

# A Roadmap for Effective State Leadership in Value-Based Payment Reform

February 2020



## **Authors**

Mark Japinga, Hannah Crook, Elizabeth Singletary, Robert Saunders, Mark McClellan

## **Acknowledgments**

We would like to thank Cristina Boccuti and Amy Herr of the West Health Policy Center for their helpful contributions throughout the project and to this roadmap.

We would also like to thank the attendees of the Duke-Margolis Center for Health Policy and West Health January 28, 2019 meeting in Washington, DC on state efforts to improve value-based care for their input in shaping the content and direction of this roadmap.

# A Roadmap for Effective State Leadership in Value-Based Payment Reform

## Key Takeaways and Recommendations

- 📍 States are favorably positioned to lead value-based initiatives to lower health care costs, with many implementing comprehensive agendas for care and payment transformation.
- 📍 States face multiple challenges in designing and implementing payment reforms, including short-term budget pressures, differing capacities and resources to bring together stakeholders and to construct and support new models, varying local market conditions, and diverse population health needs.
- 📍 A review of leading state efforts suggests a path for overcoming challenges and achieving the critical mass of reform needed for rapid progress through action by state leaders and policymakers in the following areas:
  - Create *shared momentum for change* by identifying clear priorities and opportunities for reducing costs and improving health, and bringing together resources for action;
  - Advance *key data sharing and analytics support* that can guide care improvement efforts, improve benchmarking and performance measurement, and enable public reporting and further payment reform efforts;
  - Develop *implementation and alignment strategies for payment reform* to reflect key goals, minimize burden on providers, and maximize impact; and
  - Pursue *supporting policies* to encourage market competition, enable a diverse workforce, and generate the evidence needed for collective learning and faster progress.

## Landscape Analysis: Progress and Momentum

Rising health care expenditures and program enrollment are increasingly straining state budgets. States now spend about 20% on average of their general funds on Medicaid<sup>1,2</sup> with expenditures rising by 4.8% between fiscal years 2018 and 2019.<sup>3</sup> They further spend on average another 2% of their general funds to cover state employees and retirees, a share that will likely continue to rise as the average family premium for employer-sponsored health insurance tops \$20,000 per year.<sup>4,5</sup> Multiple trends drive these cost increases, including a pipeline of expensive but potentially valuable new specialty drugs and curative treatments; rising prices; increasing rates of chronic conditions and disabilities; and a growing burden of opioid and substance abuse. Controlling costs is increasingly critical for states, not only to ensure sustainable health care programs, but to enable funding of other priorities important for long-term health and well-being, such as education and infrastructure spending.

States have multiple capabilities that make them well-suited to drive major changes in health care. They operate large health care programs where they have wide latitude to implement innovative ideas. They also can legislate, regulate, and convene to encourage change across their entire health care system. As partisan debates on the future of entitlement and coverage programs continue at the federal level, much of the action to implement major reforms will take place in states.

Reflecting these factors, states are increasingly implementing value-based payment reforms that aim to lower costs and improve outcomes. These reforms provide significant opportunity to ensure states are using limited resources effectively to encourage steps like chronic condition management, care coordination, behavioral health integration, and addressing social risk factors. Many of these state payment and delivery reforms are in the early stages, but some states have taken aggressive steps to launch new initiatives.<sup>6</sup>

For example, **North Carolina** is undertaking a range of public and private initiatives that have placed the state on track to shift over 70% of health care payments to alternative payment models (APMs) within five years, efforts that will allow the state to move faster than any other.<sup>7,8</sup> The Medicaid program will transition from a primarily state-administered fee-for-service (FFS) system to one administered largely by private managed care organizations (MCOs) that pay providers through a value-based payment paradigm.<sup>9</sup> Specific efforts will promote advanced patient-centered medical homes (PCMHs) and accountable care organizations (ACOs) across the state's diverse urban, suburban, and rural populations. Another effort, Healthy Opportunities Pilots, will test the impact on program costs and health outcomes of allowing Medicaid to pay for evidence-based, non-medical services, supported by a public-private network to identify and connect individuals to community resources.<sup>8</sup> In the commercial market, Blue Cross Blue Shield of **North Carolina** (the state's largest insurer) launched Blue Premier, a value-based payment model in which most large health systems in the state are now participating. Blue Premier includes contracts resembling those for ACOs and requires organizations to take on significant downside financial risk by year three.<sup>8,10</sup> These changes are reinforced by similar efforts in other commercial plans, Medicare Advantage, and Medicare.

## Landscape Of State Value-Based Initiatives

North Carolina is not alone in pursuing substantial initiatives to reform payment and delivery. Other major examples of state value-based initiatives include the following:

**Ohio** and **Tennessee** have implemented payment models across Medicaid and private payers that use bundled payments for specific acute health care episodes.<sup>11</sup>

Multiple states have launched multi-payer PCMHs. In **Arkansas**, for example, the PCMH provides advanced primary care for its Medicaid, state, and commercial populations.<sup>12</sup>

**Colorado** has established a multi-payer primary care collaborative that supports practice and payment transformation statewide with additional compensation and support for primary care practices.<sup>13-15</sup> The first stage of the collaborative lowered emergency department (ED) visits and hospital admissions.<sup>14</sup>

**Maryland's** All-Payer Model establishes global budgets that provide many hospitals in the state with a fixed amount of revenue for the year, limiting cost growth and encouraging hospitals to reduce unnecessary admissions and lower wasteful care. The state plans to extend the model to include accountability for outpatient care and total cost of care.<sup>16</sup>

**Washington State's** Accountable Communities of Health program and **Oregon's** Coordinated Care Organizations both pursue a regional approach designed to foster local collaboration and focus on population health outcomes. These programs encourage primary and specialty care integration and collaboration with local social service organizations to improve preventive care and account for a wider variety of patient needs.<sup>17,18</sup>

**Massachusetts** employs a semi-regulatory body, the Health Policy Commission, to promote effective statewide reform efforts (with a focus on data analytics), monitor health care spending growth, and make recommendations to improve care and lower costs.<sup>19</sup>

**California's** Whole Person Care Pilots empower cities and counties to implement targeted initiatives to address social risk factors, and the California Public Employees Retirement System (CalPERS) is a leader among state employee health plans in developing value-based initiatives.<sup>5,20</sup>

Fourteen states—**Colorado, Connecticut, Iowa, Louisiana, Maine, Massachusetts, Minnesota, Montana, Nebraska, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont**—currently operate ACOs in Medicaid. Early results from some Medicaid ACOs include cost savings, lower ED utilization, and fewer hospital admissions.<sup>21</sup>

This roadmap summarizes a focused landscape review of state actions in value-based care, spanning state efforts to reform both public and private programs. We identify steps state leaders can undertake, in collaboration with stakeholders and the federal government, to advance state value-based payment reforms that improve outcomes and reduce costs in Medicaid and system-wide. The recommended steps span four key areas, summarized in the box below, with this full roadmap describing these areas in greater depth.

## Box 1: Recommendations for State Leadership to Accelerate Value-Based Payment and Care Reform

- **Leadership and Governance:** Identify state priorities for affordability and health, bring stakeholders together, and leverage necessary resources.
- **Data and Analytics:** Ensure data sharing of key information needed for value-based care to succeed and build analytics capacity to support performance improvements.
- **Payment Reform Implementation and Alignment:** In collaboration with stakeholders, identify feasible payment model components and adopt alignment strategies around quality measurement and statewide payment reform efforts to reduce administrative burdens on providers and accelerate progress toward key goals.
- **Supporting Policies:** Enact and implement supporting policies to encourage healthy market competition, enable an adequate and diverse workforce, and generate evidence needed for collective learning and faster progress.

### **Leadership and Governance: Building the Case for Change, Setting Priorities, and Marshalling Necessary Resources**

Implementing major payment reforms requires sustained systemic change under political constraints that often demand fast results. A necessary first step for state leaders is to make a compelling case that resonates with the public and key health care stakeholders, highlighting how these reforms can address key needs in the state. Messages can range from improving maternity care to reducing high health care costs and should articulate a clear and shared agreement of the “why” for payment reform. This outward communications strategy is often coupled with broad engagement of health care stakeholders—including patients, hospitals, clinicians, payers, employers, and others—where state leaders identify key problems they should tackle and decide how to prioritize which reform(s) to implement, as well as how to design, implement, and evaluate payment models.

Connecting public concerns to clear opportunities for value-based reforms can create shared commitment to subsequent reforms. Many elected officials are concerned about rising public and private health care costs without concurrent improvements in population health and health outcomes. These cost concerns come as new technology and new therapies present promising but expensive opportunities (e.g., medications to treat hepatitis C). Successful leaders have identified the high-level goals, communicated them broadly, built coalitions to support them, and designed value-based payment initiatives accordingly.

These initiatives typically start with a focused set of opportunity areas to reduce total cost of care, improve care quality, and improve overall health (see **Table 1** for examples). States select opportunity areas based on evidence from local initiatives and stakeholder priorities that account for geographic and socioeconomic disparities. Discussions naturally begin with a focus on reform needs that resonate among stakeholders, which typically include making care more affordable, expanding coverage, and improving value. Initiatives also can address national priority areas like the opioid crisis, managing high-impact chronic conditions, and health disparities.

**Table 1: Summary of Common Payment Reform Approaches and Examples**

Target Area	Rationale for States to Focus on This Area	State Examples
Total Cost of Care and Patient Affordability	<ul style="list-style-type: none"> <li>Total health spending in 2017 was 17.9% of the U.S. gross domestic product.<sup>22</sup></li> <li>The average non-elderly U.S. family spends 11% of their yearly income (\$8,200) on health care.<sup>23</sup></li> <li>Public concern about affordability of care drives health care cost discussions.</li> </ul>	<ul style="list-style-type: none"> <li>The <b>Massachusetts</b> Health Policy Commission sets a health care spending growth benchmark each year and evaluates whether or not the state has met it. It also provides policy recommendations and monitors payer and provider performance.<sup>19</sup></li> <li>Nationally, many new ACO and bundled payment models require providers to take on financial risk based on quality and total cost of care.</li> </ul>
Chronic Condition Management	<ul style="list-style-type: none"> <li>Chronic condition management accounts for over 80% of Medicaid expenditures, even though adults with chronic conditions make up about 40% of Medicaid enrollees.<sup>24</sup></li> <li>Suboptimal care management for beneficiaries with chronic conditions leads to costly but preventable complications.</li> </ul>	<ul style="list-style-type: none"> <li>Currently, 29 states operate Patient-Centered Medical Homes (PCMHs) through Medicaid, and 30 states operate or plan to implement Health Homes, which coordinate behavioral health and address social risk factors for patients with specific chronic conditions, in addition to primary care.<sup>25</sup></li> <li>Fourteen states have active Medicaid ACO programs, and, as of 2018, 10 more states were pursuing them.<sup>21,26,27</sup></li> </ul>
Pregnancy and Maternity Care	<ul style="list-style-type: none"> <li>Medicaid financed 43% of all births in the U.S. in 2017.<sup>28</sup></li> <li>The U.S. has high rates of premature birth and worsening outcomes overall, disproportionately affecting minority populations.<sup>29,30</sup></li> </ul>	<ul style="list-style-type: none"> <li><b>Ohio</b> and <b>Tennessee</b> operate maternity bundles, which cover pregnancy, delivery, and the post-partum period, and link payment to performance.<sup>31</sup></li> <li><b>California's</b> Maternal Quality Care Collaborative provides resources and learning opportunities for health systems to improve maternal outcomes and helped cut the state's maternal mortality rate in half over 10 years.<sup>32</sup></li> </ul>
Specialized Care	<ul style="list-style-type: none"> <li>While the vast majority of APMs focus on primary care, almost two-thirds of doctor visits and most U.S. medical spending involves specialty care.<sup>33,34</sup></li> </ul>	<ul style="list-style-type: none"> <li><b>Ohio's</b> and <b>Tennessee's</b> episodes of care also include specialty care services such as cancer, joint pain, and cardiac procedures. Most of these episodes are currently tied to financial incentives.<sup>35,36</sup></li> </ul>

**Table 1: (Continued)**

Target Area	Rationale for States to Focus on This Area	State Examples
Integrating Behavioral and Physical Health	<ul style="list-style-type: none"> <li>Patients with behavioral health conditions account for almost half of Medicaid spending nationwide, and care can be improved by integrating physical and behavioral health.<sup>37</sup></li> </ul>	<ul style="list-style-type: none"> <li><b>Vermont's</b> statewide ACO is focusing on engaging high-risk patients and connecting them to behavioral health and substance abuse treatment.<sup>38</sup></li> <li><b>Maine</b> established Medicaid behavioral health homes, which offer providers additional monthly payments and practice transformation support and connect them to the state's Health Information Exchange (HIE) for data regarding patients' physical health, ED visits, and hospitalizations.<sup>39</sup></li> </ul>
Substance Use Disorder	<ul style="list-style-type: none"> <li>Between 21 and 29% of patients prescribed opioids for pain misuse them.<sup>40</sup></li> <li>Illicit drugs and prescription opioids caused 70,200 overdose deaths in 2017.<sup>41</sup></li> </ul>	<ul style="list-style-type: none"> <li><b>Iowa</b> provides expanded access to medication-assisted treatment for substance use disorders, in partnership with the Substance Abuse and Mental Health Services Administration (SAMHSA), which has led to a threefold reduction in the use of alcohol or illegal substances among participants who complete the program.<sup>42</sup></li> </ul>
Prescription Drugs and Innovative Therapies	<ul style="list-style-type: none"> <li>Drug spending increased by 12.6% in 2014 due to coverage expansions and the introduction of hepatitis C drugs.<sup>43</sup></li> <li>Expensive gene and cell therapies with substantial potential to improve outcomes for Medicaid beneficiaries will soon come on the market.<sup>44</sup></li> </ul>	<ul style="list-style-type: none"> <li><b>Oklahoma, Michigan, Colorado</b> are implementing or exploring outcomes-based payment models for drugs, while <b>Louisiana</b> and <b>Washington</b> are implementing modified subscription models in which the state pays much lower prices for certain drugs (e.g. hepatitis C treatment) after expenditures exceed a set cap.<sup>45,46</sup></li> </ul>
Social Factors that Drive Poor Health Outcomes	<ul style="list-style-type: none"> <li>Social, behavioral, and environmental factors account for at least 50% of health outcomes.<sup>47-49</sup></li> <li>Medicaid patients are more likely to experience high-stress environments, housing instability, food insecurity, and poverty.<sup>50</sup></li> </ul>	<ul style="list-style-type: none"> <li><b>Washington State</b> has established nine Accountable Communities of Health (ACHs) to integrate community services, social services, and public health.<sup>18</sup></li> <li><b>North Carolina</b> has been approved to launch Healthy Opportunities pilots in housing, food, transportation, and interpersonal safety.<sup>51</sup></li> <li><b>Minnesota, New York, and California</b> have introduced programs aiming to better integrate social drivers of poor health.<sup>20,52</sup></li> </ul>



In considering the scale of payment reforms, states have to decide where to focus their efforts. Most states start with Medicaid, since the control they have over the program can help create momentum for payment and delivery reform initiatives directly or through MCOs, which cover 70% of all enrollees nationwide and even higher proportions in larger and more urban states.<sup>53\*</sup>

However, Medicaid comprises only a limited part of most states' broader health care systems, driving many states to take on multipayer initiatives that impact care and costs. So far, these take one of three forms. First, state-led organizations like the [Massachusetts](#) Health Policy Commission build a policy agenda focused on value by analyzing state-level data across payers, identifying cost drivers and making policy recommendations. Second, statewide payment reform efforts, like PCMHs in [Arkansas](#) and bundles in [Tennessee](#), use the regulatory and convening power of the state, along with advisory committees comprising a range of stakeholders, to build consensus-driven initiatives. Finally, regional or state-level nonprofit entities outside of state government can lead a variety of efforts to align models or provide technical assistance. These entities are often run by providers but involve state officials and other key stakeholders. Examples include the Bree Collaborative in [Washington State](#), the [Iowa](#) Health Collaborative, and other regional purchaser coalitions.<sup>54,55</sup>

Regardless of how a state decides to pursue value-based payment initiatives, the focus, scale, and scope of these efforts depends on securing long-term commitment and sustainable resources to implement them. Given tight budgets, many states use existing agency structures and authorities. Others establish statewide commissions or multipayer or multi-stakeholder organizations. Larger initiatives with substantial dedicated staff and resources often require enabling legislation and specific appropriations. For major Medicaid reforms, states also can get federal support through Medicaid waivers, with enhanced federal contributions for efforts like improving information technology.

However, more support and guidance from the Centers for Medicare & Medicaid Services (CMS) is needed to ensure states can confidently develop and enact new reforms. Constructing and obtaining approval for Medicaid waivers remains difficult, even with assistance from outside organizations, and additional effort is needed to ensure state reforms align with national efforts. The Center for Medicare & Medicaid Innovation is considering how to improve state alignment with its reforms, and CMS could go further by developing tools and resources to track care quality and population health outcomes, create model Medicaid waivers for promising payment reforms, and provide additional resources for states to join multipayer reforms that could help produce best practices for accelerating progress. **Figure 1** outlines critical steps for leadership at both the state and federal level to facilitate state-level payment reform initiatives.

\* Direct state management of Medicaid benefits occurs in smaller states with more rural populations, and most states manage benefits directly for certain higher-risk populations (e.g., individuals with severe mental illness or disabilities). States contract with MCOs in part to ensure predictability about total Medicaid costs, which in turn has made them critical players in implementing a wide range of value-based initiatives.

## Figure 1: Recommendations for Leadership and Governance

---

### State Leaders



- Develop a strategy for payment and delivery reform based on specific, targeted priorities; an analysis of state capacity; and stakeholder input. This strategy should be coupled with external communications that engage stakeholders and the public.
- Identify specific governance structures and supports for new reforms, generally starting small and scaling up, unless momentum already exists for more aggressive initiatives.



### State Agencies and Political Leadership

- Carry out environmental assessments to identify key cost and quality improvement opportunities in the state.



### Centers for Medicare & Medicaid Services

- Provide further guidance and resources to support states in identifying and tracking priorities, applying for waivers, and implementing multipayer models.

## Data and Analytics: Benchmarking, Improving Care, and Measuring Performance

Value-based reforms require timely data that helps providers and patients identify steps to improve care and measure performance. Success depends on a much more connected health care system with better access to data—ranging from medication lists to lab results to hospital discharge summaries to social drivers of health—as well as analytics that can help turn raw data into actionable information at the point of care. In short, payment reforms will not advance without corresponding progress in building a data and analytics infrastructure to support them.

### Data Sharing

As outlined in **Table 2**, states have often started with a limited set of data sharing and management activities to support short-term progress, building a foundation to add more capabilities later. Many states have started by focusing on insurance claims data, as reliable and timely insurance claims information is a critical base for understanding variations in utilization and its impact on total cost of care and health outcomes. However, standardizing claims data elements, facilitating claims reporting, and aggregating across multiple health plans can be challenging. Claims information is generally not available in real time to support patient care decisions and does not contain all the information needed to support value-based reforms. But since claims data is often the best providers can get, the Office of the National Coordinator for Health Information Technology and CMS are creating requirements for payers to share claims data with patients, with collaborators like Humana, Anthem, and Apple helping to implement them.<sup>56</sup> States can leverage

these efforts to promote rapid and consistent bulk claims data sharing using web-based Fast Healthcare Interoperability Resources (FHIR) technologies, created by private developers in 2012, that enable the standardized exchange of healthcare information, and which will be used in **North Carolina** to assess social risk factors in Medicaid beneficiaries.<sup>57,58</sup>

**Table 2: Key Focus Areas for Data Sharing Initiatives**

Key Data Type	Goals
Bulk Claims Data	Ensure more rapid, aligned, and consistent claims data sharing using Fast Healthcare Interoperability Resources (FHIR) standards.
Admission, Discharge, and Transfer (ADT) Feeds	Compile real-time information to help manage care of people in the hospital or emergency department (ED), assist with transitions, lower total cost of care, and identify patients needing additional at-home preventive services.
Clinical Data	Aggregate and centralize critical information like lab results; lists of medications, injuries, illnesses or other adverse health factors; and clinical test results.
Social Drivers	Generate sharable data on key risk factors to facilitate referrals to community organizations and help providers account for critical non-medical factors impacting patients' health.

To facilitate access to consistent data beyond claims for provider feedback and performance measurement, states have developed a variety of regional and statewide health information exchanges (HIEs), which can increase access to daily admission, discharge, and transfer (ADT) feeds. ADT information is critical for providers and health systems taking on accountability for overall costs and outcomes—for example, it allows them to know when their patients are admitted to or discharged from a hospital or ED. The Kansas HIE, or **Kansas** Health Information Network, provides ADT feeds to Kansas ACOs, helping them lower ED visits, inpatient admissions, and total cost of care, while increasing preventive screenings.<sup>59,60</sup> HIEs also can enable sharing of key clinical information, including laboratory results, medication lists, and lists of injuries, illnesses or other adverse health factors. As an alternative to accessing patient data through state-based HIEs, many providers, sometimes with states' encouragement, are working with the private sector. One example is PatientPing, a technology company focused on care coordination that shares real-time information between hospital and community providers in **North Carolina**.<sup>61</sup>

States advancing reforms to address social drivers of health are concurrently developing infrastructure to share key data to more readily address risk factors. For example, **North Carolina's** NCCARE360 platform aims to link community-based entities and resources with 12 specific screening data elements related to the

social drivers that the state’s Healthy Opportunities pilot will address, including transportation difficulties, food insecurity, housing insecurity, and risk of interpersonal violence. Data sharing will make it easier for health providers to make referrals to community-based organizations for needed services and to understand whether patients were able to access the referred services.<sup>44</sup>

Many states are linking and sharing eligibility determinations across social service programs to better support value-based care reforms and the full range of enrollees’ needs. **Georgia** and **Rhode Island** recently launched systems that facilitate applications for up to six social service programs simultaneously after significant effort to align staff, policies, processes, and develop an IT governance structure.<sup>63</sup> Efforts such as linking criminal justice and incarceration records to health records can help providers more accurately address the complex needs of formerly incarcerated individuals, who have significantly higher rates of chronic conditions and behavioral health issues than the general population.<sup>64</sup> Linking records can also ensure these individuals are signed up for complementary programs like the Supplemental Nutrition Assistance Program (SNAP). States are also integrating behavioral health and substance abuse data, helping providers account for both the physical and mental health needs of their patients.<sup>65</sup>

In an effort to provide key data on health outcomes, states like **Minnesota** are beginning to promote the use of patient-reported outcomes (PROs) to help measure overall care quality in value-based care arrangements.<sup>66</sup> Most states also have made significant progress in integrating functional status measures into eligibility determinations for long-term services and supports, with states using three different tools each, on average.<sup>67</sup> However, more work is needed to make these types of data reliably and securely available for value-based payment models, especially for chronic disease management and patients with serious illnesses.

### Key Data Elements

While data sharing is a foundational way to use a state’s convening and regulatory power to advance value-based reforms, states also can promote development of better data analytics and consistent measures. State data agencies may start by identifying the most important “use cases”—the data analytics most needed to improve care. Candidate use cases may come from states answering key questions in the following areas:

- **Cost and quality measures and benchmarks:** What are the key, meaningful performance metrics and the necessary data elements needed to analyze cost and quality and inform actionable payment and delivery reform? What necessary provider supports must be in place to enable efficient aggregation, analysis, and sharing of actionable information? For example, **Minnesota** compiles risk-adjusted total cost of care for all enrollees in state health care programs attributed to providers, using the results to help make population-based payments for new models.<sup>68</sup> Consistent quality measures help providers understand how they are performing and assess opportunities for improvement.

- **Patient management tools:** What analytics will best help meet patients’ needs? Are providers able to identify the vendors or systems that provide these tools? Are states promoting access to the key data elements needed for these digital health tools to succeed?
- **Interim performance monitoring:** How can states evaluate their own programs and support more effective ongoing evaluation of programs implemented by MCOs and other payers in the state? What metrics can serve as key performance indicators, allowing for mid-course corrections based on iterative feedback? How can states learn from similar efforts elsewhere while accounting for the factors that make their health care system unique?

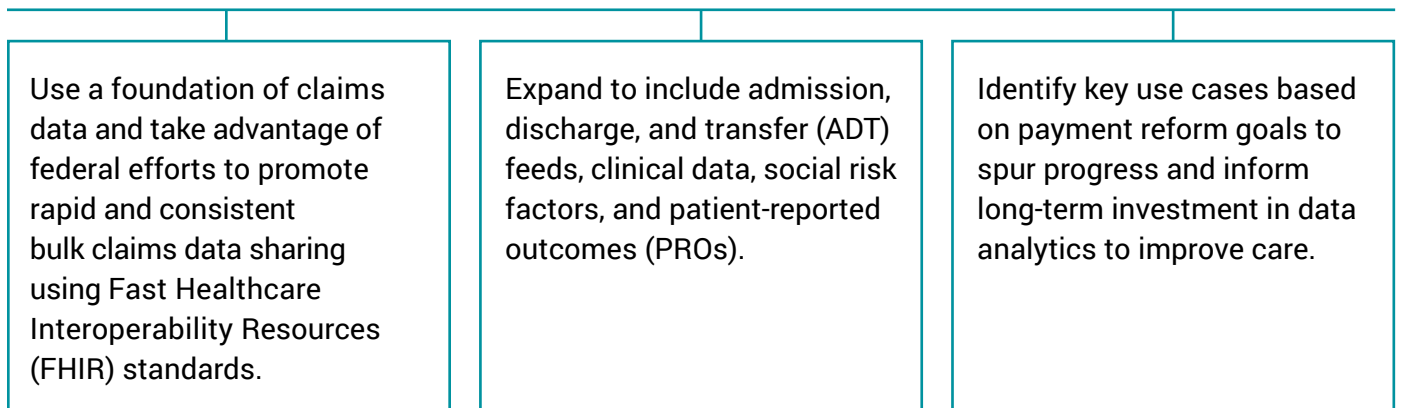
Data and analytics initiatives should be guided by local priorities and frontline stakeholders to incorporate real-world experience and better understand data-sharing needs, opportunities for performance feedback, and data pain points. Smaller provider organizations and individual practices, which may lack the finances required to invest in expensive new data technology, are likely to need more assistance. Private-sector collaborations can help provide the necessary tools. Organizations like Aledade, Caravan, CityBlock, and other companies collaborate with MCOs and accountable providers, often with state encouragement, to provide technology and data analytics that help providers interpret available data to manage patients successfully in value-based models.<sup>69</sup> States can support these collaborations by helping ensure key data are reliably available and promoting the use of consistent and meaningful performance measures to help providers identify the most effective analytic supports.

**Figure 2** offers recommendations for states to scope new data initiatives, with a particular focus on ensuring long-term consistency and support across the health care system.

## Figure 2: Recommendations for Data Sharing and Analytics



To build a data system that can deliver timely, useful data to practitioners that drives high performance in new value-based payment models, **state data agencies should:**



## 📍 Payment Reform Implementation and Alignment

### Model Components

States are implementing a variety of payment and delivery reforms, either directly or through guidance and contracting with Medicaid MCOs. The variety of available payment models makes it possible for states to start with any approach that would be effective for their local context and align with reform goals (as shown in **Table 3**). Many state efforts start by strengthening support for PCMHs and health homes, as these models provide additional resources for team-based and coordinated approaches in exchange for increased accountability to improve outcomes around chronic disease management. ACO reforms are also popular, often in conjunction with primary care reforms, as they create accountability for population health and total cost of care. Episode-based models support reforms in more specialized areas of care, including pregnancy and maternity care, substance abuse disorder prevention, and management of more advanced diseases.

New payment models provide the basis for providers to think about how to design a multidisciplinary, well-coordinated care team that can meet a wide range of patient needs.<sup>70</sup> While initial PCMH initiatives have shown limited impacts on cost, more substantial impacts have been possible when stronger support for primary care is linked to accountability for total costs of care and outcomes.<sup>71</sup> New CMS initiatives will help strengthen primary care nationally, if states can act to leverage them, and a wide range of states are also accelerating their own primary care transformation efforts.<sup>72,73</sup> States are also augmenting primary care initiatives with payment models that make it easier for providers to address rising health disparities and obstacles to care.

**Table 3: Summary of common payment reform approaches and examples**

Payment Model	Goal and Approach	Types of States that Should Consider this Model	Examples, Impact, and Evidence
Patient Centered Medical Homes (PCMH)/Health Homes	<p>PCMHs aim to improve care coordination and reduce utilization by paying a monthly care coordination fee to primary care providers (PCPs).</p> <p>Health Homes go further by integrating behavioral health and addressing social risk factors.</p>	States just beginning payment reform, especially for PCMH models, since enhanced primary care is often the foundation of broader payment reform efforts. Regular care coordination payments allow PCPs to transition slowly towards increased accountability for care and to start building the capacity to take on risk.	<ul style="list-style-type: none"> <li>• <b>Arkansas</b> has used PCMHs in Medicaid that reward team-based care and promote early intervention to reduce complications and health care costs. In 2016, 80% of the state's Medicaid beneficiaries were enrolled in PCMHs.<sup>12</sup></li> <li>• Health homes have improved care coordination and reduced emergency department usage. Overall, they have helped organizations build needed competencies for further value-based care efforts.<sup>74</sup></li> </ul>

**Table 3: (Continued)**

Payment Model	Goal and Approach	Types of States that Should Consider this Model	Examples, Impact, and Evidence
Accountable Care Organizations	Improve care coordination and delivery by holding providers and delivery systems financially accountable for the health of the patient populations they serve.	States with a high penetration of ACOs from other payers (Medicare or commercial payers). Any state can establish a Medicaid-only ACO, but all-payer options may be more difficult in highly populated, diverse states with multiple competing payers.	<ul style="list-style-type: none"> <li>• <b>Massachusetts</b> has multiple two-sided risk ACO programs that include community partners for social services.<sup>75,76</sup></li> <li>• <b>North Carolina</b> is attempting to align its Medicaid ACO model with federal and commercial models.</li> <li>• <b>Vermont</b> established a single, all-payer, statewide ACO. The state is responsible for setting rates, reviewing and advising participants, and tracking financial benchmarks.<sup>77,78</sup></li> </ul>
Bundled Episode Payments	State-specific, singular payment for all services and other associated costs for a procedure or condition.	States interested in multipayer models with providers comfortable moving to downside risk.	<ul style="list-style-type: none"> <li>• <b>Tennessee</b> has 48 total bundled payment arrangements, which include payments for all inpatient and outpatient services. However, it has paused expansion of its program due to stakeholder concerns about transparency, accuracy, and fairness.<sup>36,79</sup></li> <li>• Since 2015, <b>Ohio</b> has designed and implemented 43 episodes (9 with financial incentives), that encompass surgical procedures and chronic conditions.<sup>35</sup></li> </ul>

Because social factors are particularly important influences on health and spending in Medicaid and other state programs, an increasing number of states are integrating steps to address them in their value-based care reforms. **North Carolina** is the first state to receive approval for directing payments toward proximate social drivers of poor health via a Medicaid waiver.<sup>51</sup> Other states have sought more flexibility for managed care plans and other accountable entities to support and pay for social services “in lieu of” what they expect to be more costly medical services. **Washington State** has established nine Accountable Communities of Health (ACHs) that assess community needs for their specific region, such as housing stability or food security.<sup>80–83</sup> **Minnesota** launched the next generation of its Integrated Health Partnerships with an enhanced emphasis on addressing social drivers of health,<sup>84</sup> requiring formal partnerships with organizations like food banks or housing support services and adding a population-based payment model.<sup>85</sup> **California’s** new Medicaid waiver also focuses on support services, emphasizing housing navigation, recuperative care, and respite care, with extra payments to drive plans and providers to invest in developing the capabilities to provide them.<sup>86</sup>

### **Mechanisms for Driving Alignment of Payment Model Components and Performance Measures**

States are taking a variety of steps to work with MCOs and providers to advance value-based payment models and align the components and measures contained within them. These first steps center on providing MCOs the necessary flexibility to implement new reforms, given the time it will take for them to show significant effects. Most states are implementing longer-term contracts (3-5 years), supporting key data sharing beyond claims, and placing more weight on value-based performance measures in determining plan payments.

Some states are prescriptive in requiring specific types of payment reforms and may settle on an acceptable approach through conversations with participating plans across the state. Another option is to set general goals for payment model adoption by requiring MCOs to move an increasing share of payments into APMs, based on the payment reform framework developed by the Health Care Payment Learning and Action Network (LAN).<sup>87</sup>

The more important question, though, will be the level of specificity regarding payment reform design that states provide to MCOs in their contracts. In general, more specificity can facilitate larger-scale, systematic change that reduces administrative burden for providers. However, MCOs can view additional requirements as impeding and adding costs to their own value-based reforms. Measurement requirements also can impact providers. Large numbers of conflicting quality measures, along with varying technical components of payment models (e.g., benchmarks, risk adjustments, and attribution methods), often complicate clinicians’ ability to assess, report, and improve upon performance—especially in smaller provider organizations with more limited resources.

To improve implementation and minimize provider burden, thereby reducing provider resistance to adopting new payment models, states should encourage alignment of quality measures and the technical components of payment models where feasible. States that want to ensure some flexibility for MCOs could require them



to report on a universal set of plan-level performance measures, but allow MCOs to adopt somewhat different performance measures for specific providers if necessary. Greater alignment among payers and among different payment models will make data collection from providers easier and focus attention on common outcomes to improve.

Measure alignment is difficult, given stakeholders' differing viewpoints on the most useful and the best quality indicators. States could start by adopting a small set of meaningful consensus measures that closely relate to their reform priorities, e.g., a consistent measure of affordability and total costs of care and key outcome-oriented measures for priority conditions like maternity outcomes or substance use disorder management. These consistent measures could be aggregated to track statewide progress and provide a foundation for aligned payment reforms across payers. If aligned measures can show early progress, they can help create momentum for further change.

Another barrier to payment reform efforts is that many state payment reform models focus on granular and process-driven measures that only capture specific elements of clinical quality. For example, many state payment models have relied on existing health plan measures, like the Health Effectiveness Data and Information Set (HEDIS), which states already used to assess and contract with MCOs. Medicaid payment reform efforts are not unique in using these health plan measures; many other payers use them as well.<sup>88</sup> However, moving beyond traditional process and claims-based measures will be critical for progress in value-based care. In the short term, states can advance measures through the framework identified in a 2016 Health Care Payment LAN white paper on performance measurement, which called for broader, outcomes-based metrics for better health, better care, and lower costs.<sup>89</sup> Example measures include total cost of care, life expectancy at birth, and appropriate and equitable care. While many of these measures can draw on data sources such as claims and electronic health records, patient-recorded outcomes measures will also provide valuable new sources of information.<sup>90</sup> More broadly, successfully moving away from FFS and towards population-based payment will require more system-based and outcomes-oriented measures.

### Benefit Design

States also can play a role in advancing benefit designs aligned with higher-value care. Because Medicaid beneficiaries have limited out-of-pocket (OOP) payments, benefit reforms related to these payments are best suited for initiatives in the private market, either for state employee health plans or for multipayer collaborations with other employers.

Value-based reference pricing, which is the practice of implementing a maximum price a plan will pay for an episode or set of services, is one approach used by a growing number of states. Instead of traditional deductibles and copayments, these benefit designs offer lower consumer OOP payments for using providers who deliver a set of services at or below a reference price. This encourages consumers to search for lower prices and organizations to lower them; it also encourages price transparency at a more actionable level than FFS price lists. In **California**, CalPERS began implementing value-based reference pricing in 2011 for procedure episodes like joint replacement and colonoscopies. The plan identified 41 facilities that provided

these procedures at or below reference prices and performed well on available quality metrics. Beneficiaries seeking certain procedures were educated about the reference pricing program through a brochure and website that also listed participating facilities. Studies estimate that the strategy saved CalPERS \$2.3 million from 2012-2014, and also saved an additional \$4.5 million systemwide in spillover effects from lower overall prices.<sup>91,92</sup>

This type of reference pricing for high-value care differs from FFS reference pricing, which pins all FFS prices for health care services to a specific price (often a percentage of Medicare rates). Some states have pursued the FFS reference approach through their state employee health plans with varying results. For example, **Montana** set payments for hospital services at an average of 234% of Medicare rates, saving an estimated \$16 million in 2018.<sup>93</sup> In 2019, the **North Carolina** State Treasurer attempted to implement a similar model by setting rates at an average of 182% of Medicare, but faced substantial stakeholder pushback on rate setting and withdrew the proposal.<sup>94</sup> Medicare reference pricing can be a useful negotiation tool for states, but FFS price reductions ultimately do not directly encourage value-based reforms in care or encourage the type of care transformation necessary for long-term improvements in outcomes and quality.

States considering implementing the CalPERS type of value-based reference pricing have a variety of areas to target, much like in Medicaid initiatives. Reference pricing works best when it targets common procedures or conditions that have high variation in total spending. It further requires attention to measuring quality, so that patients and their referring providers have confidence that low spending does not mean low quality. Finally, it requires a sufficient number of providers for that particular procedure or condition to encourage competition.<sup>95</sup>

Similar efforts are taking place in the private sector and have the potential for synergy with state-led efforts. Walmart's Centers of Excellence program and its new partnership with Embold Health use this approach to steer employees toward high-value providers identified through cost and quality metrics for particular types of care.<sup>96</sup> Initiatives like this not only help reduce costs, but also make overall costs more predictable for patients.

These efforts also can have secondary effects on price transparency that can improve competition in a state's health care market and accelerate adoption of value-based payment reforms. Implementing value-based reference pricing encourages providers and patients to focus on episode-based costs that span the full course of treatment, rather than individual services. Providing insight into cost and quality metrics for common episodes of care can help clinicians and health care organizations better understand how they are performing and may give them more reason to participate in payment reforms. Plans will also be better equipped to offer new benefits that allow enrollees to save money by using the highest-value providers.

**Figure 3** outlines the range of ways in which states should address new payment model implementation.

## Figure 3: Recommendations for Payment Model Components and Alignment

---

### State Leaders

Consider the following key factors when deciding upon payment models to pursue:

- Model feasibility given the characteristics of the state health care market and the broader political landscape;
- The condition and care delivery areas to target, as some will be more successful at addressing primary or specialized care;
- Potential pilot areas with a feasible scope and potential for scaling up;
- Whether reforms will focus solely on the Medicaid program or extend more broadly to the private market.

Consider efforts to implement high-value reference pricing to encourage new benefit designs that steer consumers toward high-quality care.



---

### State Agencies

Prioritize aligning measures and model components to the extent possible when implementing payment models to allow providers to focus on consistent outcomes and reduce administrative burden.



---

## 📍 Supporting Policies: Market Competition, Workforce, and Evidence for Collective Learning

While payment reform is necessary for sustaining new models of care and new innovations that improve outcomes and lower costs, it alone is not sufficient to transform health care. A range of supporting policies are needed to build an evidence base for how reforms are working and build an appropriate workforce for high-value care, as well as to promote market competition. States have multiple levers to accomplish these aims, and successful states have implemented a portfolio of complementary strategies (**Figure 4**).

## Figure 4: Supporting Policies for Payment Reform



Given their unique challenges and capabilities, **states should consider multiple supporting policies** to encourage payment reform and implementation.

These could include:

<p>Evaluation strategies and learning networks to analyze and assess results, provide technical assistance, and share successful implementation strategies.</p>	<p>Regulatory reforms to ensure a competitive health care market.</p>	<p>Strategies that identify workforce gaps and needed investments to ensure the necessary workforce to carry out payment reforms.</p>
---	---	---

### Evaluation and Collective Learning

Evaluation and analysis are critical but often neglected parts of the payment reform process. There is limited evidence of what is working well in state payment reform and why, making it more difficult for other states to leverage lessons learned as they design and implement their own payment reforms.<sup>97</sup>

The lack of comprehensive, generalizable evidence is not due to lack of interest. States want to know what is or is not working. However, devoting the resources to conduct formal evaluations with clear comparison groups, extensive data, and rigorous methods is not possible for many states. Moreover, formal evaluations may not produce relevant feedback, as the decision cycles of state officials require different types of evidence and more flexible methodologies than traditional, academic analyses.

First, states will need to identify what success in payment reform looks like. Key questions to consider include what they hope programs will accomplish, what information they will require to demonstrate success, and by when they will need to see results. States wanting to show a small amount of success quickly could use rapid-cycle feedback to provide preliminary insights into whether reforms are achieving their goals on a particular timeline, helping build momentum to push forward.<sup>98</sup>

Once evaluation results are released, learning collaboratives offer a way to bring together key stakeholders to review results, develop action plans, and identify resources necessary for improvement. These collaboratives should be a natural outflow of the longitudinal, collaborative relationships states have built with stakeholders from the start of their reform efforts.

### Promoting a Competitive Health Care Market

Substantial consolidation among payers, hospitals, health systems, and other health care organizations can jeopardize the success of value-based models, leading to increased prices that outweigh the cost savings from payment reforms. All states have regulatory authority to supervise mergers and shape the market

structure of their health care system, but take different steps to carry this out. Inconclusive or limited evidence for each approach means there is no “best” practice for antitrust policy; the right policy will depend on what a state wants to prioritize, e.g., total cost of care, outcomes, etc.

One approach is to establish mechanisms for supervising mergers. Some states, such as **Massachusetts**, give this authority to statewide commissions, while others like **New Hampshire** monitor mergers through broader agency oversight.<sup>99,100</sup> In **Massachusetts**, hospital systems Beth Israel Deaconess Medical Center and Lahey Health proposed a merger that was investigated by the state’s Health Policy Commission and approved in 2018 with several conditions.<sup>101,102</sup> These included a seven-year price cap mandating that price increases remain under the state’s annual cost growth benchmark of 3.1% for seven years, preventing more than \$1 billion of cost increases.<sup>101,102</sup> The conditions also required participation in the state’s Medicaid and CHIP programs, and \$71.6 million in investments for low-income and underserved communities.

Some states also have tried to enforce antitrust law through initiatives like Certificates of Public Advantage (COPA) and Certificates of Need (CON). COPAs require health care systems to make commitments to public benefit investments and cost growth control in return for approval to merge and are often pitched as a “second-best alternative” in markets that can’t sustain competition (which often are small or rural areas). The most successful COPA efforts at the state level have included hefty population health requirements, stringent terms for the merger, and a “survival provision” in which price caps and other protections are extended, even if the COPA is terminated.<sup>103</sup>

CON laws place limits on the numbers of health care facilities or medical devices that can exist in a given area to prevent oversupply. Health care systems wishing to build or expand these services must demonstrate the need to the state.<sup>93</sup> Currently, 36 states operate some form of CON programs.<sup>104</sup> The challenge is finding the right regulatory balance. Restrictive entry can give established hospitals an advantage, which may limit new entrants looking to deliver services in outpatient settings at a lower cost. Conversely, repealing CON laws could allow markets to grow unsustainably. In **Florida**, a move to completely eliminate the state’s existing CON law was revised and only repealed some portions after nursing home providers argued the experiences of other states showed a lack of regulation would cause too many facilities to enter the market, leaving empty beds and limiting profits.<sup>105,106</sup>

### **Meeting Workforce Needs**

States will need a diverse and skilled care team to succeed in any payment reform model, as many require attention to more aspects of patients’ needs. There are two ways states can ensure the participation of the necessary workforce. First, addressing scope of practice laws can allow nurse practitioners, physician assistants, nurses, and pharmacists to fill gaps that physicians struggle to fill, especially in rural areas. According to the Health Resources & Services Administration, as of December 2019 nearly 78 million Americans live in areas with shortages of primary care providers and 114 million Americans live in areas lacking mental health providers.<sup>107</sup> Additionally, there are only 68 primary care physicians per 100,000 people in rural areas compared with 84 primary care physicians per 100,000 people in urban areas.<sup>108</sup> By allowing

health care professionals to practice to the full scope of their license, these individuals should be more able to carry out new payment reforms, especially in underserved areas. Community health workers have proven valuable in improving health outcomes, reducing health care costs, and addressing health disparities—all of which are key in payment reform.<sup>109</sup> States could also work with outside organizations or partner with universities and provider groups to invest in training programs.

## Conclusion

States have unique opportunities to drive health care transformation in Medicaid and system-wide using a variety of payment reforms to make care more affordable. Naturally, strategies will need to be tailored to the needs and capabilities of each state. However, common elements outlined throughout this roadmap demonstrate the multiple ways states can share learnings and spread best practices. The importance of engaging leadership and stakeholders across the health care landscape, selecting viable models with aligned components, creating a robust IT system, and enacting supporting policies to build a sound health care market will be critical regardless of which path a state pursues. Initiatives can also build on or complement national efforts discussed in our companion roadmap, “A Roadmap to Accelerate National Value-Based Payment Reform: Filling in the Missing Pieces.”

There is no one factor that can make or break a state’s move to value-based care, but there is growing evidence that a set of steps in reinforcing areas—that is, data and analytics, aligned implementation of payment reforms and performance measures, and support of policies to promote value—can help states and health care markets reach a “critical mass” of value-based care and payment reform initiatives, leading to substantial impact on health outcomes and reductions in the cost of care.

## References

1. Trends in Medicaid Spending. June 2016. Medicaid and CHIP Payment and Access Commission (MACPAC). <https://www.macpac.gov/wp-content/uploads/2016/06/Trends-in-Medicaid-Spending.pdf>. Accessed March 13, 2019.
2. State Expenditure Report: Examining Fiscal 2015-2017 State Spending. 2017. National Association of State Budget Officers (NASBO). [https://higherlogicdownload.s3.amazonaws.com/NASBO/9d2d2db1-c943-4f1b-b750-0fca152d64c2/UploadedImages/SER%20Archive/State\\_Expenditure\\_Report\\_\\_Fiscal\\_2015-2017\\_-S.pdf](https://higherlogicdownload.s3.amazonaws.com/NASBO/9d2d2db1-c943-4f1b-b750-0fca152d64c2/UploadedImages/SER%20Archive/State_Expenditure_Report__Fiscal_2015-2017_-S.pdf). Accessed March 13, 2019.
3. 2019 State Expenditure Report: Fiscal Years 2017-2019. 2019. National Association of State Budget Officers (NASBO). [https://higherlogicdownload.s3.amazonaws.com/NASBO/9d2d2db1-c943-4f1b-b750-0fca152d64c2/UploadedImages/SER%20Archive/2019\\_State\\_Expenditure\\_Report-S.pdf](https://higherlogicdownload.s3.amazonaws.com/NASBO/9d2d2db1-c943-4f1b-b750-0fca152d64c2/UploadedImages/SER%20Archive/2019_State_Expenditure_Report-S.pdf). Accessed November 21, 2019.
4. 2019 Employer Health Benefits Survey. The Henry J. Kaiser Family Foundation. <https://www.kff.org/health-costs/report/2019-employer-health-benefits-survey/>. Published September 25, 2019. Accessed November 15, 2019.
5. Japinga M, Bleser W, Feingold D, Saunders R. State Employee Health Plans Can Be Leaders and Drivers of Value-Based Initiatives. December 2017. [https://healthpolicy.duke.edu/sites/default/files/atoms/files/duke\\_seph\\_12.8.17-final.pdf](https://healthpolicy.duke.edu/sites/default/files/atoms/files/duke_seph_12.8.17-final.pdf). Accessed August 26, 2019.
6. Change Healthcare. *Value-Based Care in America: State-by-State: A 50-State Review of Value-Based Care and Payment Innovation.*; 2019. [http://images.discover.changehealthcare.com/Web/ChangeHealthcare/%7Ba7b8-cb8-0b4c-4c46-b453-2fc58cefb9ba%7D\\_Change\\_Healthcare\\_Value-Based\\_Care\\_in\\_America\\_State-by-State\\_Report.pdf](http://images.discover.changehealthcare.com/Web/ChangeHealthcare/%7Ba7b8-cb8-0b4c-4c46-b453-2fc58cefb9ba%7D_Change_Healthcare_Value-Based_Care_in_America_State-by-State_Report.pdf). Accessed September 24, 2019.
7. Healthy Opportunities Pilots Fact Sheet. November 2018. NC Medicaid. <https://files.nc.gov/ncdhhs/SDOH-HealthyOpptys-FactSheet-FINAL-20181114.pdf>. Accessed November 15, 2019.
8. McClellan MB, Alexander M, Japinga M, Saunders RS. North Carolina: The New Frontier for Health Care Transformation. *Health Aff Blog*. February 2019. doi:10.1377/hblog20190206.576299
9. Medicaid Transformation: North Carolina's Transformation to Medicaid Managed Care. North Carolina Department of Health and Human Services (NCDHHS). <https://www.ncdhhs.gov/assistance/medicaid-transformation>. Accessed October 28, 2019.
10. Rajkumar R. Introducing Blue Premier. Redefining What is Possible in Health Care. *Point Blue*. January 2019. <https://blog.bcbsnc.com/2019/01/blue-premier/>. Accessed October 28, 2019.
11. Olson A, Viverette N, Campbell H, McKethan A, Buntin M. Value-based Payment Reform in a Managed Care Environment Innovator States' Experiences with Episodes of Care. *N C Med J*. 2019;80(5):297-299. doi:10.18043/ncm.80.5.297
12. The Arkansas PCMH Program. Patient-Centered Primary Care Collaborative. <https://www.pcpc.org/initiative/arkansas-pcmh-program>. Published June 2016. Accessed September 25, 2019.
13. Colorado Multi-Payer Collaborative. January 2017. <https://www.milbank.org/wp-content/uploads/2017/03/CO-MPC-Charter-0117.pdf>. Accessed September 24, 2019.
14. Colorado Multi-Payer Patient-Centered Medical Home Pilot. Patient-Centered Primary Care Collaborative. <https://www.pcpc.org/initiative/colorado-multi-payer-patient-centered-medical-home-pilot>. Accessed September 24, 2019.
15. The Colorado Multi-Payer Collaborative. CMS. [http://www.cms.org/uploads/SIM\\_Payer\\_Collaborative\\_FAQ.pdf](http://www.cms.org/uploads/SIM_Payer_Collaborative_FAQ.pdf). Accessed January 14, 2020.
16. Maryland Total Cost of Care Model. CMS. <https://innovation.cms.gov/initiatives/md-tccm/>. Published September 20, 2019. Accessed October 28, 2019.
17. Coordinated Care Organizations (CCO). Oregon Health Authority. <https://www.oregon.gov/oha/HSD/OHP/Pages/Coordinated-Care-Organizations.aspx>. Accessed October 28, 2019.
18. Accountable Communities of Health (ACH). Washington State Health Care Authority. <https://www.hca.wa.gov/about-hca/healthier-washington/accountable-communities-health-ach>. Accessed October 28, 2019.
19. About the Health Policy Commission (HPC). Mass.gov. <https://www.mass.gov/about-the-health-policy-commission-hpc>. Accessed September 24, 2019.

20. Whole Person Care Pilots. California Department of Health Care Service. DHCS. <https://www.dhcs.ca.gov/services/Pages/WholePersonCarePilots.aspx>. Accessed November 15, 2019.
21. States that Reported Accountable Care Organizations In Place. *Henry J Kais Fam Found*. October 2019. <https://www.kff.org/medicaid/state-indicator/states-that-reported-accountable-care-organizations-in-place/>. Accessed January 14, 2020.
22. National Health Expenditure Data: Historical. Centers for Medicare & Medicaid Services. <https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NationalHealthAccountsHistorical.html#targetText=U.S.%20health%20care%20spending%20grew,spending%20accounted%20for%2017.9%20percent>. Published December 11, 2018. Accessed September 24, 2019.
23. Kamal R. The typical non-elderly family in the United States spends \$8,200 per year (11% of their \$75,025 income) on health. *Peterson-Kais Health Syst Tracker*. August 2018. [https://www.healthsystemtracker.org/hhsc\\_chart/the-typical-family-in-the-united-states-spends-8600-per-year-11-of-their-77050-income-on-health/](https://www.healthsystemtracker.org/hhsc_chart/the-typical-family-in-the-united-states-spends-8600-per-year-11-of-their-77050-income-on-health/). Accessed September 24, 2019.
24. Medicaid Value Program: Health Supports for Consumers with Chronic Conditions. Center for Health Care Strategies. <https://www.chcs.org/project/medicaid-value-program-health-supports-for-consumers-with-chronic-conditions/>. Published February 1, 2010. Accessed September 24, 2019.
25. Gifford K, Ellis E, Edwards BC, Lashbrook A, Hinton E, Antonisse L. States Focus on Quality and Outcomes Amid Waiver Changes: Results from a 50-State Medicaid Budget Survey for State Fiscal Years 2018 and 2019. *Henry J Kais Fam Found*. October 2018. <https://www.kff.org/report-section/states-focus-on-quality-and-outcomes-amid-waiver-changes-emerging-delivery-system-and-payment-reforms/>. Accessed September 24, 2019.
26. Medicaid Accountable Care Organizations: State Update. February 2018. Center for Health Care Strategies. <https://www.chcs.org/media/ACO-Fact-Sheet-02-27-2018-1.pdf>. Accessed September 24, 2019.
27. State ACO Activities 2019. National Association of ACOs. <https://www.naacos.com/medicaid-acos>. Accessed September 24, 2019.
28. Martin J, Hamilton B, Osterman M. Births in the United States, 2017. August 2018. National Center for Health Statistics. <https://www.cdc.gov/nchs/data/databriefs/db318.pdf>. Accessed January 16, 2020.
29. Preterm Births as a Percent of All Births by Race/Ethnicity. The Henry J. Kaiser Family Foundation. <https://www.kff.org/other/state-indicator/preterm-births-by-raceethnicity/>. Published November 13, 2018. Accessed November 15, 2019.
30. Bonner L. Infant survival improved in North Carolina, but black babies are more likely to die. *Raleigh News & Observer*. <https://www.newsobserver.com/news/politics-government/article236485793.html>. Published October 21, 2019. Accessed November 15, 2019.
31. Establishing Maternity Episode Payment Models: Experiences from Ohio and Tennessee. 2018. <https://hcp-lan.org/workproducts/mac/Establishing-Maternity-Episode-Payment-Models.pdf>. Accessed September 24, 2019.
32. Digitale E. How California reversed the national trend of rising maternal mortality. *Scope*. June 2017. <https://scopeblog.stanford.edu/2017/06/29/how-california-reversed-the-national-trend-of-rising-maternal-mortality/>. Accessed November 15, 2019.
33. Primary Care Investment. Patient-Centered Primary Care Collaborative. <https://www.pcpcc.org/primary-care-investment>. Accessed September 5, 2019.
34. Machlin S, Mitchell E. Statistical Brief #517: *Expenses for Office-Based Physician Visits by Specialty and Insurance Type, 2016*. Agency for Healthcare Research and Quality (AHRQ); 2018. [https://meps.ahrq.gov/data\\_files/publications/st517/stat517.shtml](https://meps.ahrq.gov/data_files/publications/st517/stat517.shtml). Accessed September 5, 2019.
35. Episodes of Care. Ohio Department of Medicaid. <https://medicaid.ohio.gov/provider/PaymentInnovation/Episodes#1887210-episodes-as-informational-only>. Accessed September 24, 2019.
36. Division of TennCare. Episodes of Care FAQs: What You Need to Know. <https://www.tn.gov/content/dam/tn/tennicare/documents2/EpisodesOfCareFAQsWhatYouNeedToKnow.pdf>. Accessed August 26, 2019.



37. Behavioral Health in the Medicaid Program—People, Use, and Expenditures. Medicaid and CHIP Payment and Access Commission (MACPAC). <https://www.macpac.gov/wp-content/uploads/2015/06/Behavioral-Health-in-the-Medicaid-Program%E2%80%94People-Use-and-Expenditures.pdf>. Published June 2015. Accessed September 24, 2019.
38. Hostetter M, Klein S, McCarthy D. Vermont’s Experiment in Community-Driven Health Reform. The Commonwealth Fund. <https://www.commonwealthfund.org/publications/case-study/2018/may/vermonts-bold-experiment-community-driven-health-care-reform>. Published May 10, 2018. Accessed November 21, 2019.
39. *State Innovation Models (SIM) Initiative Evaluation Model Test Year Four Annual Report*. Centers for Medicare & Medicaid Services (CMS); 2018. <https://downloads.cms.gov/files/cmimi/sim-rd1-mt-fourthannrpt.pdf>. Accessed September 24, 2019.
40. Opioid Overdose Crisis. National Institute on Drug Abuse. <https://www.drugabuse.gov/drugs-abuse/opioids/opioid-overdose-crisis>. Published January 22, 2019. Accessed September 24, 2019.
41. Overdose Death Rates. National Institute on Drug Abuse. <https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates>. Published January 29, 2019. Accessed September 24, 2019.
42. Hedden S, Lancianese D, Arndt S. Medication Assisted Treatment - Prescription Drug and Opioid Addiction. The Iowa Consortium for Substance Abuse Research and Evaluation. <https://idph.iowa.gov/Portals/1/userfiles/52/MAT%20Iowa%20report.pdf>. Published March 2017. Accessed September 24, 2019.
43. Keehan SP, Cuckler GA, Sisko AM, et al. National Health Expenditure Projections, 2014–24: Spending Growth Faster Than Recent Trends. *Health Aff (Millwood)*. 2015;34(8):1407-1417. doi:10.1377/hlthaff.2015.0600
44. Daniel G, Leschly N, Marrazzo J, McClellan MB. Advancing Gene Therapies And Curative Health Care Through Value-Based Payment Reform. *Health Aff Blog*. October 2017. <https://www.healthaffairs.org/doi/10.1377/hblog20171027.83602/full/>. Accessed November 15, 2019.
45. Public Health Crises and Pharmaceutical Interventions: Improving Access While Ensuring Fiscal Sustainability. 2018. <https://www.nga.org/wp-content/uploads/2018/08/Public-Health-Crises-and-Pharmaceutical-Interventions.pdf>. Accessed September 24, 2019.
46. Dworkowitz A, Fiori A, Bachrach D. Extending VBP Models Into Medicaid Drug Purchasing: Challenges And Opportunities. *Health Aff Blog*. May 2019. <https://www.healthaffairs.org/doi/10.1377/hblog20190520.247063/full/>. Accessed September 24, 2019.
47. McGinnis JM, Williams-Russo P, Knickman JR. The Case For More Active Policy Attention To Health Promotion. *Health Aff (Millwood)*. 2002;21(2):78-93. doi:10.1377/hlthaff.21.2.78
48. Leveraging the Social Determinants of Health: What Works? June 2015. [https://bluecrossmafoundation.org/sites/default/files/download/publication/Social\\_Equity\\_ExecSumm\\_final.pdf](https://bluecrossmafoundation.org/sites/default/files/download/publication/Social_Equity_ExecSumm_final.pdf). Accessed September 24, 2019.
49. Graham G, Bernot J. An Evidence-Based Path Forward To Advance Social Determinants Of Health Data. *Health Aff Blog*. October 2017. <https://www.healthaffairs.org/doi/10.1377/hblog20171025.721263/full/>. Accessed September 24, 2019.
50. Daniel-Robinson L, Moore JE. Innovation and Opportunities to Address Social Determinants of Health in Medicaid Managed Care. January 2019. [https://www.medicaidinnovation.org/\\_images/content/2019-IMI-Social\\_Determinants\\_of\\_Health\\_in\\_Medicaid-Report.pdf](https://www.medicaidinnovation.org/_images/content/2019-IMI-Social_Determinants_of_Health_in_Medicaid-Report.pdf). Accessed September 24, 2019.
51. Osius E, Dutton M, O’Hagen A. North Carolina Waiver With ‘Healthy Opportunities’ Pilots Approved. Manatt. <https://manatt.com/insights/newsletters/manatt-on-health-medicaid-edition/north-carolina-waiver-with-healthy-opportunities>. Published November 20, 2018. Accessed March 14, 2019.
52. Au-Yeung C, Worrall C. Minnesota’s Accountable Communities for Health: Context and Core Components. March 2018. [https://www.shadac.org/sites/default/files/publications/MNSIM\\_ACH\\_brief\\_MARCH%20FINAL%20FOR%20WEB.pdf](https://www.shadac.org/sites/default/files/publications/MNSIM_ACH_brief_MARCH%20FINAL%20FOR%20WEB.pdf). Accessed January 14, 2020.
53. Total Medicaid MCO Enrollment. The Henry J. Kaiser Family Foundation. <https://www.kff.org/other/state-indicator/total-medicaid-mco-enrollment/>. Published August 7, 2019. Accessed November 15, 2019.
54. The Bree Collaborative. Dr. Robert Bree Collaborative. <http://www.breecollaborative.org/>. Published March 2016. Accessed September 24, 2019.

55. Iowa Healthcare Collaborative. IHC. <https://www.ihconline.org/>. Accessed November 15, 2019.
56. Landi H. Anthem, Humana along with Apple and Google testing API for patient access to claims data. FierceHealthcare. <https://www.fiercehealthcare.com/tech/anthem-humana-along-apple-and-google-testing-api-for-patient-access-to-claims-data>. Published August 2, 2019. Accessed January 14, 2020.
57. McDonald C, Tenebaum J, Amos L. Addressing Social Determinants of Health with FHIR Technology. *NLM Musings Mezzanine*. October 2019. <https://nlmdirector.nlm.nih.gov/2019/10/22/addressing-social-determinants-of-health-with-fhir-technology/>. Accessed November 15, 2019.
58. What is FHIR? The Office of the National Coordinator for Health Information Technology. <https://www.healthit.gov/sites/default/files/2019-08/ONCFHIRFSWhatIsFHIR.pdf>. Accessed November 15, 2019.
59. Rajiv. The HIE 'Differential': How KHIN is Evolving its Information-Sharing Business Model. Healthcare Innovation. <https://www.hcinnovationgroup.com/interoperability-hie/health-information-exchange-hie/article/21092459/the-hie-differential-how-khin-is-evolving-its-information-sharing-business-model>. Published August 13, 2019. Accessed January 13, 2020.
60. Alerts. Kansas Health Information Network. <https://www.khinonline.org/Product-Sevices/ALERTS.aspx>. Accessed January 13, 2020.
61. State-Wide Care Coordination Comes to North Carolina. PatientPing. <https://www.patientping.com/north-carolina-care-coordination>. Accessed November 15, 2019.
62. NCCARE360. North Carolina Department of Health and Human Services (NCDHHS). <https://www.ncdhhs.gov/about/department-initiatives/healthy-opportunities/nccare360>. Accessed October 28, 2019.
63. Health Coverage and Human Service Program Eligibility: Considerations for States Weighing Systems Integration. National Academy for State Health Policy (NASHP). <https://nashp.org/health-coverage-and-human-service-program-eligibility-systems-considerations-for-states-in-deciding-to-integrate-or-not/>. Published October 2, 2018. Accessed November 15, 2019.
64. Guyer J, Serafi K, Bachrach D, Gould A. State Strategies for Establishing Connections to Health Care for Justice-Involved Populations: The Central Role of Medicaid. The Commonwealth Fund. <https://www.commonwealthfund.org/publications/issue-briefs/2019/jan/state-strategies-health-care-justice-involved-role-medicaid>. Published January 11, 2019. Accessed November 15, 2019.
65. Sharing Behavioral Health Information Amid the Opioid Crisis. June 2018. <https://www.manatt.com/Manatt/media/Documents/Articles/Opioid-Brief-Cover-6-19-18-Final.pdf>. Accessed November 15, 2019.
66. Snowden A, Brinkhaus T, Nelson G. 2018 Minnesota Health Care Quality Report. February 2019. <http://mncm.org/wp-content/uploads/2019/03/mncm-quality-report-2019.pdf>. Accessed November 15, 2019.
67. Functional Assessments for Long-Term Services and Supports. June 2016. Medicaid and CHIP Payment and Access Commission (MACPAC). <https://www.macpac.gov/wp-content/uploads/2016/06/Functional-Assessments-for-Long-Term-Services-and-Supports.pdf>. Accessed November 15, 2019.
68. Request for Proposals for a Qualified Grantee to Provide Health Care Services to Medical Assistance and MinnesotaCare Enrollees Under Alternative Payment Arrangements Through the Integrated Health Partnerships (IHP) Demonstration. June 2018. [https://mn.gov/dhs/assets/2019-ihp-rfp\\_tcm1053-294430.pdf](https://mn.gov/dhs/assets/2019-ihp-rfp_tcm1053-294430.pdf). Accessed November 15, 2019.
69. Blue Cross NC and Aledade to Offer Data-Driven Support for Independent Primary Care Practices to Help Form Accountable Care Organizations in North Carolina. [https://www.bluecrossnc.com/sites/default/files/document/attachment/providers/public/bqpp/Aledade%20FAQ%20updated%201-6-19\\_.pdf](https://www.bluecrossnc.com/sites/default/files/document/attachment/providers/public/bqpp/Aledade%20FAQ%20updated%201-6-19_.pdf). Accessed November 15, 2019.
70. Investing in Primary Care: A State Level Analysis. July 2019. [https://www.pcpcc.org/sites/default/files/resources/pcmh\\_evidence\\_report\\_2019.pdf](https://www.pcpcc.org/sites/default/files/resources/pcmh_evidence_report_2019.pdf). Accessed November 15, 2019.
71. Peikes D, Anglin G, Harrington M, et al. Independent Evaluation of Comprehensive Primary Care Plus (CPC+): First Annual Report. Mathematica. <https://www.mathematica.org/our-publications-and-findings/publications/independent-evaluation-of-comprehensive-primary-care-plus-cpc-first-annual-report>. Published April 22, 2019. Accessed November 21, 2019.
72. Primary Care First Model Options. Centers for Medicare & Medicaid Services. <https://innovation.cms.gov/initiatives/primary-care-first-model-options/>. Published August 20, 2019. Accessed January 10, 2020.

73. Crumley D, Matulis R, Brykman K, et al. Advancing Primary Care Innovation in Medicaid Managed Care: A Toolkit for States. Center for Health Care Strategies. <https://www.chcs.org/resource/advancing-primary-care-innovation-in-medicaid-managed-care-a-toolkit-for-states/>. Published August 27, 2019. Accessed November 15, 2019.
74. Report to Congress on the Medicaid Health Home State Plan Option. May 2018. <https://www.medicaid.gov/state-resource-center/medicaid-state-technical-assistance/health-home-information-resource-center/downloads/medicaidhomehealthstateplanoptionrtc.pdf>. Accessed November 21, 2019.
75. Anderson C, Harrison C. ACO Policy Brief Transforming Care: An Introduction to Accountable Care Organizations in Massachusetts. April 2019. <https://www.mass.gov/files/documents/2019/01/17/ACO%20brief%20%231.pdf>. Accessed September 25, 2019.
76. MassHealth Partners with 18 Health Care Organizations to Improve Health Care Outcomes for Members. Mass.gov. <https://www.mass.gov/news/masshealth-partners-with-18-health-care-organizations-to-improve-health-care-outcomes-for>. Published June 8, 2017. Accessed September 25, 2019.
77. Masterson L. Vermont all-payer ACO shows early success. Healthcare Dive. <https://www.healthcaredive.com/news/vermont-all-payer-aco-shows-early-success/523476/>. Published May 15, 2018. Accessed September 25, 2019.
78. Backus E, Gobeille A, Hogan C, Holmes J, Rambur B. The All-Payer Accountable Care Organization Model: An Opportunity For Vermont And An Exemplar For The Nation. *Health Aff Blog*. November 2016. <https://www.healthaffairs.org/doi/10.1377/hblog20161122.057616/full/>. Accessed September 25, 2019.
79. TennCare Pausing Episodes of Care Rollout. June 2018. [https://www.tnmed.org/TMA/News\\_and\\_Media/News/TennCare\\_Pausing\\_Episodes\\_of\\_Care\\_Rollout.aspx?WebsiteKey=d3f4c24b-0587-43f9-9671-02683da3720f](https://www.tnmed.org/TMA/News_and_Media/News/TennCare_Pausing_Episodes_of_Care_Rollout.aspx?WebsiteKey=d3f4c24b-0587-43f9-9671-02683da3720f). Accessed August 26, 2019.
80. Accountable Communities of Health 101. <https://www.hca.wa.gov/assets/program/ACH-101.pdf>. Accessed January 14, 2020.
81. Spencer A, Freda B. Advancing State Innovation Model Goals through Accountable Communities for Health. October 2016. [https://www.chcs.org/media/SIM-ACH-Brief\\_101316\\_final.pdf](https://www.chcs.org/media/SIM-ACH-Brief_101316_final.pdf). Accessed January 14, 2020.
82. Healthier Washington Medicaid Transformation: Independent Assessment of Accountable Communities of Health Project Plans. January 2018. <https://www.hca.wa.gov/assets/program/wa-dsrip-ia-report.pdf>. Accessed January 14, 2020.
83. Washington State's Accountable Communities for Health: Promising Practices for Consumer Engagement in the New Regional Health Collaboratives. July 2016. <http://nohla.org/wordpress/wp-content/uploads/2016/08/Promising-Practices-for-Consumer-Engagement.pdf>. Accessed March 13, 2019.
84. Raths D. Medicaid ACOs Experiment with Social Determinant Requirements. Healthcare Innovation. <https://www.hcinnoationgroup.com/population-health-management/article/13029823/medicaid-acos-experiment-with-social-determinant-requirements>. Published February 15, 2018. Accessed March 14, 2019.
85. Patchwise Labs. SDOH, Doncha Know: Innovation lessons from Minnesota's Medicaid ACO program. *Medium Corp*. March 2018. <https://medium.com/the-sustainable-future/sdoh-doncha-know-innovation-lessons-from-minnesotas-medicaid-aco-program-be3be12f65f8>. Accessed March 14, 2019.
86. Medi-Cal Healthier California for All. Department of Health Care Services (DHCS). <https://www.dhcs.ca.gov/provgovpart/pages/medi-calhealthiercaforall.aspx>. Accessed November 15, 2019.
87. APM Framework. *Health Care Paym Learn Action Netw*. July 2017. <https://hcp-lan.org/apm-refresh-white-paper/>. Accessed November 21, 2019.
88. Damberg CL, Sorbero ME, Lovejoy SL, Martsof G, Raaen L, Mandel D. Measuring Success in Health Care Value-Based Purchasing Programs: Findings from an Environmental Scan, Literature Review, and Expert Panel Discussions. [https://www.rand.org/content/dam/rand/pubs/research\\_reports/RR300/RR306/RAND\\_RR306.pdf](https://www.rand.org/content/dam/rand/pubs/research_reports/RR300/RR306/RAND_RR306.pdf). Accessed November 15, 2019.
89. Accelerating and Aligning Population-Based Payment Models: Performance Measurement. 2016. <http://hcp-lan.org/workproducts/pm-whitepaper-final.pdf>. Accessed November 15, 2019.
90. Safran DG, Higgins A. Getting To The Next Generation Of Performance Measures For Value-Based Payment. *Health Aff Blog*. January 2019. <https://www.healthaffairs.org/doi/10.1377/hblog20190128.477681/full/>. Accessed October 29, 2019.

91. Robinson JC, Brown T, Whaley C, Bozic K. Consumer Choice Between Hospital-Based and Freestanding Facilities for Arthroscopy: Impact on Prices, Spending, and Surgical Complications. *J Bone Jt Surg-Am Vol.* 2015;97(18):1473-1481. doi:10.2106/JBJS.0.00240
92. Whaley C, Brown T. *Firm Responses to Targeted Consumer Incentives: Evidence from Reference Pricing for Surgical Services.* Social Science Research Network; 2018. <https://papers.ssrn.com/abstract=2686938>. Accessed January 13, 2020.
93. Sen AP, Willink A, Anderson GF. State Efforts to Lower Health Care Prices Paid by Private Insurers. *JAMA.* 2019;322(3):201-202. doi:10.1001/jama.2019.7028
94. Smoot H. NC revises new health care plan for state workers after pressure from hospitals. *The Charlotte Observer.* <https://www.charlotteobserver.com/news/business/article233673197.html>. Published August 8, 2019. Accessed November 15, 2019.
95. Robinson JC, Brown TT, Whaley C. Reference Pricing Changes The 'Choice Architecture' Of Health Care For Consumers. *Health Aff (Millwood).* 2017;36(3):524-530. doi:10.1377/hlthaff.2016.1256
96. Galewitz P. Walmart To Give Workers Financial Incentives To Use Higher-Quality Doctors. *Kais Health News.* October 2019. <https://khn.org/news/walmart-to-give-workers-financial-incentives-to-use-higher-quality-doctors/>. Accessed November 5, 2019.
97. McClellan MB, Richards R, Japinga M. Evidence on Payment Reform: Where Are The Gaps? *Health Aff Blog.* April 2017. <https://www.healthaffairs.org/doi/10.1377/hblog20170425.059789/full/>. Accessed September 5, 2019.
98. Shrank WH, Saunders RS, McClellan M. Better Evidence to Guide Payment Reforms: Recognizing the Importance of Perspective. *JAMA.* 2017;317(8):805-806. doi:10.1001/jama.2017.0034
99. Doyle-Burr N. New N.H. law regulates health care mergers. *Concord Monitor.* <https://www.concordmonitor.com/Gov-Sununu-Signs-Bill-to-Increase-Scrutiny-of-Health-Care-Transactions-27616722>. Published August 12, 2019. Accessed August 26, 2019.
100. Information About Material Change Notices/Cost and Market Impact Reviews. The Commonwealth of Massachusetts. <https://www.mass.gov/service-details/information-about-material-change-noticescost-and-market-impact-reviews>. Accessed January 13, 2020.
101. Beth Israel Deaconess and Lahey Health complete merger. *Modern Healthcare.* <https://www.modernhealthcare.com/mergers-acquisitions/beth-israel-deaconess-and-lahey-health-complete-merger>. Published March 1, 2019. Accessed July 3, 2019.
102. Bebinger M. Proposed Beth Israel-Lahey Merger Includes 13 Hospitals. Published July 13, 2017. <https://www.wbur.org/commonhealth/2017/07/13/beth-israel-lahey-merger-hospitals>. Accessed July 3, 2019.
103. Fuse Brown EC. Hospital Mergers and Public Accountability: Tennessee and Virginia Employ a Certificate of Public Advantage. *Milbank Memorial Fund.* <https://www.milbank.org/publications/hospital-mergers-and-public-accountability-tennessee-and-virginia-employ-a-certificate-of-public-advantage/>. Published September 26, 2018. Accessed November 15, 2019.
104. CON-Certificate of Need State Laws. National Conference of State Legislators. Published December 1, 2019. <http://www.ncsl.org/research/health/con-certificate-of-need-state-laws.aspx>. Accessed November 15, 2019.
105. FHCA Statement on House Passing Bill to End Certificate of Need (HB 21). Florida Health Care Association (FHCA). [https://www.fhca.org/media\\_center/entry/statementonhb21passinghouse](https://www.fhca.org/media_center/entry/statementonhb21passinghouse). Accessed November 15, 2019.
106. Florida Repeals Significant Portions of Certificate Of Need Law. *The National Law Review.* <https://www.natlawreview.com/article/florida-repeals-significant-portions-certificate-need-law>. Published July 1, 2019. Accessed January 13, 2020.
107. Shortage Areas. Health Resources & Services Administration. <https://data.hrsa.gov/topics/health-workforce/shortage-areas>. Accessed December 20, 2019.
108. Petterson SM, Phillips RL, Bazemore AW, Koinis GT. Unequal distribution of the U.S. primary care workforce. *Am Fam Physician.* 2013;87(11):Online.
109. Kangovi S, Mitra N, Grande D, et al. Patient-Centered Community Health Worker Intervention to Improve Posthospital Outcomes: A Randomized Clinical Trial. *JAMA Intern Med.* 2014;174(4):535-543. doi:10.1001/jamainternmed.2013.14327

## Author Bios

**Mark Japinga, MPAff** is a Research Associate, Payment and Delivery Reform at Duke-Margolis, and is an expert on payment, cost, and care transformation issues on both the national and state level. He leads the development of issue briefs and policy papers and supports the Center's efforts to convene and collaborate with stakeholders across the healthcare industry. He has also worked for the Texas Senate, the Wisconsin State Assembly, the Texas Legislative Council, AARP, and Stateside Associates. He received his Master's in Public Affairs from the University of Wisconsin-Madison.

**Hannah Crook** is a Research Assistant, Payment and Delivery Reform at Duke-Margolis, supporting a wide range of projects across the Center's portfolio. She is a graduate of the University of North Carolina-Chapel Hill.

**Elizabeth Singletary** is a Research Assistant, Payment and Delivery Reform at Duke-Margolis, supporting a wide range of projects across the Center's portfolio. She is a graduate of the University of North Carolina-Chapel Hill.

**Robert Saunders, PhD** is Research Director, Payment and Delivery Reform at Duke-Margolis. In this role, he manages the Center's portfolio for payment and delivery reform initiatives, including bringing together faculty from across the University for developing the strategic vision in this area. Prior to joining Duke-Margolis, Dr. Saunders was a Senior Director and then Senior Advisor to the President of the National Quality Forum, where he managed a large federally-funded project that provided recommendations on more than 200 quality measures for 20 different federal programs in a period of two months. He has previously served as an adjunct professorial lecturer at American University and completed his Ph.D. in Medical Physics from Duke University.

**Mark McClellan, MD, PhD**, is the Robert J. Margolis Professor of Business, Medicine, and Health Policy, and founding Director of the Duke-Margolis Center for Health Policy at Duke University. With a highly distinguished record in public service and academic research, Dr. McClellan is a former administrator of the Centers for Medicare & Medicaid Services and former commissioner of the U.S. Food and Drug Administration (FDA), where he developed and implemented major reforms in health policy. These reforms include the Medicare prescription drug benefit, Medicare and Medicaid payment reforms, the FDA's Critical Path Initiative, and public-private initiatives to develop better information on the quality and cost of care. Before coming to Duke, he served as a Senior Fellow in Economic Studies at the Brookings Institution, where he was Director of the Health Care Innovation and Value Initiatives and led the Richard Merkin Initiative on Payment Reform and Clinical Leadership.

## Disclosures

Mark B. McClellan, MD, PhD, is an independent board member on the boards of Johnson & Johnson, Cigna, Alignment Healthcare, Seer, the West Health Institute and the West Health Policy Center. He also co-chairs the Accountable Care Learning Collaborative and the Guiding Committee for the Health Care Payment Learning and Action Network; and receives fees for serving as an advisor for Cota and MITRE.

Robert Saunders has a consulting agreement with Yale-New Haven Health System for development of measures and quality measurement strategies for the Center for Medicare and Medicaid Innovation Alternative Payment Models under CMS Contract Number 75FCMC18D0042/Task Order Number 75FCMC19F0003, "Quality Measure Development and Analytic Support," Base Period.

## About Duke-Margolis Center for Health Policy

The Robert J. Margolis, MD, Center for Health Policy at Duke University is an academic research center and a policy laboratory, focusing on payment and delivery reform across the health care system. Its mission is to improve health and the value of health care through practical, innovative, and evidence-based policy solutions. To learn more, please visit [healthpolicy.duke.edu](http://healthpolicy.duke.edu) or [@DukeMargolis](https://twitter.com/DukeMargolis).

## About West Health

Solely funded by philanthropists Gary and Mary West, West Health is a family of nonprofit and nonpartisan organizations including the Gary and Mary West Foundation and Gary and Mary West Health Institute in San Diego, and the Gary and Mary West Health Policy Center in Washington, D.C. West Health is dedicated to lowering healthcare costs to enable seniors to successfully age in place with access to high-quality, affordable health and support services that preserve and protect their dignity, quality of life and independence. Learn more at [westhealth.org](http://westhealth.org) and follow [@westhealth](https://twitter.com/westhealth).

