure and community workforce models.

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