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December 4, 2015

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Dear Mr. Nah and Dr. Cha:

I am pleased to submit the Commonwealth of Kentucky's State Health System Innovation Plan (SHSIP), or State Innovation Model (SIM) Model Design, produced with the generous support of a Round Two Model Design Award from the Centers for Medicare and Medicaid Services.

As Secretary of the Kentucky Cabinet for Health and Family Services, my team in the Office of Health Policy and I have overseen a vibrant and highly productive process of intense stakeholder engagement and discussion over the past year. The Commonwealth's health system stakeholders have debated, discussed, questioned and commented on nearly every aspect of the Kentucky SIM Model Design. In the process, stakeholders have educated us, and have been educated on, the value-based future of healthcare where quality and outcomes matter, in addition to financial sustainability. With the stakeholders' ardent support, the population health goals of Governor Beshear's kyhealthnow initiative have become seamlessly interwoven into our Model Design and serve as the foundation for our plan to improve the Commonwealth's population health and health care delivery system.

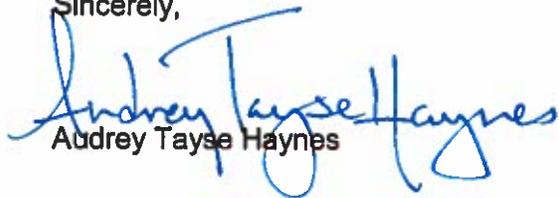


In our application for the Round Two Model Design Award, Governor Beshear, in his letter of support, had committed to developing an innovation plan for “the most effective, ambitious and sustainable health system reforms for our state.” We believe we have produced just such a plan for the citizens of the Commonwealth. I can say with confidence that our SIM Model Design truly is a stakeholder-driven plan with the goals of the Triple Aim informing all of its aspects.

As Governor Beshear’s tenure comes to a close, he leaves behind deeply impactful health policies and programs that have made a real difference in the lives of Kentuckians, who suffer from poor health in record numbers: expanded Medicaid coverage; the ease and efficacy of kynect, our state-based health insurance exchange; the staggering reduction in the rate of uninsured individuals; and a vision for state-wide health and wellness embodied in kyhealthnow. To this list, we are proud to add the SIM Model Design, which represents our state’s ambitions for comprehensive, value-based health system initiatives across the Commonwealth that truly improve care and quality while creating financial sustainability for patients and providers. We realize that subsequent steps to realize and carry forward the SIM plan will now be in the hands of the next gubernatorial administration. Significantly, though, we believe that next steps and future direction are also in the hands of our committed stakeholders, who understand that our state’s transition to value-based care and commitment to improved population health are the right steps for the citizens of the Commonwealth irrespective and independent of any political administration.

We thank you for the tremendous and unique opportunity that this grant has afforded Kentucky to catalyze very serious conversations about health system reform with our stakeholder community, and we hope that the full potential of the reforms proposed in the Kentucky SIM Model Design are realized in the years ahead.

Sincerely,



Audrey Tayse Haynes

Cc: Governor Steven L. Beshear
Lt. Governor Crit Luallen
Appointed Members of the Kentucky Health Transformation Leadership Committee: Driving SIM and kyhealthnow into the Future



Commonwealth of Kentucky

State Innovation Model (SIM) Model Design
Grant

State Health System Innovation Plan (SHSIP)

December 2015

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1.0 Executive Summary

The Commonwealth of Kentucky's State Health System Innovation Plan (SHSIP) is the final output of the year-long Model Design effort as part of the State Innovation Model (SIM) initiative. The SHSIP lays out the Commonwealth's vision for transforming Kentucky's current health care system, which is represented by growing costs and poor health outcomes, to one that is focused on value-based purchasing in a multi-payer context and improving the health of all Kentuckians. Critical to the success of this transformation is the inclusion a broad array of stakeholders, including payers, providers, communities, and individuals, who are committed to working together to improve the value of each interaction that takes place within the health care system.

From the beginning of the SHSIP development process in February 2015, the Cabinet for Health and Family Services (CHFS) has been committed to actively engaging these stakeholders throughout the SHSIP's design and development. Over the past 10 months, approximately 640 stakeholders have helped shape the SHSIP through 34 organized stakeholder and workgroup meetings and a dozen individual meetings with CHFS. Many goals and indicators of success for the SIM initiative were discussed with stakeholders during the development of the SHSIP. The Commonwealth has chosen to focus on three delivery system and payment reform goals it hopes to achieve throughout the implementation of its chosen reform initiatives:

1. **Alignment with PHIP Goals.** CHFS and the stakeholders who participated in the Model Design have built the foundation of the SHSIP around the population health goals laid out in Governor Steven Beshear's kyhealthnow initiative, in addition to the SIM population health goals advanced by the Centers for Disease Control and Prevention (CDC). The reform initiatives chosen are intended to drive Kentucky's population closer to reaching these goals.
2. **Population Reach.** Sustainable health transformation in Kentucky requires buy-in from multiple payers in order to affect the outcomes of a broad population base. Through its stakeholder engagement activities, the Commonwealth has already begun the process of working with multiple payers with the goal of reaching at least 80 percent of covered lives in Kentucky.
3. **Cost Savings.** The Commonwealth believes the rate of increase in health care spend can be slowed as a direct result of undertaking initiatives designed to improve system efficiency and population health. Over the four year implementation period, a two percent cost savings is a targeted result of implementing the proposed SIM reform initiatives¹.

In order to achieve these goals, the Commonwealth has chosen to adopt four delivery system and payment reform initiatives as well as six strategies to support these initiatives, all of which are represented in Figure 1. The **Patient Centered Medical Home (PCMH)** initiative aims to transform primary care delivery in Kentucky into a team-based model that addresses each individual's health care needs in a holistic manner, and seeks to address the impact of social determinants on an individual's health. The **Accountable Care Organization (ACO)** initiative focuses on creating more comprehensive systems of care that break down the many silos that exist in Kentucky's health care system. The **Episodes of Care (EOC)** initiative addresses the need to better manage transitions of care – a key problem for consumers as identified in the stakeholder engagement process. The **Community Innovation Consortium** recognizes the value of integrating communities, providers, and payers to create new models of care designed specifically to the address issues such as access to care and health disparities at the local and regional level.

¹ "Cost savings" refers to the dollar value of the amount of cost avoidance that can be attributed to a reduction in the growth of health care costs as a result of implementing the initiatives described in this plan.

These initiatives are extensions of the intensive work already underway by stakeholders across the Commonwealth to transform their care delivery models from those built around volume to a focus on value and improved outcomes. In recognition of this work, the SHSIP is intended to create multiple paths for a provider to pursue health care transformation strategies. It is not CHFS' expectation that providers engage in multiple strategies if they are resource constrained or have already committed to one of the initiatives. Instead, the plan encourages providers to participate in at least one of the reform activities as Kentucky moves down the path to health care system transformation.

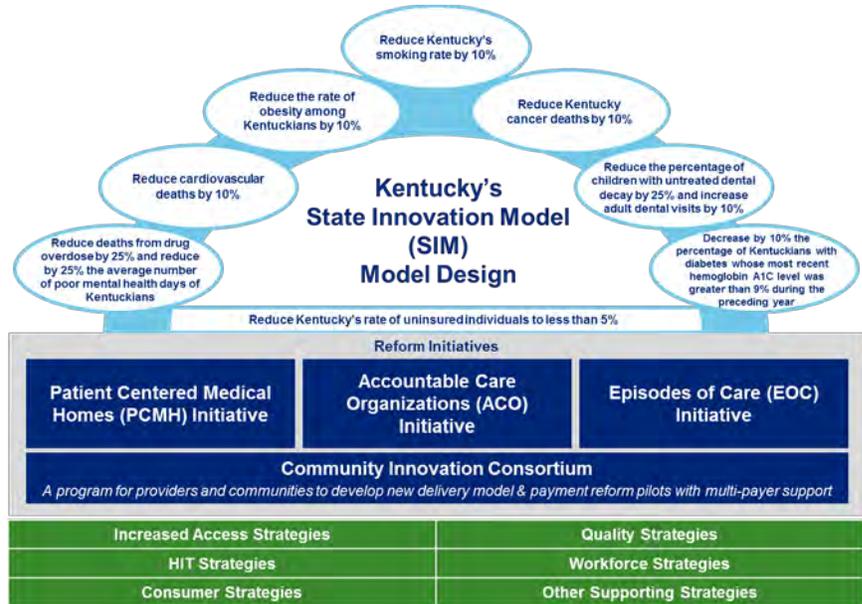


Figure 1. Kentucky's SIM Model Design

To formally initiate the SIM implementation work, the CHFS Secretary has appointed a broad set of stakeholders to a SIM Governing Body to support the next steps of taking the SHSIP from Model Design to implementation. This will include working with the Kentucky Employees' Health Plan (KEHP) and the Department for Medicaid Services (DMS) – two vital stakeholders positioned as “first movers”, and representing approximately 1,500,000 covered lives. At the same time, the SHSIP lays out a vision for an ongoing dialogue with all payers and employers to harmonize and focus reform strategies across all payers.

CHFS looks forward to sharing this plan with its federal partners at CMS, working collectively with the Commonwealth and its stakeholders to advance the Model Design, and ultimately achieving population health improvement through the successful implementation of each SIM reform initiative.

2.0 State Health System Innovation Plan (SHSIP) Introduction

On December 16, 2014, the Commonwealth of Kentucky Cabinet for Health and Family Services (CHFS) received a two million dollar State Innovation Model (SIM) Model Design grant from the Center for Medicare & Medicaid Innovation (CMMI) within the Centers for Medicare & Medicaid Services (CMS). CMMI created the SIM initiative for states that are committed to planning, designing, testing, and supporting the evaluation of new multi-payer payment and service delivery models in the context of larger health system transformation, with a special focus on population health improvement. The objective of Kentucky's SIM Model Design is to engage a diverse group of stakeholders, including but not limited to public and commercial payers, providers, advocacy groups, employers, and consumers, to develop a State Health System Innovation Plan (SHSIP).

The SHSIP is a comprehensive design document that identifies strategies for transforming the health care landscape in Kentucky through the use of multi-payer payment and service delivery reforms. A visual representation of the SHSIP, including a description of the core components that comprise the overall plan, is depicted in Figure 2.

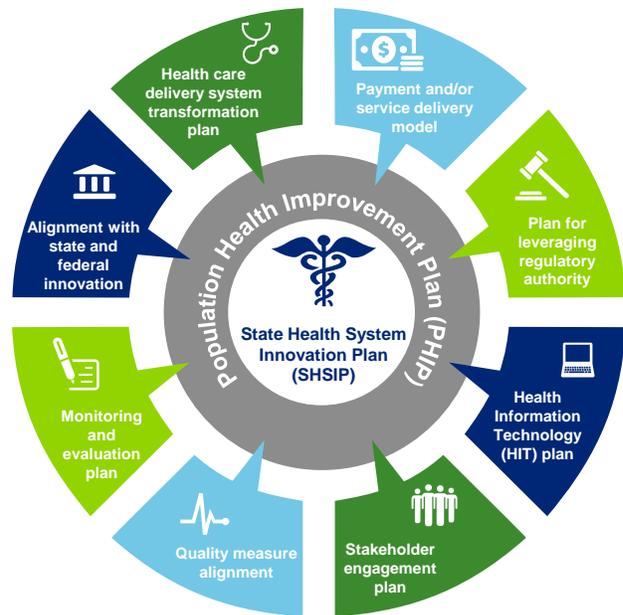


Figure 2. State Health System Innovation Plan Components

At the core of the SHSIP is a plan to improve population health in Kentucky – the **Population Health Improvement Plan (PHIP)**. The PHIP section of this document outlines the current challenges facing Kentucky from a population health perspective. It also describes existing initiatives underway within the Commonwealth to help improve the health outcomes of Kentuckians. The PHIP is the foundation from which the **Value-based Health Care Delivery and Payment Methodology Transformation Plan** was built. This section, which is represented by the “Health care delivery system transformation plan” and “Payment and/or service delivery model” segments in Figure 2 describes the specific reform initiatives CHFS has chosen in its effort to transform the health care delivery system and improve population health outcomes.

The remaining six sections of the SHSIP, as illustrated in the graphic, were written in support of the goals outlined in the Value-based Health Care Delivery and Payment Methodology Transformation section of the document. For example, the **Leveraging Regulatory Authority** section includes strategies the Commonwealth can pursue to support its chosen reform initiatives. The **Health Information Technology (HIT)** section describes the data and infrastructure needs to support each reform initiative, as well as ways to help providers and practices use technology to transform their existing business processes. The **Stakeholder Engagement** section, which is the first section below, describes the methods CHFS used to obtain stakeholder buy-in and feedback throughout the Model Design development process. Recommendations from a consumer engagement study conducted by the University of Louisville are also included in this section (a full copy of this report is included as an appendix to the SHSIP).

The **Quality Measure Alignment** section of the plan describes the Commonwealth's strategy for measuring the success of the chosen health reform initiatives. It includes a number of guiding principles developed by stakeholders that will be used to guide the measure selection process during the implementation period of the SIM project. This section is closely related to the **Monitoring and Evaluation** component of the SHSIP, which includes details regarding the approach the Commonwealth will take to monitor and evaluate the progress being made towards meeting identified goals throughout the implementation of the reform initiatives detailed within the plan. Finally, the **Alignment with State and Federal Innovation**

section includes examples of where Kentucky’s SHSIP aligns with current innovation models underway both at the state and federal levels.

It is important to note that the strategies identified in this plan were developed in collaboration with a diverse group of stakeholders throughout the Model Design process and represent the needs of a variety of stakeholders throughout the Commonwealth. The SIM effort encouraged stakeholder participation and contribution during the Model Design period to build a foundation for continued collaboration as Kentucky begins to implement the health care reform strategies included in its Model Design. In addition to broad stakeholder input, the Commonwealth relied on the experiences of a range of states that are currently testing transformative health care initiatives, including several neighboring states. CHFS reviewed the PCMH, ACO, and EOC design and implementation plans from some of the more advanced SIM states who are testing these models in diverse environments, including but not limited to Maine, Arkansas, Tennessee, New York, and Ohio. The Commonwealth leveraged the successes and lessons learned from these states to enhance its design.

3.0 Stakeholder Engagement

Effective stakeholder engagement formed the foundation of Kentucky’s Model Design process and will continue to play a critical role as the Commonwealth continues its work toward achieving a lasting, sustainable health system in Kentucky. Over the course of the Model Design, CHFS used a robust, iterative process with internal and external stakeholders that consisted of broad stakeholder meetings, targeted workgroup sessions, surveys, and deliberate outreach to help craft the components of this plan. This approach also consisted of reviews of the key sections of the SHSIP and resulted in significant changes and improvements made to the Model Design based on stakeholder input. The specific components of this approach are described below.

3.1 Stakeholder Outreach

At the beginning of the Model Design, CHFS prepared a master stakeholder list of more than 900 stakeholders across the Commonwealth. The list is comprised of individuals and organizations who participated in past CHFS-led health initiatives and others who expressed interest in participating in SIM. CHFS conducted a proactive outreach process in early February 2015. During this time, invitations were sent to a variety of stakeholders throughout the Commonwealth with the goal of engaging them in the Model Design. This targeted outreach was conducted to encourage representation from all parties whose voices should be heard in the SIM process. Table 1 provides the categories of Kentucky’s SIM stakeholders to demonstrate this participation across health industry sectors:

Stakeholder Categories	
State/Local Government Agency	Primary Care
Hospitals	Health Systems
Consumer Advocacy Groups	Specialists
Health Care Associations	Long Term Care
University	Multispecialty Physician Group
Other Provider	Commercial Payer
Behavioral Health	Agent/Broker
Private Enterprise	Post-Acute
Medicaid MCOs	Individual

Table 1. KY SIM Stakeholder Categories

This group of stakeholders benefitted from a regular flow of communications from CHFS in the forms of mass information e-mails, personal responses to individual queries, information posted on the Kentucky SIM website, surveys, personal phone calls or meetings as needed or appropriate, and in-person meetings and interactions at stakeholder meetings and workgroups.

3.2 Stakeholder Meetings

After identifying the universe of Kentucky stakeholders to engage in the SIM process, CHFS developed a formal stakeholder engagement approach that was used to generate ideas and set goals, reach consensus on design elements, refine sections of the SHSIP, and assist with the creation of the SIM Governing Body, which is described further in this plan. This approach included regular, monthly stakeholder sessions following the cadence of a combined stakeholder meeting at the beginning of each month followed by five area-specific workgroup sessions in the middle of the month, which were held at staggered times so that stakeholders could attend as many workgroup sessions as possible. Descriptions for each stakeholder workgroup are provided in Table 2.

Workgroup Name	Description
Increased Access	<ul style="list-style-type: none"> Develop strategies that increase access to needed services Create workforce development strategies to support SIM initiatives
Integrated and Coordinated Care	<ul style="list-style-type: none"> Develop Kentucky-specific model for improving care coordination for individuals with complex needs Develop strategies to improve coordination across delivery systems
HIT Infrastructure	<ul style="list-style-type: none"> Leverage Kentucky's Quality Health Information (QHI) framework to implement payment and quality reform strategies
Payment Reform	<ul style="list-style-type: none"> Identify payment reform strategies that support SIM goals
Quality Strategy/Metrics	<ul style="list-style-type: none"> Develop a program quality strategy that allows robust measurement of the effectiveness of SIM initiatives

Table 2. KY SIM Stakeholder Workgroups

At each large statewide stakeholder meeting, CHFS organized informational and/or educational presentations on large-scale health care topics relevant to SIM, including presentations from subject-matter and industry experts, as well as reports on workgroup efforts for the group as a whole so that common themes, areas of overlap, or areas of challenge could be identified. The monthly small workgroup sessions were opportunities to work through each workgroup's goals, strategies, and topics in greater detail, while having knowledge and understanding of what the other workgroups were accomplishing and how they were interrelated. The workgroup facilitator played the role of helping workgroup participants identify common themes with other topic areas across the SIM reform initiatives (PCMH, ACO, EOC, and the Community Innovation Consortium), while again infusing the theme of population health through each session.

This biweekly rotation of combined stakeholder meetings and small workgroup sessions allowed the work of all stakeholder workgroups to be woven together to help develop and refine the specific sections of this plan. This monthly cadence occurred through July 2015, after which it was modified to hold additional combined stakeholder meetings as opposed to targeted workgroups to present and solicit feedback on draft sections of the SHSIP as they were developed.

In addition to monthly combined stakeholder and workgroup meetings, CHFS also conducted over a dozen individual stakeholder meetings with representatives from payer, provider, and advocacy groups to generate consensus and buy-in around the initiatives described in this plan. These meetings helped CHFS identify gaps in the Model Design and make changes to the reform initiatives that will better serve the citizens of Kentucky.

CHFS also hosted a half-day SIM HIT Innovation Forum on Tuesday, September 29, 2015, in Bowling Green, Kentucky in conjunction with the 8th annual Kentucky Health Information Exchange (KHIE) eHealth Summit that was held the following day. Approximately 200 attendees registered and attended the SIM HIT Innovation Forum, which focused on topics such as "Using Technology and Data Infrastructure to Realize the Potential of SIM Reforms" and "Kentucky Technology

Innovators Driving Improved Health and Health Care.” The forum consisted of keynote presentations; panel discussions by federal, state, and local health care leaders; and demonstration exhibits by Kentucky-specific innovators. Specific metrics related to this forum, as well as the broader stakeholder engagement process, are presented in Figure 3.

3.3 Stakeholder Input in the Design Process

Kentucky’s Model Design process was comprised of continuous stakeholder input and involvement at each step of the SHSIP development process. Kentucky’s planning approach included four phases with built-in cyclical feedback loops – assess existing initiatives, design a vision and outline a straw person, identify gaps and regulatory requirements, and develop drafts and incorporate feedback that often resulted in refinements to the plan. The execution of these phases for each section of this plan helped CHFS develop a SHSIP that is representative of the Commonwealth’s population and is focused on addressing specific, identified needs. Stakeholders were consistently engaged through each phase and maintained alignment with the Model Design timeline of the SIM initiative. In response to stakeholder feedback, CHFS made direct changes to the plan, for example: developing more feasible implementation timelines, allowing for payment and delivery system options for providers and payers, and recognizing resource and technology limitations.

Stakeholders were engaged in a cyclical feedback loop with each other through the common report out of workgroup sessions at combined stakeholder meetings, as well as the facilitator’s role in workgroup sessions to highlight common threads across workgroups.

The feedback cycle also included CHFS’ Core Team of executive-level internal stakeholders responsible for providing Commonwealth insight and guidance into this plan. This feedback loop among stakeholders and the internal SIM Core Team is depicted in Figure 4.

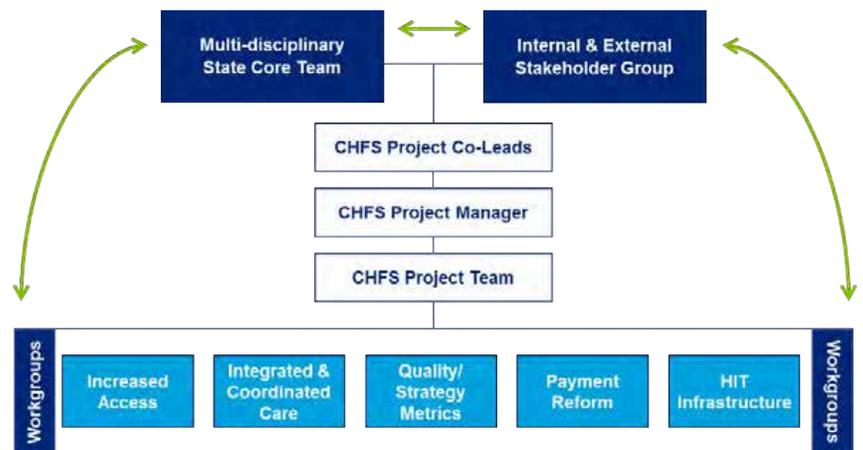


Figure 4. KY SIM Stakeholder Engagement Approach

3.4 Consumer Engagement

As noted, the Commonwealth’s Model Design process has focused on engaging a variety of stakeholders across the health care landscape with the common goal of developing a plan for health care transformation in Kentucky. These stakeholders also identified the need to engage consumers (recipients of care delivery) and consider their voices in the Model Design and future implementation. CHFS contracted with the Commonwealth Institute of Kentucky at the University of Louisville School of Public Health & Information Sciences to assist in collecting and analyzing consumer perspectives relevant to the SHSIP. The Commonwealth Institute collected data from Kentucky consumers and consumer advocates about their perceptions of and needs from the health care system. The Commonwealth Institute also outlined themes that identify gaps in the current health care system that SIM hopes to address. In addition, they recommended engaging consumers throughout the future implementation and evaluation phases of the reform initiatives.

3.4.1 Data Collection Methods

The Commonwealth Institute collected direct data about consumer perceptions in two ways. First, the recent work of Kentucky Voices for Health (KVH), a health consumer advocacy group, was leveraged. During spring 2015, researchers interviewed residents regarding their experiences with kynect and use of their new health insurance. Interviews took place

consumer choice. Advocates echoed consumer concerns regarding workforce limitations, but also noted that consumers have limitations in health insurance literacy and health systems literacy, which leads to difficulty navigating the health care system and coordinating their own care among providers.

Finally, through the web-based survey, consumers reported on the quality of services and their satisfaction with their interactions with the health care system. The survey included several validated questions to assess quality of care from the patient perspective. A majority of respondents indicated that their personal doctor spent enough time with them (58 percent), knew important information about their medical history (65 percent), were informed about care received from specialists (52 percent), and involved them in decisions about their health care (81 percent). Although the responses were overall positive, they indicate that there is still room for improvement in the areas of access and quality. The FQHC board member, KVH, and advocate interviews were able to provide more insight to quality of care. Interviewed consumers perceived providers were unable to spend enough time with them, and they emphasized the importance of the trusted provider relationship and continuity of care. Advocates reinforced that consumers rely on trusted professionals to educate and aid them in navigating the health care system. Advocates also stressed that consumers need to have a voice in their care, which requires clear communication from providers that take the time to listen and develop caring relationships.

The SHSIP directly addresses the themes of cost, access, and quality through the value-based models of care, and aims to respond to consumer concerns to improve their experiences of using the health care system for positive health outcomes.

3.4.3 Recommendations for Future Consumer Engagement

The Commonwealth Institute's study indicates that consumer engagement will play an important role in the future implementation of the reform initiatives outlined in this plan. Specifically, the future implementation should consider how consumers are represented in governance and decision-making. Likewise, the implementation should consider opportunities for consumers to participate in a meaningful way and to provide timely and relevant feedback, building off the engagement and feedback process executed throughout the Model Design. A potential method for collaboration would be to have community organizations design and implement consumer advocacy workshops to teach consumers about SIM and train them to actively and meaningfully participate in providing feedback during the implementation phase. CHFS and the SIM Governing Body plan to leverage the work completed by the Commonwealth Institute to develop a formal consumer engagement strategy that considers the results of this outreach and recommendations for future success.

4.0 Population Health Improvement Plan (PHIP) Overview

Kentucky ranks poorly when measured against key health indicators at the national level, ranking 47th among all states in 2014 (America's Health Rankings, 2014). Kentuckians have a higher prevalence of smoking, obesity, diabetes, heart disease, and cancers, which contribute to the Commonwealth's lower ranking. For the purposes of the SIM Model Design, the PHIP provides an initial assessment of the gaps in access to care and the health status disparities Kentucky seeks to address in the delivery system transformation initiatives designed over the course of the Model Design period. The PHIP also outlines a plan to improve the health of Kentucky's population within the context of the health system delivery and payment reform initiatives developed as part of SIM. A draft version of the PHIP was submitted to both stakeholders and CMS during the first three months of the Model Design process. Since then, the plan has been continually updated to reflect stakeholder feedback and the overall evolution of Kentucky's Model Design.

A central theme of Kentucky's PHIP is to leverage and build upon interventions and strategies already underway in the Commonwealth, primarily the kyhealthnow initiative announced in February 2014, which is comprised of statewide goals and strategies designed to significantly advance the health and wellness of Kentucky's citizens. In addition to the three key population health focus areas prescribed by CMS and the Centers for Disease Control and Prevention (CDC) through SIM – tobacco, obesity, and diabetes – kyhealthnow contains five additional focus areas that Kentucky addresses in the PHIP. The additional population health focus areas are cardiovascular disease, cancer, oral health, drug overdose/poor mental health days, and the overall rate of uninsured Kentuckians.

While the SIM reform initiatives are not designed to directly impact the kyhealthnow strategy of reducing Kentucky's rate of uninsured individuals to less than five percent, the Commonwealth recognizes that health insurance coverage is foundational to achieving improved health outcomes. To date, Kentucky has had tremendous success in increasing coverage through reform efforts of the Affordable Care Act (ACA). Kentucky has a state-run health benefit exchange and also expanded Medicaid to adults with incomes up to 138 percent of the Federal Poverty Level (FPL) as part of ACA. As a result of this expansion, more than 300,000 Kentuckians enrolled in the Medicaid expansion by the end of June 2014, which materially exceeded expectations. Today, more than 500,000 Kentuckians have obtained health insurance through kynect and Medicaid expansion, and this number continues to grow. National data indicates that Kentucky experienced the largest decrease of any state in its uninsured rate between 2013 and 2014, dropping 5.8 percentage points. The Commonwealth will continue its aggressive consumer outreach to build upon this early success in an effort to reach the five percent goal outlined in kyhealthnow.

In addition to kyhealthnow, the PHIP was developed in alignment with the Commonwealth's Coordinated Chronic Disease Prevention and Health Promotion Plan, or *Unbridled Health*, which outlines a mission to create a healthier Kentucky through a collaborative, coordinated approach to health promotion and chronic disease prevention and management. Launched in 2012, *Unbridled Health* provides a framework for organizations and individuals to unite as one powerful force to reduce the significant chronic disease burden in Kentucky. The framework includes policy, systems, and environmental changes that support healthy choices; expanded access to health screenings and self-management programs; strong linkages among community networks; and research data that are used as a catalyst for change. Each strategic area in *Unbridled Health* provides a variety of action items for potential implementation, as well as health outcome indicators that serve as an initial baseline and a target to gauge progress in the Commonwealth (Unbridled Health, 2013).

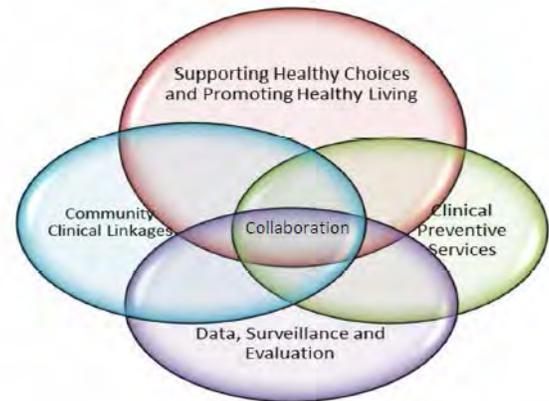


Figure 6. *Unbridled Health* Framework

Together, kyhealthnow and *Unbridled Health* provide a solid foundation from which to address population health through SIM. The Kentucky SIM team worked closely with the SIM stakeholders and workgroups outlined in the Stakeholder Engagement section of this plan, as well as the technical assistance partners from the CDC, to develop these strategies and address challenges that arose during the development of this plan. Figure 7 illustrates the overall vision for SIM as it relates to the existing initiatives of kyhealthnow and *Unbridled Health*, as well as the population health goals that are the focus of kyhealthnow.

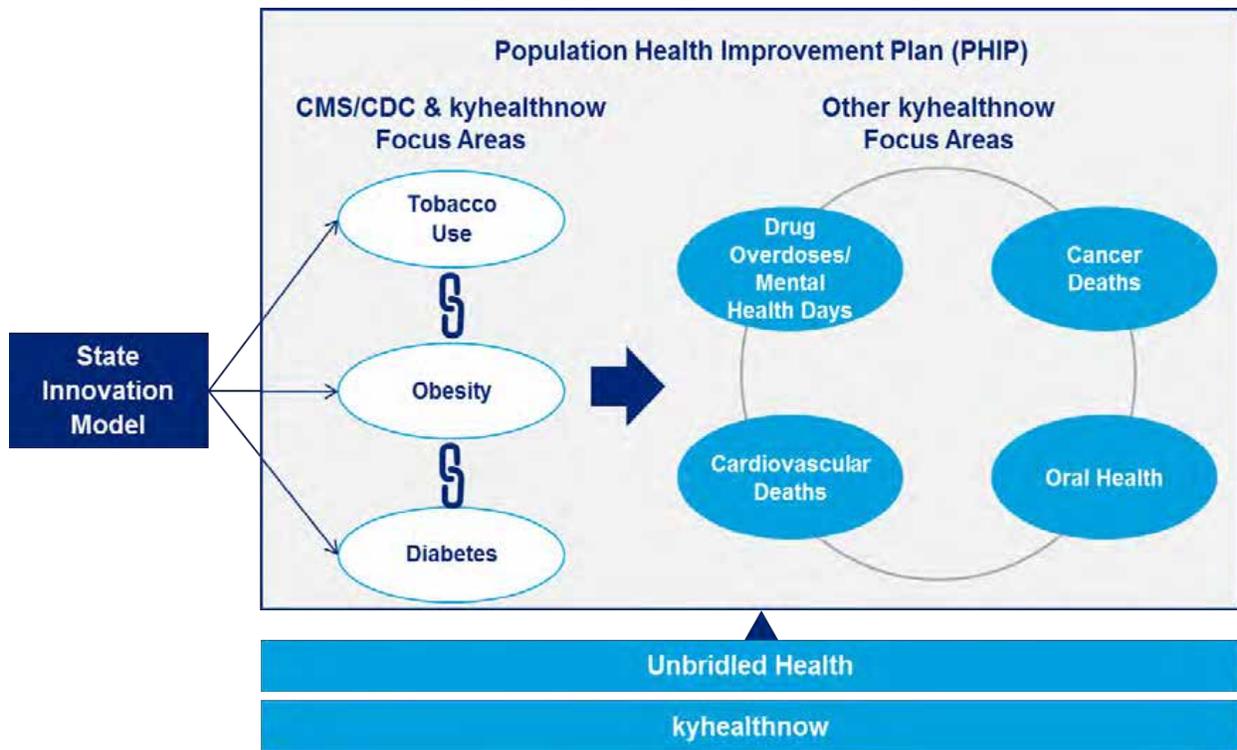


Figure 7. Population Health Improvement Plan Framework

4.1 Current Health Initiatives

A key goal during the development of Kentucky’s PHIP was to leverage and build upon interventions and strategies already underway in the Commonwealth. While kyhealthnow will serve as the framework for this plan, there are additional efforts that will be leveraged to drive the Commonwealth towards improved population health in coordination with the PHIP and the SIM Model Design, as detailed herein.

4.1.1 kyhealthnow

In February 2014, Governor Beshear announced kyhealthnow, an initiative designed to significantly advance the wellbeing of Kentucky’s citizens (kyhealthnow, 2015). This initiative established seven health goals for the Commonwealth, along with a number of specific strategies to help achieve these goals through 2019. These strategies will be implemented through executive and legislative actions, public-private partnerships, and through the success of enrolling Kentuckians into expanded health care coverage.

The Lieutenant Governor serves as chair of the kyhealthnow oversight team, and the Department for Public Health (DPH) Commissioner serves as vice chair. The group meets quarterly and reports to the Governor every six months. The kyhealthnow oversight team is composed of leaders from every state cabinet, along with partners from various nonprofit and private-sector agencies. As outlined throughout the PHIP, the formal kyhealthnow goals are as follows:



Figure 8. kyhealthnow

4.1.3 *Unbridled Health*: A Plan for Coordinated Chronic Disease Prevention and Health Promotion

The Coordinated Chronic Disease Prevention and Health Promotion Plan, or *Unbridled Health*, was completed in August 2013 through the work of a steering committee consisting of over 80 members representing stakeholders such as universities, advocacy organizations, hospitals, public health, providers, schools, businesses, transportation, and state government agencies (Unbridled Health, 2013). In addition, more than 200 individual stakeholders were included. The steering committee and stakeholders continue their participation in the annual meeting where synergy is created around the key initiatives within the plan, and *Unbridled Health* continues to be used at state meetings, trainings and public health forums, and in assisting communities with prioritizing their strategic plans. Collectively these stakeholders have become ambassadors of the key strategic areas within the plan.

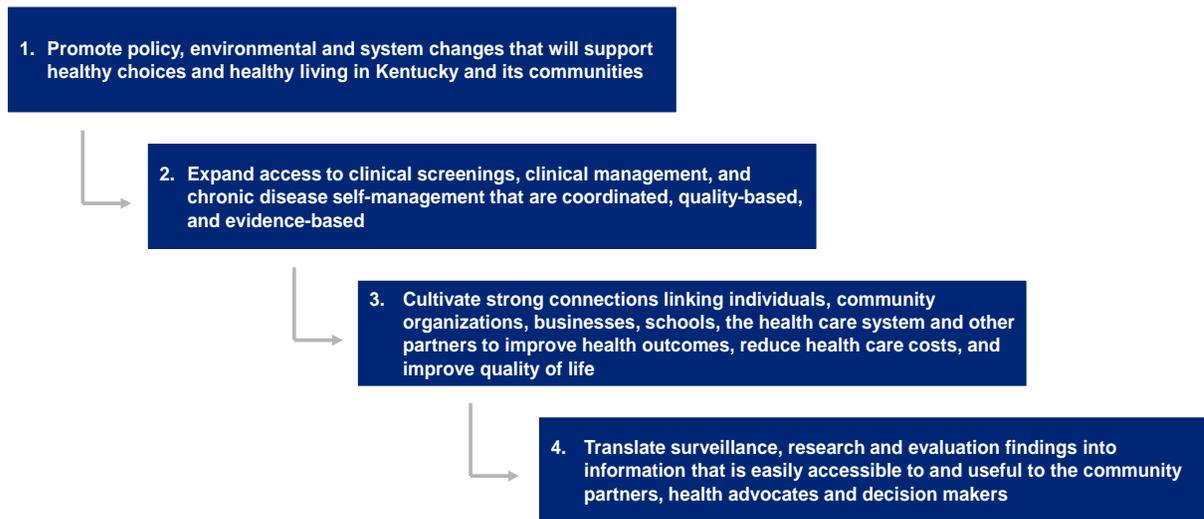


Figure 10. *Unbridled Health* Strategic Areas

These four strategic areas are foundational for successful partnerships and programs related to chronic disease prevention in the state and are presented in Figure 10. As it relates to the PHIP, each strategic area and associated initiatives are mapped to the current health needs assessment areas outlined further in this plan. Within each of these strategic areas, the stakeholders involved in the development of *Unbridled Health* identified several specific initiatives that work to address the population health focus areas outlined in this plan, many of which were subsequently considered and leveraged as the SIM interventions and payment and delivery system models were designed throughout the SIM process. These initiatives can currently be crosswalked to the seven PHIP focus areas, as outlined in Figure 11, and will serve as potential starting points for the development of the SIM interventions to improve population health.

PHIP Focus Areas

		Tobacco	Obesity	Diabetes	Cardio-vascular Disease	Cancer	Oral Health	Drug Overdose / Poor Mental Health Days	
Unbridled Health Strategic Initiatives	Unbridled Health Strategy 1: <i>Promote policy, environmental and system changes that will support healthy choices and healthy living in Kentucky and its communities</i>	Key Initiative: Tobacco prevention and control policies	X						
		Key Initiative: Access to healthy foods and nutrition education		X					
		Key Initiative: Comprehensive physical activity policies and environments in schools, child care centers, and communities		X					
		Key Initiative: Worksite wellness policies and programs to Kentucky businesses		X					
		Key Initiative: Breastfeeding		X					
	Unbridled Health Strategy 2: <i>Expand access to coordinated, quality, evidence-based clinical screenings, clinical management, and chronic disease self-management</i>	Key Initiative: Evidence-based clinical screenings for chronic diseases			X	X	X	X	X
		Key Initiative: Evidence-based clinical management practices for chronic diseases			X	X	X		X
		Key Initiative: Provider and individual awareness of and referral to self-management opportunities in the community			X	X	X		
		Key Initiative: Reduction in out-of-pocket cost to the consumer for clinical preventive services			X	X	X		X
		Key Initiative: Patient navigation and coordination of care			X	X	X		
Key Initiative: Efforts to improve health literacy/understanding among Kentuckians				X	X	X			

Figure 11. PHIP Alignment with *Unbridled Health Strategies and Initiatives*

4.2 Health Needs Assessment

Both kyhealthnow and *Unbridled Health* present goals, initiatives, and action items targeted at improving Kentucky’s health status in specific areas. This section of the PHIP presents current kyhealthnow goals, a current state assessment of Kentucky’s health rankings, and a health needs assessment for the kyhealthnow focus areas of tobacco, obesity, diabetes, cardiovascular disease, cancer, oral health, and drug overdose/poor mental health days.

4.2.1 Tobacco

Kyhealthnow Goal: Reduce Kentucky’s smoking rate by 10 percent.

Tobacco use accounts for more preventable deaths than any other lifestyle behavior in the U.S. Tobacco use can cause lung cancer and heart disease, and even non-smokers have increased risk from tobacco smoke exposure. According to the United States (U.S.) Department of Health and Human Services (HHS), cigarette smoking is responsible for more than 480,000 deaths per year in the U.S., including an estimated 41,000 deaths resulting from secondhand smoke exposure. This is about one in five deaths annually, or 1,300 deaths every day (CDC Fast Facts, 2014).

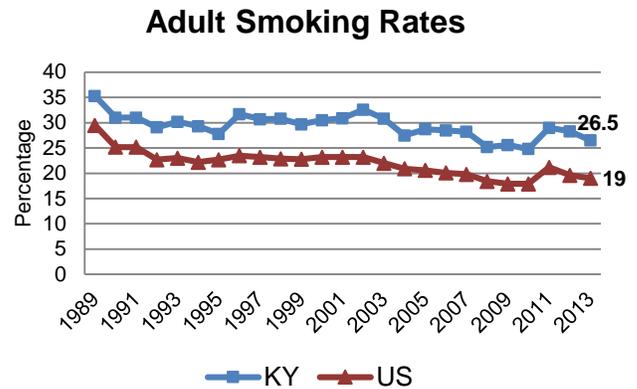


Figure 12. Adult Smoking Rates

Kentucky has the second highest smoking rate in the nation. Although the number of Kentucky adults who smoke has declined over the last twenty years, decreasing by 9 percentage points from 35.3 percent in 1989 to 26.1 percent of adults in 2014, Kentucky remained ranked 49th among states for 2013 (BRFSS, 2014²). The Kentucky Center for Smoke-free Policy (KCSP), housed at the University of Kentucky (UK), recently evaluated the impact of Kentucky’s Tobacco-free Executive Order which went into effect on November 20, 2014, on the Commonwealth’s 33,000 workers. Findings from this study showed cigarette and other tobacco product use among employees changed significantly from March to August 2015. Current cigarette use was lower by 18%; smokeless tobacco was lower by 26%; and e-cigarette use was lower by 23% (kyhealthnow Final Progress Report, 2015).

While the prevalence of current smoking among high school students in Kentucky still ranked sixth in the nation, 17.9 percent compared to 15.7 percent nationwide, this rate has declined significantly from its previous ranking of first in the nation at 24.1 percent in 2011 (YRBSS, 2011-2013). Kentucky continues to show progress, as the most recent data indicate that smoking in teens has been further lowered to 16.9% (kyhealthnow Final Progress Report, 2015).

Smoking Prevalence:

Metric	Kentucky	United States	Data Source
Smoking Rates (2013 - 2015 Data)	26.1% of adults (2014)	18.1% of adults (2014)	BRFSS
	16.9% of youth (2015)	15.7% of youth (2013)	YRBSS

Table 3. State and National Smoking Rates (2013-2015)

² Note: At the time of this plan’s development, Kentucky had access to 2014 BRFSS data via the CDC for Kentucky-specific data only. Nationwide state data, and therefore Kentucky’s health rankings against other states, had not yet been released, therefore this plan contains 2013 BRFSS data for comparison purposes and 2014 BRFSS data for Kentucky-specific purposes.

Disparate Populations at Risk: (BRFSS, 2013)

1. Smoking prevalence was higher among men than among women (28.4 percent vs. 24.6 percent).
2. Smoking prevalence was significantly higher among adults with annual household income of less than \$15,000 (40.9 percent) compared to adults with higher levels of annual household income.
3. About 40.0 percent of Kentucky adults who have less than a high school education are current smokers; smoking prevalence decreased significantly with increasing levels of educational attainment.
4. Prevalence of cigarette smoking is much higher in Eastern Kentucky, as shown in Figure 13.

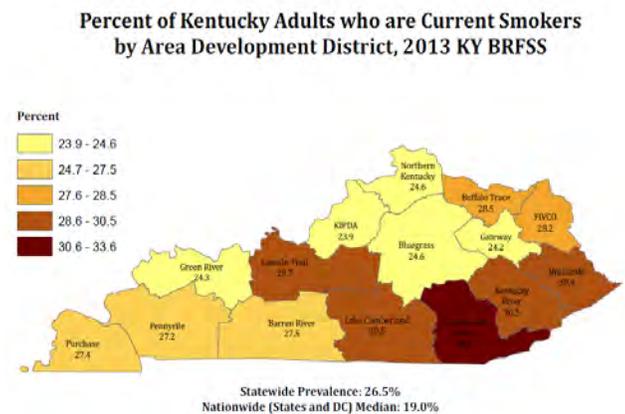


Figure 13. Adults who are Current Smokers

Economic Impact of Smoking: (Campaign for Tobacco Free Kids, January 2015)

1. Annual health care costs directly caused by smoking total \$1.92 billion.
2. Estimated smoking-caused productivity losses estimated at \$2.79 billion.
3. Portion covered by the state Medicaid program \$589.8 million.

4.2.2 Obesity

Kyhealthnow Goal: Reduce the obesity rate among Kentuckians by 10 percent.

Obesity is among the most urgent health challenges facing the U.S. today. Excess weight contributes to many of the leading causes of death in the U.S., including heart disease, stroke, diabetes, and some types of cancer. Obesity is defined as having a body mass index (BMI) of 30.0 or higher. BMI does not measure body fat directly, but its calculation using both weight and height correlates to direct measures of body fat. Obesity is associated with excess mortality and morbidity in childhood and adulthood.

Kentucky has the 12th highest obesity rate in the nation, according to the 2015 State of Obesity Report released by Robert Wood Johnson Foundation (kyhealthnow Final Progress Report, 2015). This report shows Kentucky's adult obesity ranking decreased from 5th highest to 12th highest in the country, marking notable improvement.

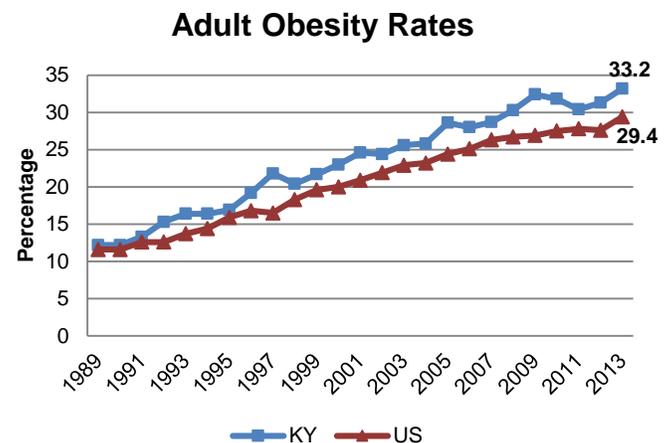


Figure 14. Adult Obesity Rates

Obesity Prevalence:

Metric	Kentucky	United States	Data Source
Obesity Rates (2013-2015 Data)	31.6% of adults (2014)	29.6% of adults (2014)	BRFSS
	18.5% of youth (2015)	13.7% of youth (2013)	YRBSS

Table 4. State and National Obesity Prevalence (2013-2015)

Disparate Populations at Risk: (BRFSS, 2013)

1. Obesity prevalence was significantly higher among black adults (40.9 percent) than among white adults (32.8 percent).
2. Prevalence of obesity was significantly higher among adults with less than a high school education (34.2 percent) compared to adults who graduated with a college degree (25.7 percent).
3. Prevalence of obesity is much higher in Eastern Kentucky, as illustrated in Figure 15.

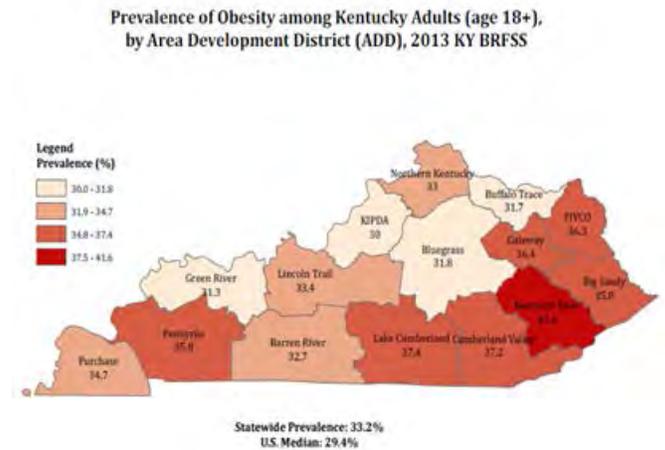


Figure 15. Obesity Prevalence in Kentucky Adults

Economic Impact of Obesity:

1. The Partnership for a Fit Kentucky – a team of leaders, administrators, advocates, health professionals, and community members in the Commonwealth – projects that in 2018 Kentucky will spend \$6 billion in health care costs attributable to obesity (United Health Foundation, 2008).

If BMIs were lowered by 5 percent, Kentucky could save 7.3 percent in health care costs, which would equate to savings of \$9.44 billion by 2030 (Trust for America's Health, 2012).

4.2.3 Diabetes

PHIP Goal: Decrease by 10 percent the percentage of Kentuckians with diabetes whose most recent hemoglobin A1C level was greater than 9 percent during the preceding year.

According to the CDC, diabetes is one of the leading causes of death and disability in the United States. In 2013, it was the 7th leading cause of death in the U.S. and Kentucky. Besides leading to premature death, both types 1 and 2 diabetes are associated with long-term complications that threaten quality of life. Diabetes is the leading cause of adult blindness, end-stage kidney disease, and non-traumatic lower-extremity amputations. People with diabetes are two to four times more likely to have coronary heart disease and stroke than people without diabetes. In addition, poorly controlled diabetes can complicate pregnancy, resulting in early delivery, preeclampsia, intrauterine growth restriction, birth defects, and/or intrauterine death. Women who develop gestational diabetes have up to a 50 percent chance of developing diabetes later in life.

Adult Diabetes Rates, (1996-2014)

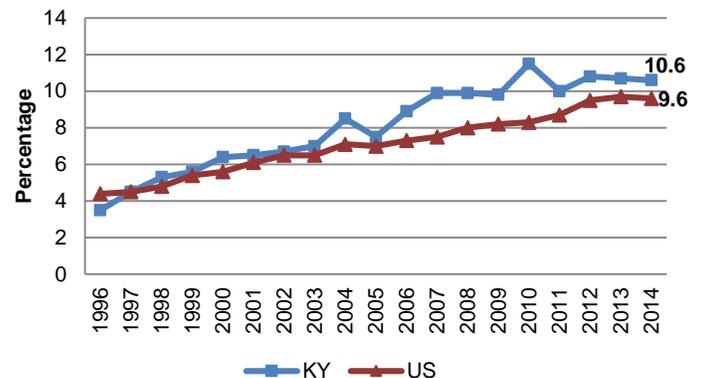


Figure 16. Adult Diabetes Rates

Diabetes is a very common disease in Kentucky and the nation, with type 2 diabetes being the most common form. Kentucky has the 17th highest rate of diabetes at 10.6 percent compared to a national rate of 9.7 percent (BRFSS, 2013). In response, Kentucky continues to promote and grow the use of the Diabetes Prevention Program (DPP) across the Commonwealth. As of July 2015, a total of 31 DPP organizations with 966 participants were active in this program. These numbers place Kentucky 9th in the nation for the greatest number of enrollees and 3rd in the nation for the greatest number of recognized organizations (kyhealthnow Final Progress Report, 2015).

Diabetes Prevalence:

Metric	Kentucky	United States	Data Source
Diabetes Rates (2013)	10.6% of adults	9.7% of adults	BRFSS

Table 5. State and National Diabetes Rates (2013)

1. Among the 225,681 adults covered by the Kentucky Employees' Health Plan (KEHP) in 2013, 11 percent (24,722) have been diagnosed with diabetes based on claims data.
2. For State Fiscal Year (SFY) 2013, 18 percent, or 82,278 adult Medicaid members had a diagnosis of diabetes on at least one claim. An additional 3,130 Medicaid members and 472 youth covered by KEHP under the age of 20 had a diagnosis of diabetes on at least one claim. Also, 472 youth aged 19 and younger with diabetes are covered by KEHP.
3. 8.5 percent of Kentucky adults (289,000 adults) have been diagnosed with prediabetes and are at high risk of progression to diabetes.

Disparate Populations at Risk: (BRFSS, 2013)

1. Diabetes is more common among those with lower incomes and/or lower levels of education. 15 percent of Kentuckians earning \$15,000 or less per year have diabetes compared to 11 percent earning between \$25,000 and \$35,000, and 6.8 percent of those earning \$50,000 or more annually.
2. Those with less than a high school education have a prevalence rate twice as high (14 percent) as college graduates (7 percent).
3. Diabetes is more prevalent as people age. 6.9 percent of adults age 35-44 have diabetes compared to 9 percent of those aged 45-54, 17.5 percent of those aged 55-64, and 23.2 percent of those aged 65 and older.
4. Diabetes is more prevalent in Appalachia as shown in Figure 17. In Kentucky's Appalachian counties, the diabetes rate for adults is 13.6 percent (126,000) while the rate in non-Appalachian counties is 9.5 percent (233,000).

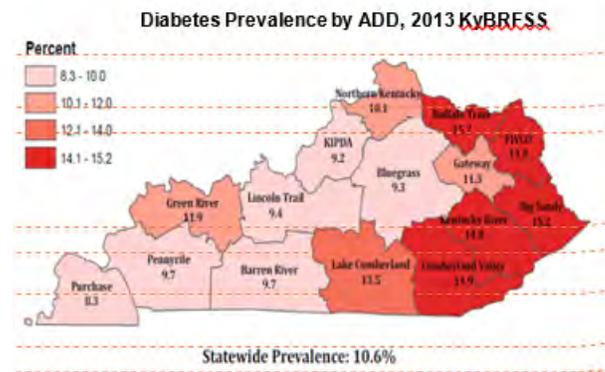


Figure 17. Diabetes Prevalence in Kentucky

Economic Impact of Diabetes:

1. The American Diabetes Association (ADA) has estimated that diabetes costs Kentucky \$2.66 billion in direct medical costs and an additional \$1.19 billion in reduced productivity, for a total annual cost to the Commonwealth of \$3.85 billion (Diabetes Care, 2013).
2. For Medicaid, diabetes accounts for the highest overall cost across several common chronic diseases at almost \$540 million and the highest cost per person at \$6,500 per member per year (Diabetes Report, 2015).
3. For KEHP, diabetes is the second most costly chronic condition for both active and early retirees, at \$66 million in combined medical and prescription drug costs in 2013 (Diabetes Report, 2015).

4.2.4 Cardiovascular Disease

Kyhealthnow Goal: Reduce Cardiovascular Deaths by 10 percent.

With more than 12,000 deaths per year, Kentucky ranks 48th in the nation in cardiovascular deaths. According to 2013 data available via CDC WONDER, 29 percent of all deaths were classified as cardiovascular disease (CVD) deaths. Included in the 2 percent of all deaths is deaths by coronary heart disease (13 percent of all deaths), heart attack (6.3 percent of all deaths), and stroke (4.6 percent of all deaths).³

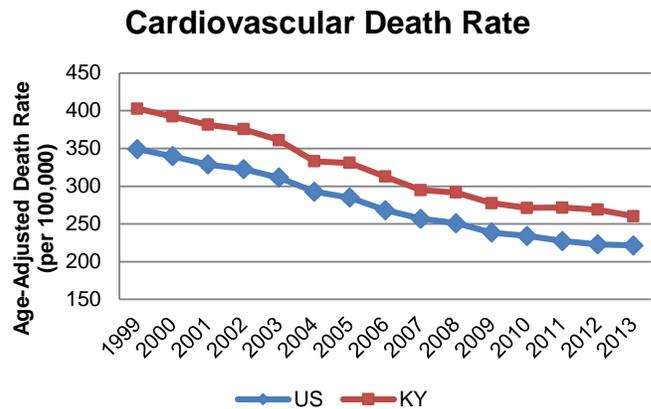


Figure 18. Cardiovascular Death Rate

Cardiovascular Deaths Rates:

Metric	Kentucky	United States	Data Source
Cardiovascular Death Rates (2013)	260.3 per 100,000	221.6 per 100,000	CDC Wonder

Table 6. State and National Cardiovascular Death Rates (2013)

Disparate Populations at Risk:

1. Males have higher rates of cardiovascular deaths (314.7 per 100,000) when compared to females (215.7 per 100,000).
2. Prevalence of cardiovascular deaths was higher among black males (345.3 per 100,000) than among white males (314.0 per 100,000). Overall the prevalence of cardiovascular deaths is higher among whites (278.6 per 100,000) versus blacks (260.2 per 100,000).
3. Cardiovascular death rates are more prevalent in Appalachia versus non-Appalachia parts of Kentucky.

Populations at Risk (age-adjusted death rate per 100,000)	
Male	314.7
Female	215.7
White	278.6
Male	314.0
Female	215.2
Black	260.2
Male	345.3
Female	227.2
Appalachia	304.7
Non-Appalachia	243.1

Table 7: Cardiovascular Deaths Rate by Race and Gender

Economic Impact:

Table 8 reflects the estimated projected medical expenditures by cardiovascular disease for Kentucky in millions of dollars, with the total impact of cardiovascular disease estimated to be in excess of \$6 million annually.

Cardiovascular Disease Costs	
Coronary Heart Disease	\$1,894
Congestive Heart Failure	\$378
Hypertension	\$2,206
Stroke	\$1,228
Other Heart Disease	\$1,081
Total Cardiovascular Disease	\$6,787

Table 8: Estimated Cost of Cardiovascular Disease

³ CDC/National Center for Health Statistics, WONDER Online Database. The graph above demonstrates how the age-adjusted death rates have change historically for both the U.S. and Kentucky. Cardiovascular age-adjusted death rates have decreased for both Kentucky and the nation at a similar rate. However, Kentucky has remained at a higher rate than the national average.

4.2.5 Cancer

Kyhealthnow Goal: Reduce Kentucky Cancer Deaths by 10 percent.

With nearly 9,500 cancer deaths every year, Kentucky ranks 50th in the nation in terms of states having the most cancer deaths. Kentucky has the highest rate of new cases and deaths from lung cancer in the nation, as well as the highest rate of new cases of colorectal cancer, according to North American Association of Central Cancer Registries (NAACCR) data.

Data from the Kentucky Cancer Registry, the population-based central cancer registry for the Commonwealth, shows that the incidence rate of invasive cancer for the Commonwealth is 520.4 per 100,000 population, with a mortality rate of 201.2 deaths per 100,000 population in 2012 (kyhealthnow Final Progress Report, 2015).

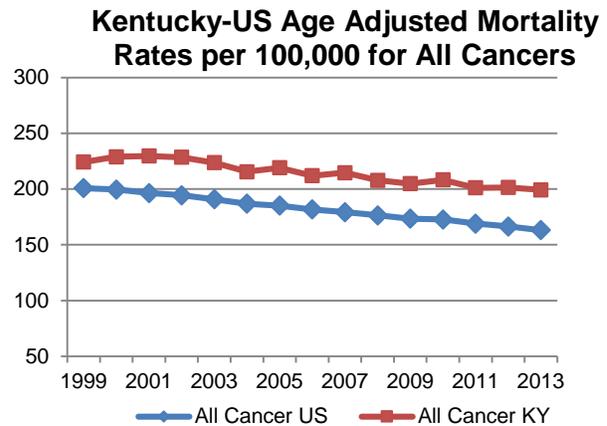


Figure 19. Cancer Mortality Rate

Single-year trend data on cancer mortality shows that over the past decade, cancer mortality in Kentucky has declined at a rate similar to the overall national rate; however, Kentucky rates remain far higher than national rates.

Disparate Populations at Risk:

Cancer incidence is higher among African Americans and those in Appalachian counties. Table 9 compares the incidence rates for all cancers, Lung and Bronchus, Colon Cancer, and Late Stage Colon Cancer.

For invasive cancers of all types combined, the rate is highest among Appalachian residents at 531.6 per 100,000 individuals, followed closely by African Americans with a rate of 527.2 per 100,000, compared to a statewide rate of 520.4 per 100,000. For invasive cancers of the lung and bronchus, Appalachian residents have a rate of 111.3 per 100,000 followed by African Americans at 102.8 per 100,000 compared to a statewide rate of 97.5 per 100,000. For invasive colon cancer, African Americans have the highest rate at 58.2 per 100,000 followed by 54.4 per 100,000 for Appalachian residents compared to an overall rate of 51.4 per 100,000.

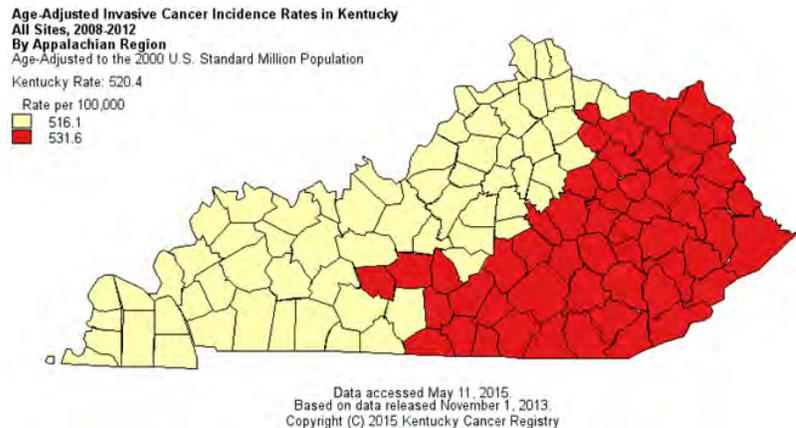


Figure 20. Cancer Incidence Rates in Kentucky (Kentucky Cancer Registry)

Incidence of Invasive Cancers:

Type of Cancer	All Kentucky	African American	White	Appalachia	Non-Appalachia
All Cancers (Invasive)	520.4	527.2	517.2	531.6	516.1
Lung and Bronchus (Invasive)	97.5	102.8	97.8	111.3	91.8
Colon Cancer (Invasive)	51.4	58.2	51.0	54.4	50.3

Table 9. Incidence of Invasive Cancers: Kentucky, 2008-2012: Age-adjusted rate per 100,000 population (Kentucky Cancer Registry)

Economic Impact:

In 2010, cancer care in Kentucky cost approximately \$2,228,000,000. This cost is estimated to increase by 69 percent by 2020, totaling approximately \$3,775,000,000. (Kentucky Cancer Consortium Resource Plan, July 2013).

4.2.6 Oral Health

Kyhealthnow Goal: Reduce the percentage of children with untreated dental decay by 25 percent and increase adult dental visits by 10 percent.

The prevalence of Kentucky's dental problems has proven to have detrimental impacts on schoolchildren, the workforce, and families. In fact, Kentucky ranks 9th lowest in annual dental visits, and 5th highest in the percentage of children with untreated dental decay (34.6 percent). In 2014, 49.5% of total eligible KY children received a dental service compared to 49.2% nationally (kyhealthnow Final Progress Report, 2015).

According to 2012 BRFSS data, almost 40 percent of Kentucky adults reported that they did not have a dental visit in the past year; nearly eight percentage points higher than the U.S. estimate of 32.8 percent.

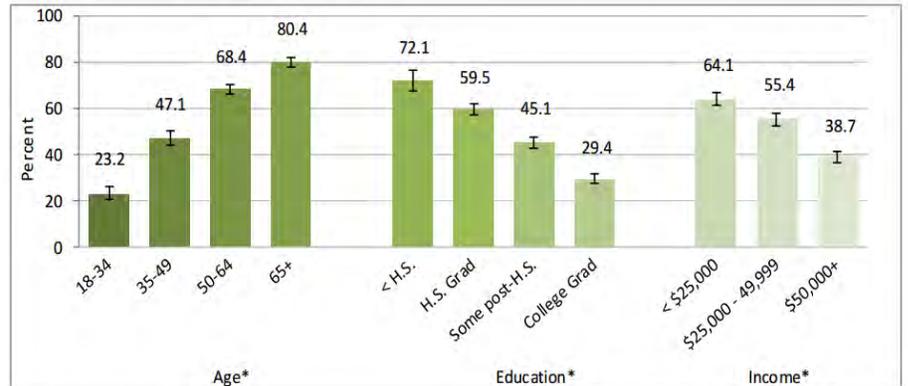


Figure 21. Percent of Kentucky adults who have had one or more teeth removed because of tooth decay or gum disease by Age*, Education*, and Income* (2012)

* Denotes a statistically significant difference among the values.

Disparate Populations at Risk:

1. A significantly higher percentage of men (44.8 percent) compared to women (34.9 percent) did not have a dental visit in the past year. About 47 percent of adults aged 65 years or older did not have a dental visit in the past year; this was a significantly higher estimate when compared to that for adults aged 18-64 years.
2. The proportion of adults who did not have a dental visit in the past year decreased significantly with increasing levels of educational attainment; about 64.4 percent of adults with less than a high school education did not have a dental visit in the past year.
3. The proportion of adults who did not have a dental visit in the past year decreased significantly with increasing levels of annual household income.

4.2.7 Drug Overdose/Poor Mental Health Days

Kyhealthnow Goal: Reduce deaths from drug overdose by 25 percent and reduce by 25 percent the average number of poor mental health days of Kentuckians.

According to National Vital Statistics System data for the period 2012 – 2014, drug deaths have increased by 30 percent from 18.4 to 23.7 deaths per 100,000 individuals in Kentucky in 2014 (kyhealthnow Final Progress Report, 2015). Kentucky has the second highest overdose rate in the country, with higher drug death rates seen for specific drug types. For example, Kentucky had the 7th highest rate for overdose deaths involving prescription opioids in 2013 (CDC WONDER).

Drug Type	Number of Deaths - 2013	Population	Rate per 100,000
Prescription Opioids – Kentucky	438	4,395,295	10.1
Heroin – Kentucky	215	4,395,295	5.1
All Drugs – Kentucky	1,019	4,395,295	23.7
All Drugs – United States	43,982	316,128,839	13.8

Table 10. Drug Overdose Death Rates (CDC WONDER)

The current kyhealthnow goal also addresses the high rate of poor mental health days in Kentucky by establishing a goal for reducing the average by 25 percent. Table 11 outlines preliminary Kentucky BRFSS data for 2014 and compares this data to the 2013 baseline, which indicates results in this area are unchanged.

Metric	Baseline (2013)	Current (2015)	Data Source
Poor Mental Health Days	4.5 days	4.5 days	BRFSS

Table 11. Incidence of Poor Mental Health Days

4.3 Reform Initiatives to Impact Population Health

Over the course of the SIM Model Design process, CHFS and SIM stakeholders developed delivery system and payment reform strategies to address the gaps in access to care and the health status disparities previously outlined. CHFS recognized the importance of developing SIM initiatives that are specific, measurable, achievable in the specific time period, realistic, and time-bound. CHFS also recognized that these interventions must address the identified kyhealthnow priority areas and be designed to impact both the health care delivery system and the underlying social determinants of health that contribute to these seven prioritized health conditions currently impacting Kentuckians. These specific reforms are described in the following Value-based Health Care Delivery and Payment Methodology Transformation section of the SHSIP.

5.0 Value-based Health Care Delivery and Payment Methodology Transformation

The Value-based Health Care Delivery and Payment Methodology Transformation section of the SHSIP focuses primarily on the proposed value-based delivery system and payment reforms being considered as part of the Commonwealth's Model Design. This section was developed throughout the course of the Model Design process and includes more than nine months of direct stakeholder input. The concepts and initiatives in this section of the Model Design were primarily discussed in the Integrated & Coordinated Care and Payment Reform Workgroups; however, the input provided and the guiding principles and strategies developed by the Quality Strategy/Metrics, Health Information Technology (HIT) Infrastructure, and Increased Access workgroups directly support the value-based components contained in this section.

5.1 Baseline Health Care Landscape

A key tenet of Kentucky's health care reform strategy is to build on the many initiatives already underway to create a plan that addresses the key health care challenges the Commonwealth currently faces. The health care landscape in Kentucky is unique in many respects, and it is important to have a thorough understanding of population demographics, the health insurance landscape, and existing health reform activities prior to designing a plan for payment and delivery system transformation.

5.1.1 Population Demographics

The age of the Kentucky population is nearly identical to that of the U.S., as shown in Figure 22. However, the aging trend shifted between the 2000 and 2010 censuses. Data indicates that the median age of the population increased from 35.9 years to 38.1 years during this decade (University of Louisville, 2015). This is compared to an increase from 35.3 to 37.2 for the U.S. population as a whole (United States Census Bureau, 2011). More detailed age data, shown in Table 12, indicates that this increase in the median age could be due to an increase in the percentage of the population aged 70 to 79. The percentage of growth in these age ranges is higher than the national average. Additionally, the percentage of individuals between the ages of 15 and 30 is increasing at a significantly slower pace than the rest of the population in the U.S. Because age is a primary driver of health care expenditures, per capita health care spending should be comparable to that of the U.S. This is true, with per capita health care expenditures in Kentucky totaling \$6,596 in 2009 compared to a national average of \$6,815 (Kaiser Family Foundation, 2009).

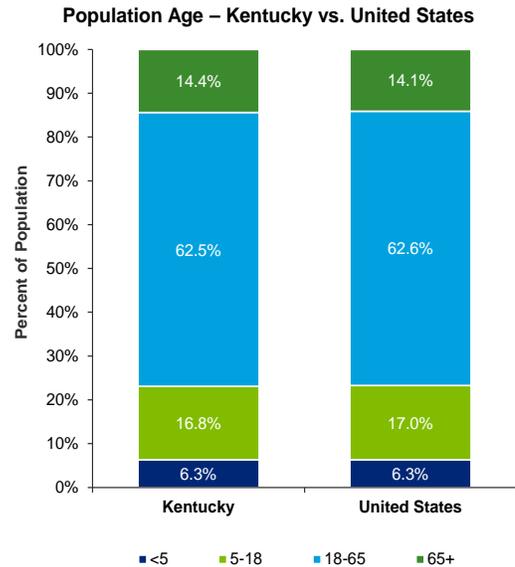


Figure 22. Age of Kentucky Population vs. Age of U.S. Population

Age	2000 Census	2010 Census	KY Percent Change	U.S. Percent Change
0 - 4	265,901	282,367	6.19 %	5.35 %
5 - 9	279,258	282,888	1.30 %	-0.98 %
10 - 14	279,481	284,154	1.67 %	0.73 %
15 - 19	289,004	296,795	2.70 %	9.00 %
20 - 24	283,032	289,968	2.45 %	13.83 %
25 - 29	281,134	285,296	1.48 %	8.88 %
30 - 34	286,974	280,920	-2.11 %	-2.67 %
35 - 39	321,931	285,411	-11.34 %	-11.13 %
40 - 44	320,734	291,251	-9.19 %	-6.91 %
45 - 49	293,976	323,642	10.09 %	13.02 %
50 - 54	262,956	319,455	21.49 %	26.80 %
55 - 59	204,483	288,027	40.86 %	46.00 %
60 - 64	168,112	250,966	49.29 %	55.64 %
65 - 69	144,671	185,664	28.34 %	30.44 %
70 - 74	129,272	139,650	8.03 %	4.75 %
75 - 79	104,760	105,392	0.60 %	-1.32 %
80 - 84	67,829	78,313	15.46 %	16.14 %
85+	58,261	69,208	18.79 %	29.57 %

Table 12. Age Distribution of Kentucky Residents, 2000 – 2010

The median household income in Kentucky is approximately 19 percent less than the national median household income, and the percentage of the population living below the FPL is 18.8 percent as compared to 15.4 percent nationally. On a per capita basis, the average Kentucky income is \$23,462, which is approximately \$5,000 less than the national average of \$28,155 (United States Census Bureau, 2015). These differences are more pronounced in certain rural parts of the state, such as eastern Kentucky, due to economic hardships caused by a decline in the coal industry.

Kentucky's unemployment rate has been trending with the overall unemployment rate in the U.S. since the beginning of 2014. Despite being slightly higher than the national average during the five months between August and December 2014, unemployment rates dropped in every county in Kentucky during three of the months (August, September, and October 2014) – the first time this has occurred since unemployment records have been maintained (United States Department of Labor: Bureau of Labor Statistics, 2015).

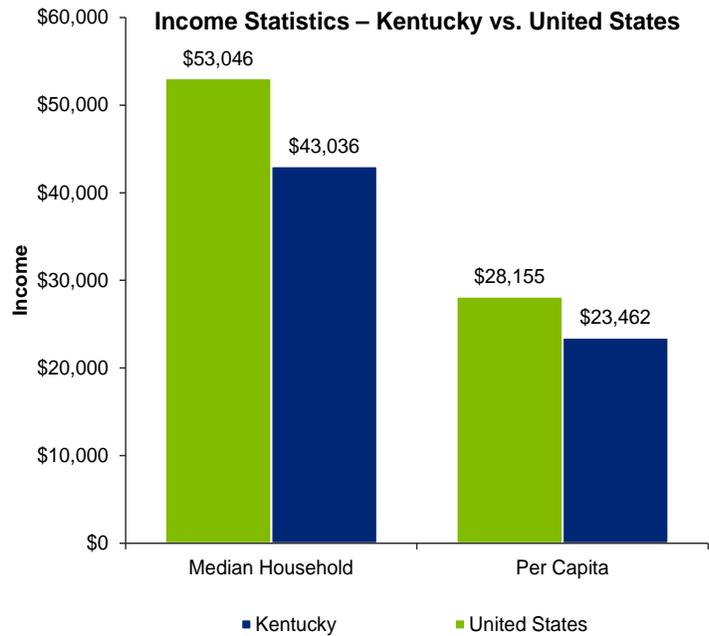


Figure 23. Kentucky Incomes Statistics vs. United States Income Statistics

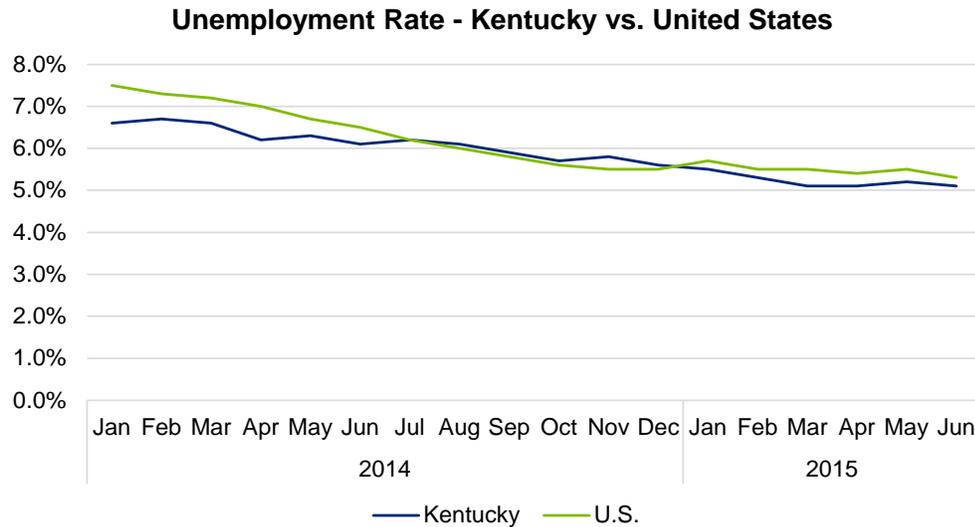


Figure 24. Unemployment Rate – Kentucky vs. United States

Figure 25 illustrates Kentucky's educational achievement between 2009 and 2013. In general, Kentucky's levels of educational attainment have been slightly lower than the U.S. average in terms of high school and college graduates. According to the CDC, lower education and income levels are associated with higher rates of chronic disease (CDC, 2012).

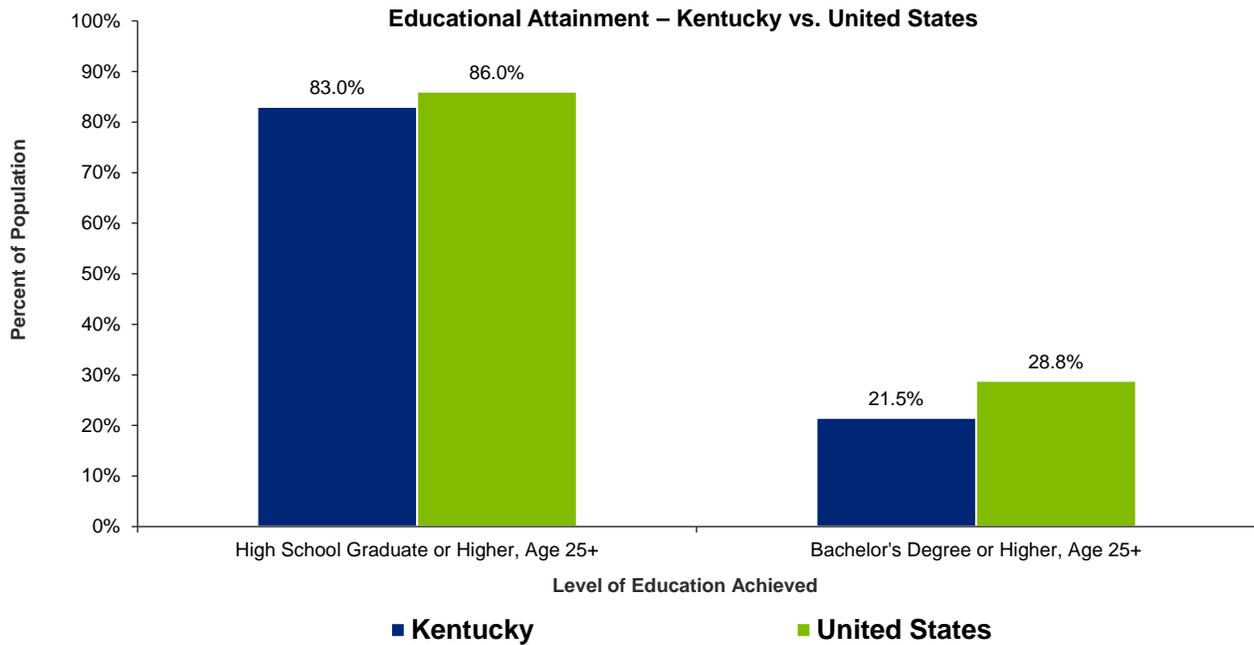


Figure 25. Level of Education Attainment – Kentucky vs. United States

5.1.2 Health Insurance Coverage

Despite the economic and population health issues challenging Kentucky, the Commonwealth has recently experienced a number of successes in its health insurance marketplace. This is primarily due to the decision to expand Medicaid to individuals earning up to 138 percent of the FPL, as well as his decision to establish a state-based health insurance exchange, known as kynect. The successful rollout of these two initiatives has resulted in the largest decrease in the uninsured rate in the country – approximately 5.8 percent between 2013 and 2014. (U.S. Census Bureau, 2015). This decrease in the uninsured rate aligns with the kyhealthnow goal of reducing the uninsured rate to five percent, and is foundational to achieving the population health goals described in the PHIP.

Due to the expansion of Medicaid and the establishment of a state-based health insurance exchange, approximately 25 percent of Kentucky’s population is currently enrolled in Medicaid compared to 18 percent nationally (Anderson, 2015; Kaiser Family Foundation, 2012). Also contributing to this above-average percentage is the decision to expand Medicaid. As a result of policy decisions and low population incomes, Medicaid is the largest individual payer in Kentucky, while Medicare is the second largest⁴ (Kaiser Family Foundation, 2012). These public programs combine to cover more than 45 percent of the Kentucky population, which is equivalent to the population covered by commercial carriers. The

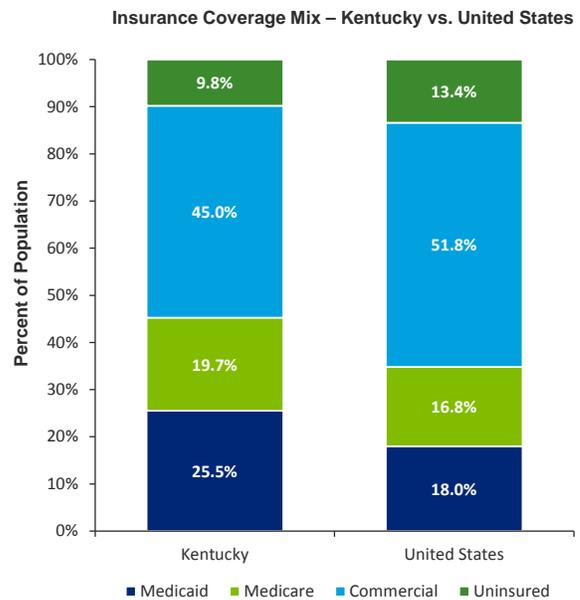


Figure 26. Insurance Coverage Mix in Kentucky

⁴ 2015 Medicare enrollment numbers are projected, as actual figures are not currently available. Estimates for 2015 enrollment were made by applying enrollment growth projections in CMS’s *National Health Expenditures Projection Report 2012-2022* to 2012 enrollment figures.

commercial coverage in Kentucky is lower than the overall U.S. commercial coverage by about seven percent⁵. Within the commercial insurance category, there are two primary carriers that comprise about 80 percent of membership in Kentucky – Anthem and Humana. Anthem is the larger of these two insurers, with 53 percent of the commercial population enrolled in its health plans. Humana, Kentucky’s second largest commercial carrier, has approximately 27 percent market share. The remaining 20 percent of the commercial insurance market is fragmented, with nine carriers each owning a small portion of the market (Kentucky Department of Insurance, 2015).

Of the 362,041 commercial plan subscribers in Kentucky, 50,243 (or approximately 14 percent) were purchased on Kentucky’s health insurance exchange. Another 27 percent of the plans were purchased outside the exchange. The remaining policies were either considered grandfathered or grandmothers plans⁶ (Kentucky Department of Insurance, 2015).

The new influx of Kentuckians with access to health care via Medicaid expansion and kynect underscores the imminent need to adopt payment and service delivery reforms that seek to maximize the value consumers receive for health services, with a sharp focus on improving population health outcomes.

5.1.3 Health Care Workforce Profile

The Commonwealth funded a workforce capacity study in 2013, which surveyed the existing landscape of health care providers throughout Kentucky and provided estimates for the number of providers that would be needed to keep up with future demand (Deloitte, 2013). The findings of the report indicated that in 2012, Kentucky needed an additional 3,790 full time primary care physicians (as referenced in this study but referred to as primary care providers throughout this plan) and specialists. The study estimated that 61 percent of these providers were needed in rural areas. The rural challenge in Kentucky is worth noting, as the Commonwealth currently ranks 43rd out of 50 states in terms of being the most rural, with 41.6 percent of its population living in a rural area (United States Census Bureau, 2010).

The study indicated that with Medicaid expansion, the additional unmet need for primary care physicians was an estimated 256 full-time equivalents (FTEs), with approximately 63 percent of the need coming from rural counties. The report also identified the need for an additional 612 FTE dentists in 2012. The shortage of dental providers in 2012 was also more pronounced in some rural counties, with three counties not appearing to have any practicing dentists, and other counties needing to increase dental providers by over 100 percent in order to meet current demand. In addition to primary care physicians and dentists, the report also outlined FTE needs for the provider types indicated in Table 13.

The number of FTEs shown for the provider types in Table 13 are a particularly important issue to address, given Kentucky’s emphasis on primary care and expanding care teams in its SIM reform initiatives. The study identified and prioritized 11 opportunities the Commonwealth could pursue in an effort to address its workforce needs. Some of these opportunities align with the reform initiatives being proposed in the SHSIP; therefore, it is accurate to say that a plan is in place to begin making progress on Kentucky’s workforce needs.

Provider Type	FTE Needs
Advanced Practiced Registered Nurses (APRNs)	148
Physician Assistants (PAs)	296
Registered Nurses (RNs)	5,635
Licensed Practical Nurses (LPNs)	688
Optometrists	269
Mental Health Providers (MHPs)	1,638

Table 13. Kentucky Health Care Provider FTE Needs

⁵ For the purposes of this report, commercial insurance figures were estimated to be the remaining population that is not uninsured or covered by either Medicaid or Medicare.

⁶ **Grandfathered Plans** are benefit plans in which an individual was enrolled on March 23, 2010, regardless of whether the individual later renews coverage. Grandfathered plans are required to meet some, but not all, of the reforms contained in the Affordable Care Act (ACA). **Grandmothered Plans** are non-grandfathered benefit plans that must have been in existence on October 1, 2013. They include some but not all of the ACA features. These plans can only be sold as a renewal policy. They cannot be sold as a new policy.

5.2 Existing Delivery System and Payment Reforms in Kentucky

Kentucky has a long history of implementing health care reform efforts focused on improving the health of Kentuckians, including the implementation of a statewide Medicaid managed care program in 2011, the establishment of kynect in 2013, and the expansion of Medicaid to individuals earning up to 138 percent of the FPL in 2014. Additionally, health care reform efforts are occurring at the system of care and provider levels in Kentucky.

Both public and private health care organizations operating in Kentucky began making advances in care delivery and provider payment reform prior to the Commonwealth's SIM Model Design award in January 2015. The combination of many state-based reform initiatives and the participation by Kentucky providers and health systems in multiple national programs funded through CMS has put Kentucky on a unique path towards health system transformation.

The following section highlights the existing landscape in Kentucky and how the Commonwealth's payers, providers, and communities have embraced value-based care in their organizations. The high level of effort demonstrates Kentucky's commitment to quality care beyond just the state level and provides for a broad, motivated stakeholder base to advance the SIM initiatives.

The following sections are designed to outline examples of known activities in Kentucky and are not intended to be a comprehensive view of stakeholder efforts and/or subjective representations of stakeholder organizations. This information was obtained through: (1) research into the health care market in Kentucky, and (2) stakeholder outreach, including a stakeholder inventory survey released to SIM stakeholders in June 2015 and panel presentations at SIM workgroup meetings between March and July 2015.

5.2.1 Patient Centered Medical Home (PCMH) and Other Primary Care Models

National Committee for Quality Assurance (NCQA) Recognition

NCQA PCMH recognition is currently the most widely-used method to evaluate a primary care practice's progress in establishing true medical homes for its patients (NCQA, 2014). The PCMH model has become increasingly common across the service delivery landscape, as evidenced by the models tested in all six of the Round One SIM Model Test states. This program recognizes clinician practices functioning as medical homes that use systematic, patient-centered, and coordinated care management processes. Nearly every state and the District of Columbia have practices recognized for their use of the NCQA's PCMH certification criteria in their PCMH programs.

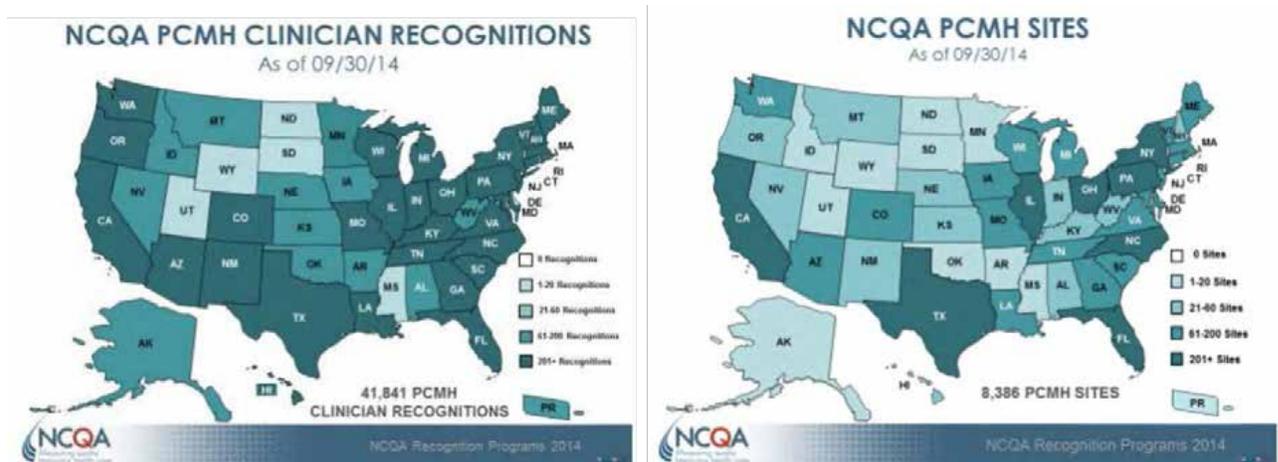


Figure 27. NCQA PCMH Clinician and Site Recognitions (2014)

As depicted in Figure 27, as of September 2014, Kentucky had over 200 PCMH-recognized clinicians, as well as 21-60 PCMH sites in operation statewide. These numbers will continue to grow as practices throughout Kentucky share best practices and lessons learned.

CMS' Comprehensive Primary Care Initiative (CPCI)

The CMS CPCI is a four-year multi-payer initiative designed to strengthen primary care. CMS is collaborating with commercial and state health insurance plans in seven U.S. regions to offer population-based care management fees and shared savings opportunities to participating primary care practices to support the provision of a core set of five "comprehensive" primary care functions. These five functions are: (1) risk-stratified care management; (2) access and continuity; (3) planned care for chronic conditions and preventive care; (4) patient and caregiver engagement; and (5) coordination of care across the medical neighborhood (CMS CPCI, 2015).

Northern Kentucky providers in Boone, Campbell, Grant, and Kenton counties are currently participating in CPCI in the *Ohio & Kentucky: Cincinnati-Dayton Region*, one of CMS' seven test regions. Specifically, St. Elizabeth Healthcare operates 14 of the 76 CPCI practice sites within this region, which is a region that serves approximately 45,000 Medicare and Medicaid beneficiaries (CMS CPCI, 2015).

CMS' Health Care Innovation Awards

The objective of CMS' Health Care Innovation Awards program is to engage a broad set of innovation partners to identify and test new care delivery and payment models that originate in the field. The program also supports innovators who can rapidly deploy care improvement models through new ventures or expansion of existing efforts to new populations of patients, in conjunction with other public and private sector partners (CMS Health Care Innovation Awards, 2015).

In the summer of 2012, TransforMED received an award for a primary care redesign project across 15 communities to support care coordination among PCMHs, specialty practices, and hospitals, by creating "medical neighborhoods" (CMS Health Care Innovation Awards, 2015). Owensboro Health Regional Hospital in Kentucky partnered with TransforMED and 14 other participating health systems to test TransforMED's PCMH model and report on quality measures, cost reductions, and patient satisfaction. The project concluded in June 2015 showing positive results, and CMS is currently conducting an independent evaluation.

CMS' Federally Qualified Health Center (FQHC) Advanced Primary Care Practice Demonstration

Kentucky operated 7 of the 434 participating sites involved in the FQHC Advanced Primary Care Practice Demonstration funded by CMMI that concluded on October 31, 2014 (CMS FQHC, 2015). This demonstration project, operated by CMS in partnership with the Health Resources Services Administration (HRSA), tested the effectiveness of doctors and other health professionals working in teams to coordinate and improve care for up to 195,000 Medicare patients. Participating FQHCs were expected to achieve Level 3 PCMH recognition, help patients manage chronic conditions, as well as actively coordinate care for patients. CMS is currently analyzing the demonstration data and developing an independent final report.

University of Kentucky (UK) Kentucky Regional Extension Center (REC) PCMH Practice Transformation Model

The UK Kentucky REC offers an advanced model for practice coaching and technical assistance for practices across the Commonwealth that are implementing PCMH. Through self-reported information, the Kentucky REC has helped five practice sites achieve Level 3 NCQA PCMH recognition and two receive Level 2 NCQA PCMH recognition. Currently, the Kentucky REC is providing support to more than 50 additional practices with NCQA PCMH recognition. The Kentucky REC

has contracts with the Kentucky Primary Care Association and several large health systems, as well as independent practices to support practice transformation and PCMH recognition.

Anthem Enhanced Personal Health Care (EPHC) Model

As the largest commercial payer operating in Kentucky, Anthem launched its EPHC program in early 2014. This program represents the organization’s comprehensive, long-term strategy to migrate from a volume-based to a value-based health care model by empowering primary care providers (PCPs) to engage in comprehensive primary care functions to move toward a coordinated, evidence-based care model (Anthem, 2015). The EPHC program includes value-based payment, aligns financial incentives, and provides financial support for activities and resources that focus on care coordination, individual patient care planning, patient outreach, and quality improvement. To participate in the shared savings component of the program, providers must meet quality performance goals, which include quality standards established by organizations such as the NCQA, the American Diabetes Association, the American Academy of Pediatrics, and others.

As of May 2015, approximately 30 percent of PCPs across the Commonwealth participate in value-based contracts that promote patient-centered care through the EPHC program (Anthem, 2015). Anthem expects approximately 168,000 members to be cared for under EPHC in Kentucky by the end of 2015, which represents a model with potentially broad population reach.

Passport Pay-for-Performance Primary Care Program

In addition to Anthem, other private payers operating in Kentucky have transformed primary care programs. For example, the Passport Health Plan enhanced primary care program offers enhanced payments to all of the PCPs that participate in Passport’s network in Kentucky. This program extends the enhanced payments made since 2013 under ACA beyond December 31, 2014, and was effective January 1, 2015 with the first enhanced payment distribution from Passport beginning in April 2015 (Passport Health Plan, 2014).

5.2.2 Accountable Care Organization (ACO)

Kentucky providers currently participate in both the Medicare Advanced Payment ACO Model and the Medicare Shared Savings Program funded by CMS.

CMS’ Medicare Advance Payment ACO Models

The Medicare Advance Payment Model funded by CMMI is designed for physician-based and rural providers who have come together voluntarily to provide coordinated, high-quality care to their Medicare patients. Kentucky currently operates 3 of the 35 ACOs participating in the Advance Payment ACO Model: Jackson Purchase Medical Associates PSC, Owensboro ACO LLC, and Quality Independent Physicians LLC (CMS Advance Payment ACO Model, 2015). Kentucky’s selected participants receive upfront and monthly payments, which they can use to make important investments in their care coordination infrastructure.

Medicare Shared Savings ACO ¹	ACO Service Area
Central US ACO, LLC	AR, CO, KY, MO, TN
Deaconess Care Integration, LLC	IL, IN, KY
Jackson Purchase Medical Associates, PSC	IL, KY
MissionPoint Evansville, LLC	IN, KY
Owensboro ACO	IN, KY
Quality Independent Physicians, LLC	IN, KY
The Health Network of Western Kentucky, LLC	IN, KY
KentuckyOne Health Partners, LLC	KY
Pricare ACO, LLC	KY
Southern Kentucky Health Care Alliance	KY
Bluegrass Clinical Partners LLC	KY, LA, TN
Mercy Health Select, LLC	KY, OH
Good Help ACO	KY, OH, NY, SC, VA

Table 14. Kentucky Shared Savings Program ACOs (CMS Shared Savings Program, 2015)

CMS' Medicare Shared Savings Program

The Medicare Shared Savings Program is a program that helps Medicare fee-for-service (FFS) providers become an ACO. Kentucky providers represent 13 ACOs with service areas both in the Commonwealth and 12 additional states, as depicted in Table 14 (CMS Shared Savings Program, 2015). The Shared Savings Program will reward Kentucky-based ACOs that lower their growth in health care costs while meeting performance standards on quality of care and putting patients first. Participation in a Medicare Shared Savings ACO is voluntary.

For example, the Southern Kentucky Healthcare Alliance (SKHA) is a physician-led ACO currently serving Bullitt, Hardin, Marion, Grayson, Warren, Butler, Edmonson, Hart, Jefferson, and Barren counties. SKHA coordinates health care delivery services for 116 physician providers and serves approximately 15,000 Kentucky consumers. SKHA has participated in the Medicare Shared Savings Program since 2012. In both 2013 and 2014, SKHA was awarded a shared savings payment for reducing spending against a baseline and improving patient conditions.

Medicare Shared Savings Program ACO Assigned Beneficiary Population by ACO by County

(counties with more than 1 percent of an ACO's assigned beneficiaries)

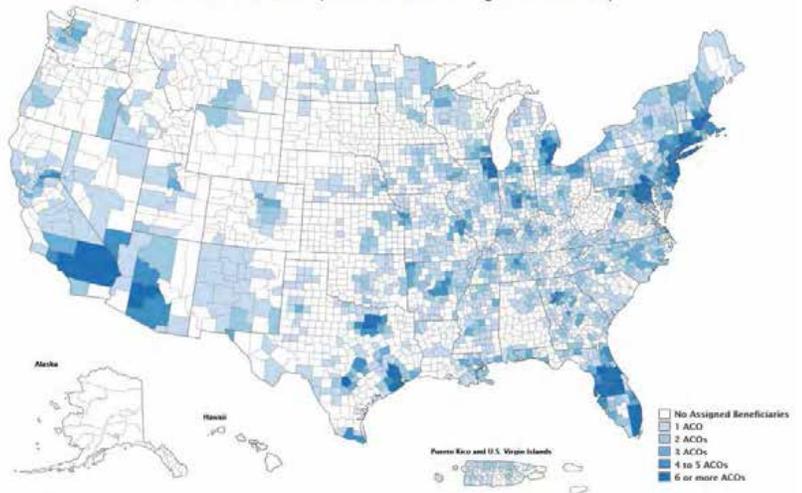


Figure 28. All Medicare Shared Savings Program ACOs (Fast Facts, April 2015)

5.2.3 Complex Chronic Condition (CCC) Models

Medicaid Health Home

In 2014, CHFS received a planning grant from CMS to develop a Medicaid Health Home program. In 2010, Section 2703 of ACA created an optional Medicaid State Plan benefit for states to establish Health Homes to coordinate care for Medicaid recipients who have chronic conditions by adding Section 1945 of the Social Security Act (Medicaid Health Homes, 2015). The Health Home model expands on the traditional medical home models developed in many state Medicaid programs. It enhances the coordination and integration of physical and behavioral health care and acute and long-term care services and offers referrals to community-based social services and supports. Health Homes are for Medicaid beneficiaries who have two or more chronic conditions, have one chronic condition and are at risk for a second, or have one serious and persistent mental health condition. Chronic conditions included in the Health Home statute include mental health, substance use disorder, asthma, diabetes, heart disease, and obesity (Medicaid Health Homes, 2015). Kentucky's current planning efforts are focusing on a Health Home program for individuals with an opiate substance use disorder and who are at risk of developing another chronic condition.

5.2.4 Bundled Payment (BP) / Episode of Care (EOC) Initiatives

CMS' Bundled Payments for Care Improvement (BPCI) Initiative

CMS' BPCI is comprised of four broadly defined models of care that link payments for multiple services during an EOC. Under the initiative, organizations enter into payment arrangements that include financial and performance accountability for EOCs.

Kentucky currently has eight pilot sites participating in Model 2 of the BPCI, which focuses specifically on Retrospective Acute Care Hospital Stay plus Post-Acute Care (CMS BPCI, 2015). In Model 2, the EOC includes the inpatient stay in an acute care hospital plus the post-acute care and all related services up to 90 days after hospital discharge. Model 2 involves a retrospective bundled payment arrangement where actual expenditures are reconciled against a target price for an EOC. Under this payment model, Medicare continues to make FFS payments to providers and suppliers furnishing services to beneficiaries in Model 2 episodes. The total expenditures for a beneficiary's episode are later reconciled against a bundled payment amount (the target price) determined by CMS. A payment or recoupment amount is then made by Medicare reflecting the aggregate performance compared to the target price.

In addition to Model 2, Kentucky currently has 15 sites participating in Model 3 of the BPCI initiative, which focuses specifically on Retrospective Post-Acute Care only (CMS BPCI, 2015). The payment model for Model 3 is the same as that of Model 2; however, in Model 3 the EOC is triggered by an acute care hospital stay but begins at initiation of post-acute care services with a skilled nursing facility, inpatient rehabilitation facility, long-term care hospital, or home health agency. Kentucky does not currently have providers and/or sites participating in Models 1 or 4 of the CMS BPCI initiative.

KentuckyOne Health Episodes of Care Program

KentuckyOne Health is a health system currently operating an EOC program in six KentuckyOne Health hospitals. KentuckyOne Health included multiple provider types in the program's care design process, specifically including orthopedic surgeons, an anesthesiologist, a physical therapist, home health, care managers, skilled nursing facilities, and others. As part of this EOC program, RN Care Managers are meeting scheduled patients at a Joint Academy approximately 30 days before surgery and following the patient 90 days or more post-inpatient discharge. KentuckyOne Health Partners is using the Conifer-Value-Based-Care (CVBC) system to track patients throughout the episode from surgery scheduling through episode discharge (KentuckyOne Health Partners, 2015). The organization will also use CVBC to track costs as claims are processed. To date, early results are positive and show reductions in hospital length of stay and more patients returning directly to their homes.

5.2.5 Other State-based and Federal Models

Kentucky Emergency Room SMART (Supportive Multidisciplinary Alternatives & Responsible Treatment) Program

In September 2013, CHFS launched an initiative within the Medicaid program that aims to reduce over-utilization of Emergency Rooms (ERs) and leverages the Kentucky Health Information Exchange (KHIE) (ASTHO, 2013). The state chose 16 hospitals that ranged from small to large facilities in both urban and rural areas to participate in the program and form coordinated care teams (CCTs) within these communities to better understand and holistically treat ER "super-utilizers." SMART Partners include DPH; DMS; the Department for Behavioral Health, Developmental, and Intellectual Disabilities (DBHDID); the KY Hospital Association (KHA); the KY Health Department Association; and the KY Managed Care Organizations (MCOs).

The Greater Louisville Healthcare Transformation (GLHT) Plan

The Kentuckiana Health Collaborative (KHC) has developed the Greater Louisville Healthcare Transformation (GLHT) Plan in conjunction with a myriad of key Kentucky stakeholders – payers, hospital systems, health plans, providers, employers, public health, governmental organizations, and community leaders. The goal of GLHT is to create a shared vision among key community stakeholders to reach the Triple Aim Goals of improving quality of care and population health, reducing cost trends, and improving experience for patients and their health care teams in the Greater Louisville area (KY SIM July Workgroup, 2015). In a phased initiative, the GLHT plan selects 20 to 40 primary care practices to participate in practice coaching, shared learning activities, data use training, care coordination/management training, data aggregation and other data services, and enhanced payments. The GLHT plan is currently considering payment reform options similar to those

outlined in this plan, including PCMH, ACO, bundled payment initiatives, and episodes of care. GLHT has paused its effort to align with major state efforts, including SIM (KY SIM July Workgroup, 2015).

Medicare Care Choices Model

Announced in June 2015, the CMS Medicare Care Choices Model works to provide a new option for Medicare beneficiaries to receive palliative care services from certain hospice providers while concurrently receiving services provided by their curative care providers (CMS Medicare Care Choices, 2015). Under this model, CMS plans to evaluate whether providing hospice services can improve the quality of life and care received by Medicare beneficiaries, increase patient satisfaction, and reduce Medicare expenditures. Three hospice sites in Kentucky were selected to participate in the Medicare Care Choices Model, including the Hospice of the Bluegrass, Inc.; Mountain Community Hospice; and Mercy Health Partners-Lourdes Inc., Lourdes Hospice.

5.2.6 Population Health Improvement Plan (PHIP) Alignment

Together *kyhealthnow* and *Unbridled Health* – two initiatives described in the PHIP section of the SHSIP – provide a solid foundation from which to address population health through SIM. Also included in the PHIP is a set of principles that were used to guide the design of service delivery and payment reforms targeted at improving population health. These principles were also used in the SIM workgroups to identify the necessary HIT infrastructure, legal, policy, and regulatory levers, and workforce needs to support the SIM reforms. The following principles have been identified as important elements for the proposed SIM delivery system and payment reforms to consider:

- Be evidence-based and data-driven
- Promote administrative simplification
- Be designed to promote multi-payer support
- Promote the inclusion of all populations
- Encourage providers to focus on social determinants of health
- Focus both on process improvements and health outcomes
- Make connections between the health care delivery system and other existing systems
- Increase the focus on prevention
- Encourage consumer engagement and accountability
- Develop a quality strategy that ties initiatives to PHIP goals
- Consider the effects of initiatives on achieving health equity across disparate populations

Throughout the Value-based Health Care Delivery and Payment Methodology Transformation section of the SHSIP, the delivery system reforms and payment methodologies proposed are linked back to these guiding principles and to the seven population health focus areas of *kyhealthnow*, and therefore the PHIP. This consistent lens focused on population health improvement measurement and monitoring are incorporated in each reform that the Commonwealth chooses to pursue in order to design a model that not only improves the quality and cost of care delivery, but also the overall health status of Kentuckians.

5.3 Delivery System and Payment Reform Plan

Kentucky's Model Design focuses on providing health care providers and payers operating in the Commonwealth with options for how they can participate in multi-payer, value-based care delivery and payment reform and work towards achieving the Triple Aim of improved health, improved care, and decreased costs.

The intent of this section is to propose a framework for moving forward with a set of reform initiatives. In addition, this section provides details concerning how the initiatives could be implemented based on a structure of a CMS SIM testing grant. It is important to note that while the

initiatives proposed in this plan are mutually supportive, the expectation is not that providers, payers, and consumers participate in each reform, but rather that these groups voluntarily participate in the value-based models that are suitable for their organizations. For example, if a provider is participating in an initiative that focuses on total cost of care, that provider may not benefit from the implementation of episodes of care – one of the proposed reform initiatives.

In developing the Value-based Health Care Delivery and Payment Methodology Transformation section, the Commonwealth considered the complexity of the health care landscape at the local, state, and national levels as the paradigm shifts from volume-based to value-based care. Despite the myriad considerations inherent in the transformation of health care that is currently underway across the country, the Commonwealth believes it is vitally important to act as a leader in proposing health reform initiatives that are relevant to Kentucky stakeholders. Kentucky is committed to providing this leadership and support to consumers, providers, and payers and to working together with them to achieve the overarching goal of improving the health of Kentucky's residents.

There are four multi-payer, interconnected delivery system and payment reform components included in this section of the SHSIP. The **PCMH** component of Kentucky's Model Design concentrates on transforming primary care throughout the state, both operationally and clinically. The **ACO** component represents a multi-payer strategy to make similar changes at the system-wide level of care and to impact broad payer populations. Targeted specifically at payment reform, the **EOC** component focuses on creating new, evidence-based structures for managing EOCs more efficiently and realizing savings within the system, while encouraging better coordination of care throughout an episode. The fourth component of Kentucky's model is a concept for a **Community Innovation Consortium** that would engage payers, providers, and communities and organize resources to support sustainable transformation at the community and provider level. All of these components comprise Kentucky's Model Design and the delivery system and payment reforms designed to support the Commonwealth's population health goals.

The Commonwealth understands that providers are at different stages of adapting to value-based purchasing strategies being pursued by payers and recognizes that provider capacity to engage in multiple initiatives is limited. With this in mind, the goal of the SIM initiative is for each provider to participate in at least one of the four components of the plan in an effort to generate momentum toward a value-based health care system.

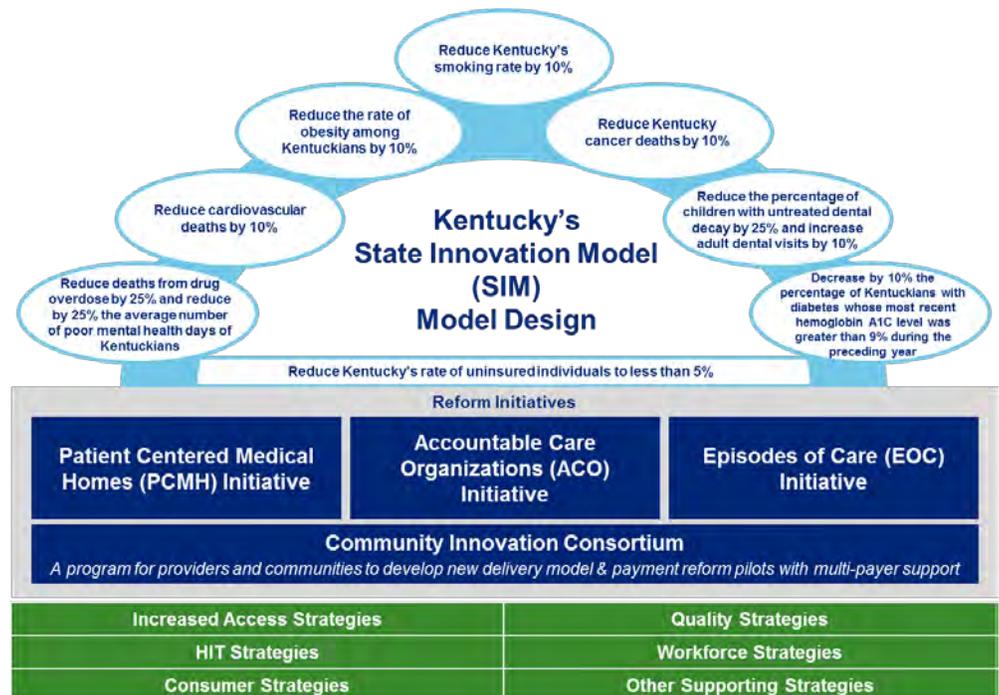


Figure 29. Kentucky's SIM Model Design

This structure has been developed after more than nine months of direct stakeholder input, the formation of guiding principles by stakeholders, and facilitated workgroup sessions targeted at discussing and refining these delivery system and payment reform strategies. This section defines each of the care delivery models and payment reforms being proposed by CHFS and outlines each reform’s definition, goals, rollout timeline, and implementation roadmap.

The delivery model and payment reforms described in this plan may contain components that require budgetary appropriations and will therefore follow CHFS’ mandated budget cycle and standard process, if applicable. The reforms may also require CMS approval in the form of state plan amendments (SPAs) and other state legal and regulatory authorities, and will therefore follow the federal process for these necessary approvals, as applicable.

5.3.1 Delivery System and Payment Reform Goals

Each reform initiative comprising Kentucky’s Model Design has its own unique, initiative-specific, Triple Aim-related goals. The Commonwealth also has established three overarching SIM goals that it hopes to achieve throughout the implementation of the four components outlined in the plan.

1. **Alignment with PHIP Goals.** The population health goals outlined in the PHIP form the foundation for the overall SHSIP. Each payment and service delivery reform is designed to drive Kentucky’s population closer to reaching these established goals.
2. **Population Reach.** As outlined in Kentucky’s SIM application, the Commonwealth’s vision is to implement comprehensive payment reform mechanisms that align economic incentives with population health goals, ideally impacting at least 80 percent of the covered population. Kentucky has formulated a framework for payment reform based on the principles of moving payers and providers toward value-based purchasing, setting evidence-based benchmarks for care, and capturing and using data in a consistent and actionable manner.
3. **Cost Savings.** While a demonstration of cost savings is a required component of the SIM initiative, the Commonwealth believes savings will ultimately result from the more important result of improving population health outcomes. Implemented together, all the reform initiatives detailed in this plan are designed to help the Commonwealth achieve a targeted two percent cost savings over a four-year implementation period⁷.

5.3.2 Governance

In order to increase the likelihood that the payment and service delivery reforms being put forth by Kentucky are successful and meet the goals outlined, the Commonwealth has created a formal governance structure through the implementation of an administrative order, which has been signed by the Secretary of CHFS. This administrative order establishes a select team of individuals to serve as voting

SIM Governing Body Stakeholder Representation	
Large Employer	Dentist
Commercial Insurer	Pharmacist
Kynect Qualified Health Plan (QHP)	Consumer Advocate
Medicaid MCO	Consumer Advocate (Disability Advocacy Community)
Urban Hospital System	Rural Health
Rural Hospital System	FQHC
Community Mental Health Center (CMHC)	Local Health Department (LHD)
Practicing Primary Care Physician (PCP)	Long Term Services and Supports (LTSS)
Non-physician PCP Representative	State Universities
Specialist Physician	Non-profit Organization

Table 15. List of Stakeholder Categories Included in SIM Governing Body

members on the SIM Governing Body, which includes the Secretary of CHFS as a voting member. This governing body will be known as the *Kentucky Health Transformation Leadership Committee: Driving SIM and kyhealthnow Into the*

⁷ “Cost savings” refers to the dollar value of the amount of cost avoidance that can be attributed to a reduction in the growth of health care costs as a result of implementing the initiatives described in this plan.

Future. The appointed members will be responsible for providing direction, advice, and recommendations to CHFS about the SIM initiatives. The SIM Governing Body will also be responsible for appointing individuals to serve on the individual Steering Committee for each reform initiative. The Secretary of CHFS considered a broad range of stakeholders for the SIM Governing Body, and included one or more representatives from the stakeholder categories listed in Table 15.

The administrative order also establishes a Quality Committee and an HIT Committee. Members of the Quality Committee will be responsible for working with each Steering Committee in an effort to develop a cohesive quality strategy across all the reform initiatives. Committee members will leverage the work done by the Quality Strategy/Metrics workgroup and will specifically focus on applying the guiding principles developed by this workgroup. Members of the HIT Committee will work to support the Steering Committee for each reform initiative by understanding the data and infrastructure needs required to support each reform. The organizational structure of the SIM Governance Structure is illustrated in Figure 30.

While the Quality Committee will be responsible for developing and monitoring adherence to an overall quality strategy, each respective Steering Committee will use the guiding principles for measure selection that were developed by the Quality Strategy/Metrics workgroup to choose the most appropriate metrics for each reform initiative. The role of the Quality Committee is described further in the Quality Measure Alignment section of this plan.

Similar in structure to the Quality Committee, the HIT Committee will span the four SIM reform initiatives. The role of the HIT Committee will be to support the Steering Committee for each reform initiative by understanding the technology and data needs required for each initiative and making recommendations to the SIM Governing Body that will help to drive policy and funding decisions to support each reform. The HIT Committee will be appointed by the SIM Governing Body and may include representatives from Kentucky’s key HIT initiatives and data sources, DPH, other CHFS support programs, private payers, provider organizations, consumers/consumer advocates, and virtual health stakeholders. These stakeholders and the HIT Committee’s key responsibilities are described further in the HIT section of this plan.



Figure 30. Governance Structure for SIM Payment and Service Delivery Reforms

5.3.3 Consumer Education and Communication Strategy

In order to maximize the impact and reach of the four reform models outlined in this plan, the Steering Committee for each reform will design robust education and outreach strategies to inform consumers of the benefits of receiving care through and participating in the respective value-based care models, while the SIM Governing Body will be responsible for advising on matters of overall messaging and outreach to consumers. This process will begin by identifying the unique communication needs of different subsets of the consumer population and developing the appropriate materials for each population. This education and outreach will be used to inform consumers of the incentives and benefit design strategies contained within each reform component and will also address consumer protections. During this stage of the process, the Steering Committees will also work to develop relationships with community providers and resources, so that they have the means to refer consumers to practices participating in each reform component as needed. It is also anticipated that the SIM Governing Body will work with payers and employers to help develop benefit design strategies designed to encourage consumer participation in SIM reform initiatives that will be appropriately tailored for each consumer population (e.g., commercial, employer, Medicaid, and Medicare). In doing so, the SIM Governing Body will solicit consumer input in a broad manner that is representative of these different populations, geographies, and demographics.

5.4 Patient Centered Medical Homes (PCMH) Initiative

5.4.1 Definition

CHFS is proposing to adopt NCQA certification as the baseline standard for PCMH certification based upon research that indicates aligned certification processes and criteria better support multi-payer alignment for PCMH. In addition, CHFS believes that each PCMH should meet Kentucky-specific goals and target areas focused on social determinants of health. The PCMH Steering Committee will help identify a number of Kentucky-specific components related to PCMH that build on national, evidence-based standards and industry best practices and will identify specific measures related to those components. These measures will be incorporated into the phased PCMH incentive reimbursement structure depicted in Figure 31.

Kentucky is proposing a harmonized multi-payer PCMH payment approach. The approach would fund practices that commit to seek certification. Once certified by NCQA, practices would receive payments that over time have an increasing percentage tied to meeting process and outcome goals.

Through collaborative conversations with NCQA during the Model Design process, CHFS recognizes the improvements being made to make the process for achieving NCQA certification less challenging for providers and provider organizations. This transitional payment strategy works to support providers who commit to becoming NCQA certified as PCMHs and provides them with a path to achieving this certification as these national improvements continue to emerge.

Throughout the stakeholder engagement process in Kentucky, stakeholders identified several objectives for Kentucky's PCMH initiative. These objectives include:

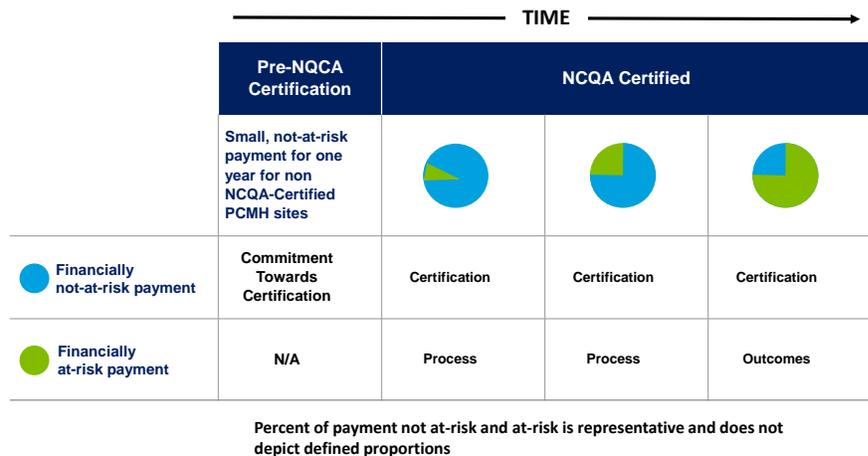


Figure 31. Phased PCMH Payment Strategy

1. Increase PCP⁸ focus on the social determinants of the health issues of their consumers and encourage PCPs to more actively engage and coordinate with available community resources to help meet the needs of their patients
2. Adopt broad and inclusive care teams that have the capability to coordinate the physical, behavioral, and oral health needs of their consumers
3. Increase the number of PCPs in the Commonwealth who are adopting evidence-based PCMH concepts and principles into their practices by encouraging more payers to compensate those PCPs appropriately and by reducing barriers to PCP adoption of the PCMH model by harmonizing, where possible, the requirements for participation and the reporting and measurement requirements across multiple payers
4. Increase the number of Kentuckians choosing to receive their primary care from PCMH providers through the use of incentives and benefit design strategies

Kentucky's PCMH initiative will accomplish these objectives through the use of the stakeholder-defined core elements detailed in the following paragraphs. The core elements identified will be the Commonwealth's priority areas as it begins to implement the payment and service delivery reform initiatives.

Develop multi-payer PCMH support by aligning PCMH compensation and measures across all payers

A critical success factor in achieving Kentucky's PCMH goals will be the ongoing support of the initiative from multiple payers across the Commonwealth. This will require the Commonwealth to convene payers and reach consensus on key design elements, such as an attribution methodology, quality measures, reimbursement methodology, and certification requirements. The PCMH Steering Committee's primary responsibility will be to obtain consensus around these key design elements.

To demonstrate leadership in the PCMH initiative, DMS plans to work with KEHP on a PCMH initiative that recognizes the goals, limitations, and existing efforts of each organization during the first year of implementation. This collaborative effort comprised of lessons learned from both groups will serve as the framework with which other payers throughout the state can align when joining in PCMH expansion efforts. With the guidance of the PCMH Steering Committee, DMS and KEHP will work to harmonize their approach with other payers supporting PCMH transformation.

Expand the scope and reach of the care team to include a broad array of clinical and non-clinical community service and resource providers

SIM stakeholders have identified the need to encourage PCPs and/or APRNs, as well as a broad range of other clinical (e.g. RNs and LPNs) and non-clinical professionals, in the consumer-centered care team in order to deliver comprehensive, quality care to consumers across the care continuum. For example, CHFS received strong stakeholder feedback that medication adherence monitoring is an effective way to reduce preventable hospital readmissions and costly ED visits. The inclusion of a pharmacist on a PCMH care team could enhance the ability of providers to proactively monitor the medication adherence trends of their consumers, potentially reducing costly medical complications in the future. Stakeholders also emphasized the need to include dentists and other oral health care providers (e.g., Registered Dental Hygienists (RDHs) or the Public Health Registered Dental Hygienists (PHRDHs)), in the PCMH care teams, as evidence suggests that oral health problems are a significant indicator of and contributor to other serious health issues and are a particularly significant health challenge in Kentucky. Therefore, the Commonwealth plans to incorporate components of the *Oral Health Delivery Framework* developed by Qualis Health (Qualis Health, 2015), which include co-located medical/dental service clinics and primary care dentistry referral networks as recommendations for all providers participating in the PCMH initiative. As a component of the PCMH initiative, the Commonwealth also plans to conduct a targeted demonstration with more advanced PCMH sites with three groups to compare performance: (1) PCMH with co-location of dental services, (2) PCMH with a referral model for dental services, and (3) PCMH without a dental component.

⁸ Primary care providers (PCPs) as referenced in this plan also includes APRNs as an associated provider type.

This targeted demonstration will be further developed with the direction of the PCMH Steering Committee as implementation plans develop.

In addition to oral health, the inclusion of behavioral health (mental health and substance use disorder (SUD)) providers with an emphasis on early childhood care could also improve care coordination between the behavioral and physical health systems, while maintaining an emphasis on prevention. Inclusion of physical therapists – who are experts in movement and mobility – can optimize functional performance for members of a PCMH, thereby influencing prevention and management of diverse chronic conditions across the lifespan. The Commonwealth will also encourage the engagement of qualified, non-clinical provider types on PCMH care teams, such as Community Health Workers (CHWs), peer support specialists, and other non-licensed providers. Over the course of the Model Design process, stakeholders emphasized the value non-clinical practitioners bring to the patient relationship. For example, improvements in patient compliance and education are often better in peer-to-peer relationships as opposed to physician-to-peer relationships. From an economic perspective, these practitioners represent a cost-effective method of impacting the health outcomes of a larger percentage of the population than by solely focusing on clinical provider types. The Commonwealth recognizes the current billing restrictions on some of these non-clinical provider types; however, Kentucky will work with stakeholders to identify an appropriate reimbursement strategy that reflects the importance of including these individuals on the care team. The specific provider types that will be targeted will be finalized during the pre-implementation phase of a SIM testing grant with the guidance of the PCMH Steering Committee and under the leadership of CHFS.

Expand the reach of PCMHs to facilitate, coordinate, and efficiently use available, existing community programs and resources

Similar to the concept of expanding the care team to additional provider types, stakeholders have identified the need to work with existing community programs and resources to surround consumers with an array of services and provider types to help improve population outcomes. Kentucky will focus on identifying community resources, such as grocery stores, faith communities, housing support agencies, and local law enforcement to extend care and assistance beyond traditional medical facilities. During the pre-implementation phase, Kentucky will work to establish relationships with these community organizations in order to make it easier for physical, behavioral, and oral health providers to refer consumers to the most appropriate resources. The Commonwealth will also work with PCMHs to develop a strong education and communication strategy that can be used to inform consumers of resources that are available to them.

Engage employers and payers to develop incentive strategies that promote PCMH primary care for their enrollees

To meet its PCMH goals, Kentucky not only needs to increase the number of PCMH primary care practices, but it also needs to attract more individuals to those practices. KEHP will lead in this effort by developing strategies to encourage state employees to use certified PCMH practices. Following the successful implementation of these strategies, the PCMH Steering Committee will help convene a meeting of large employers and payers across the Commonwealth and use the framework established by KEHP to encourage the employers and payers to adopt similar strategies for their employees and enrollees.

Encourage the use of complex chronic condition (CCC) and population management strategies with an emphasis on physical and behavioral health within the PCMH

Average per capita health care spending is significantly higher for individuals with one or more chronic conditions than for those without a chronic condition. As a result, improved care coordination for this population of consumers is at the forefront of health care reform. As part of its PCMH initiative, Kentucky is proposing to develop a CCC component that targets specific populations – those with complex and/or chronic physical and behavioral health comorbid conditions, who

would benefit significantly from enhanced care coordination and support. This vulnerable population is at additional risk when routine recommendations are made without specificity to the person's unique sociocultural, physical, and behavioral needs.

An example of a CCC initiative is the Medicaid Health Home program which was established by section 2703 of ACA and governed by CMS. The Health Home model expands on the traditional medical home models developed in many state Medicaid programs by enhancing the coordination and integration of physical and behavioral health care and acute and long-term care services and by offering referrals to community-based social services and supports (Kaiser State Health Facts, 2015). Kentucky applied for and received a planning grant to develop a Health Home model for the Medicaid population. This planning initiative has been underway with support from a broad stakeholder group, having made significant progress to define a potential model for a Medicaid Health Home. The program's current focus is on individuals with an opiate substance use disorder and who are at risk of developing another chronic condition. The planning effort has made strides to define the potential target population, care team, and geographic rollout, among other details. It is anticipated that the Health Home initiative will be rolled out in the second half of 2016.

5.4.2 Goals

The Commonwealth is committed to setting ambitious, yet achievable goals for the introduction of a PCMH initiative that builds on PCMH activity already underway in Kentucky. Specific quantitative goals for a PCMH initiative in Kentucky will be developed in the categories outlined below.

- Number of participating sites with the consideration for geographic dispersion (e.g., tracking PCMH expansion by region and encouraging participation in geographic areas with low participation)
- Number of Kentuckians receiving care through a PCMH

In addition to specific targets for the number of participating PCMH sites, as well as Kentuckians reached through a PCMH, the PCMH Steering Committee will help develop additional initiative-specific goals focused on consumer experience, quality of care, and improved health outcomes. It will be the responsibility of the PCMH Steering Committee to consider other initiative-specific goals for the PCMH initiative based upon stakeholder input and evidence-based practices.

5.4.3 Targets and Timeline

Phased Approach

The PCMH initiative will occur over a multi-year implementation period. CHFS has developed both a high-level rollout timeline, as well as an implementation roadmap for the PCMH initiative. The high-level rollout timeline, shown in Figure 32, depicts the main phases of the PCMH rollout. These include defining the core requirements for PCMHs in Kentucky, developing a framework based on a collaborative PCMH effort between Medicaid and KEHP, implementing a CCC component, and going live with PCMH rollouts across the Commonwealth. Throughout this process, the Commonwealth will focus on providing the practice transformation support providers need in order to successfully make the transition to a certified PCMH.

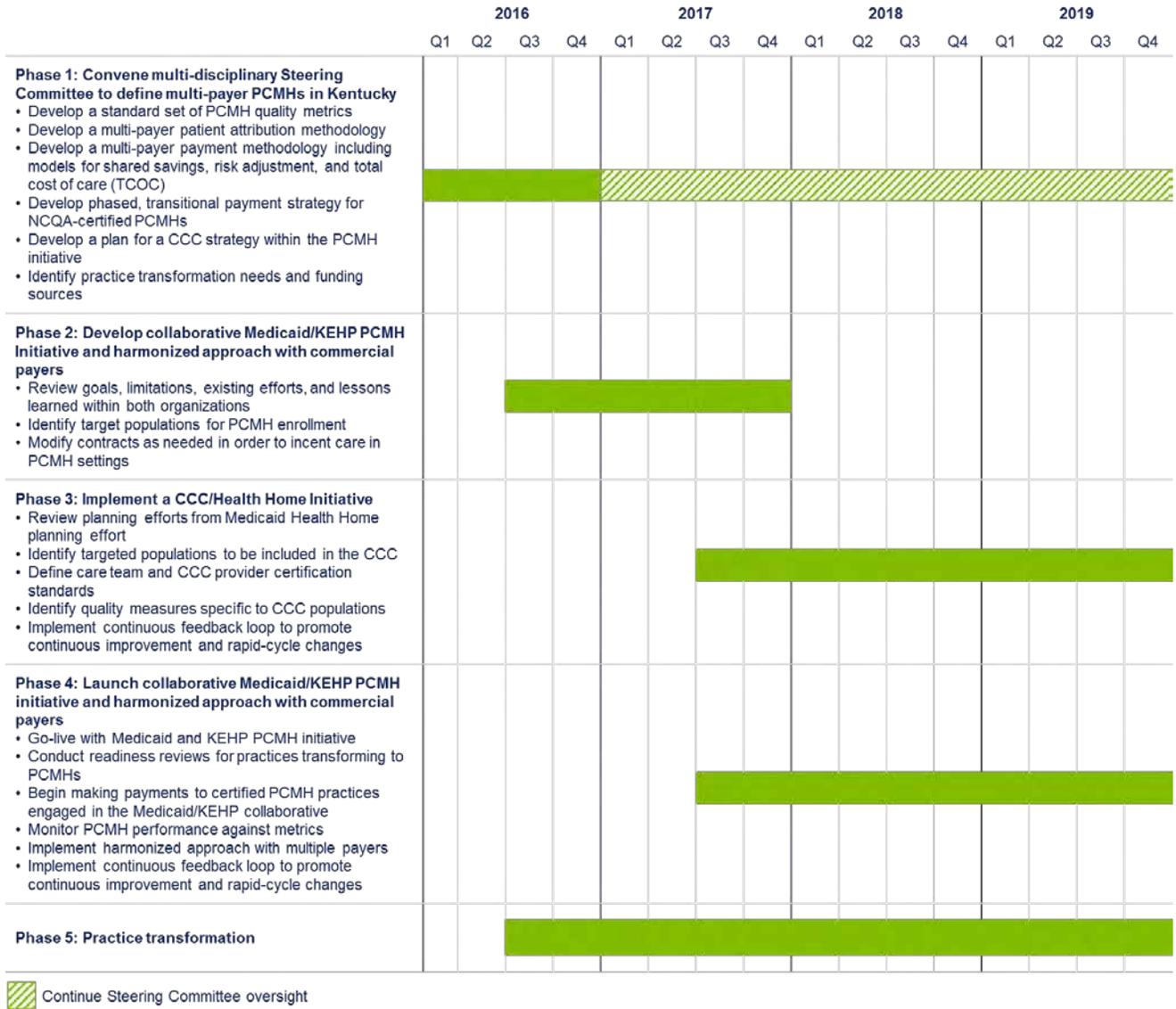


Figure 32. PCMH Rollout Strategy

The implementation roadmap breaks out the high-level activities that will be completed in each subject area during each phase of the rollout. As illustrated in Figure 33, the process will begin by developing a detailed design for the PCMH initiative, which will include a harmonized attribution and payment methodology, quality metrics, and certification requirements. These design elements will be informed by the work of the PCMH Steering Committee, which will be formed and spearheaded by CHFS leadership.

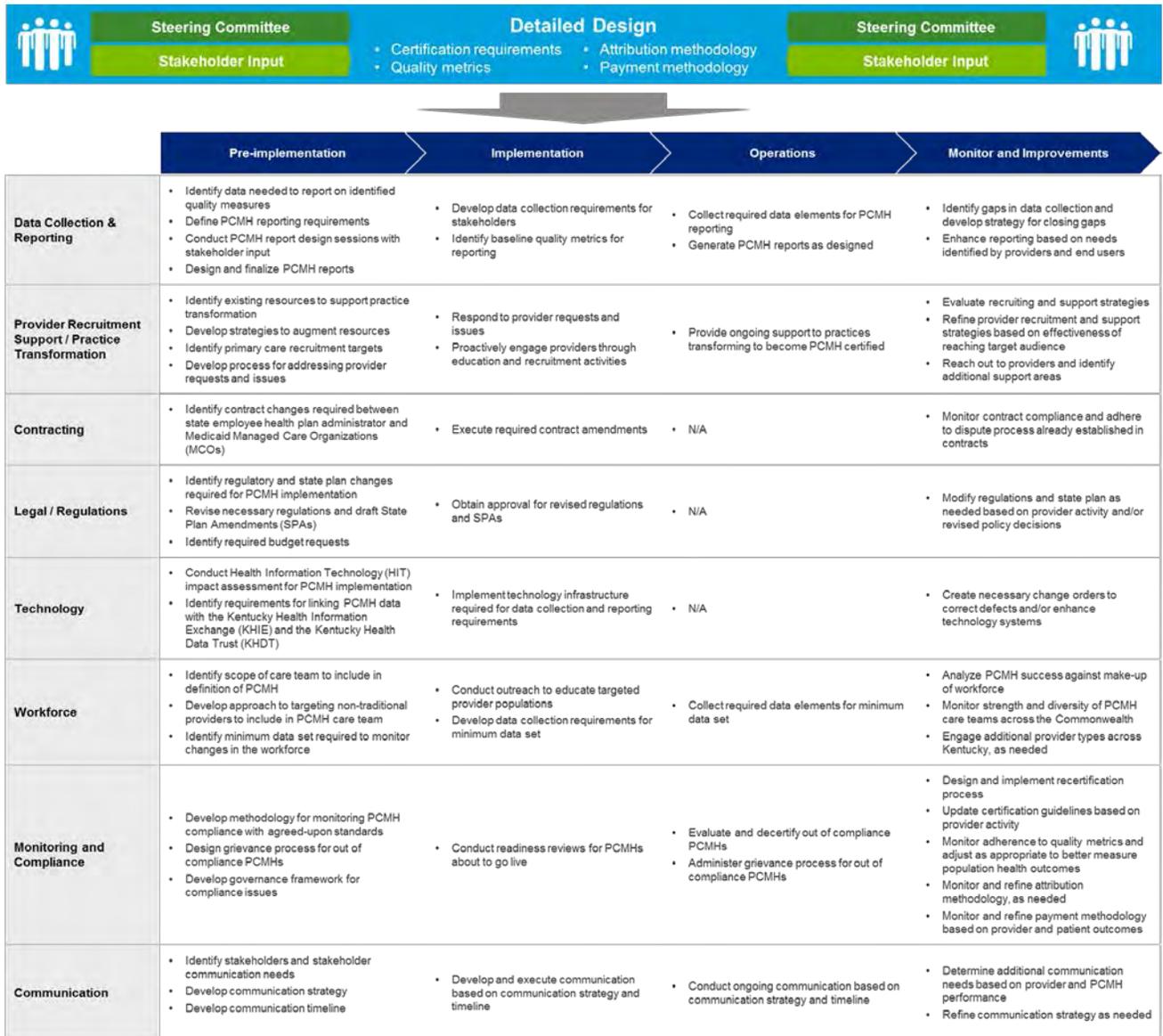


Figure 33. PCMH Implementation Roadmap

5.5 Accountable Care Organizations (ACO) Initiative

5.5.1 Definition

In response to initiatives already underway in Kentucky and feedback that stakeholders provided, along with guiding principles developed throughout the project, Kentucky proposes to expand ACO activity in its effort to improve population health, better coordinate consumer care, and reduce health system costs.

Throughout the stakeholder engagement process in Kentucky, stakeholders identified several important objectives for a Kentucky-specific ACO initiative. These objectives include:

1. Increase the populations enrolled in ACO arrangements by encouraging payers to add their populations to existing ACOs and encouraging payers to support the creation of new ACOs for their populations

2. Reduce administrative and financial barriers that restrict ACO willingness to expand enrolled populations to multiple payers by harmonizing participation, prospective attribution, reporting, and measurement requirements across multiple payers
3. Expand the focus of ACOs to include the social determinants of consumer health issues and the utilization of, and coordination with, community resources by including population health measures in evaluation and shared savings methodologies
4. Expand the scope of ACOs to include more at-risk populations, including individuals with significant physical and/or behavioral health comorbidities, individuals in long-term care (LTC), and individuals receiving long term services and supports (LTSS) through the development of demonstrations for these populations
5. Increase the number of individuals choosing to receive their care through an ACO by the use of incentives and benefit design strategies

Kentucky's ACO initiative will accomplish the above objectives through the use of the stakeholder-defined core elements detailed in the following paragraphs. The core elements identified will be the Commonwealth's priority areas as it begins to introduce the payment and service delivery reform initiatives.

Expand the scope of ACOs to encourage participation across the full continuum of care and focus on behavioral health, public health, and community resources

Throughout the stakeholder engagement process, stakeholders emphasized that coordinated care needs to occur across the full continuum of care. To that end, the Commonwealth will encourage ACOs to target providers across a wide range of specialties, including behavioral health, oral health, physical therapy, and hospice care, among others, in an effort to create the most comprehensive care team possible. Paramount to this success will be engaging community resources and providers (e.g., CHWs and peer-support specialists) and partnering with them to take part in monitoring the health and well-being of consumers outside the traditional clinical setting. The Commonwealth will encourage exploration specifically of home or community-based resources within the development of ACO structures. Additionally, the infusion of Kentucky's population health goals into quality metrics recommended by the ACO Steering Committee and Quality Committee will become central to measuring the performance of ACOs. Such metrics may include, but not be limited to, patient hospitalization and re-hospitalization rates, patient satisfaction, emergent care, spend per beneficiary, and return to functionality and achievable levels of patient health. The Commonwealth plans to use this measurement strategy to encourage the adoption and performance of population health strategies (e.g., oral health care through an ACO model).

Establish a multi-payer, "open-door" policy whereby payers agree to add their populations to an ACO if the ACO desires

Throughout the stakeholder process providers expressed the challenges of delivering care in two different models – fee-for-service (FFS) and value-based care – which reward different provider behaviors. Stakeholders also indicated the challenges associated with taking on both financial and performance risk for new populations before the necessary infrastructure is in place to successfully manage this risk. To balance these two competing dynamics, Kentucky is proposing to gain payer agreement in order to develop a process for ACO providers that want to add new consumers to their existing ACOs, referred to as an "open-door" policy. A key component of this strategy will be to gain agreement on a harmonized consumer attribution process, which will be recommended by the ACO Steering Committee during the pre-implementation phase of a SIM testing period.

An "open-door" policy to implementing ACOs is a framework for payer commitment to the initiative that works to broaden the reach/experiment of ACO effectiveness. Within this framework, as many payers as possible will be in agreement with an ACO approach and express their willingness to engage providers who wish to add new consumers to their existing ACO in order to enhance the provider's ability to leverage the investments and business process changes needed to support

their ACO. This framework will support payers who are willing to negotiate with providers to add these populations at the provider's request, while considering appropriate policies and/or safeguards for patient selection. The ACO Steering Committee will help develop the components of this framework in Phase 1 of the ACO initiative roll out.

Issue a Request for Information (RFI) and subsequent Request for Proposal (RFP) to include individuals receiving Medicaid medical services and LTSS and/or LTC in an ACO

In an effort to solicit innovative ideas and evidence-based approaches from the market for including individuals receiving medical services and LTSS and/or LTC (these populations currently receive coverage through Medicaid FFS) through the Medicaid program in an ACO, CHFS plans to publish a RFI. This RFI will provide Kentucky with an opportunity to evaluate the capabilities of entities that may be interested in expanding or creating an ACO arrangement for these populations. Additionally, the RFI will provide CHFS with an array of perspectives involving best practices for care coordination, quality measurement, consumer engagement, patient and ACO physician engagement, patient referrals, enrollment, patient assessment, care planning, and other pertinent topics that can be used to influence other payment and service delivery reform activities taking place in Kentucky. CHFS also plans to include an oral health component as a section of the RFI to solicit information about how oral health care can be better coordinated and delivered within this specific population.

Best practices and models for technical, administrative, and management supports for ACO operations will likewise be solicited. Information on home- and provider-based technologies to monitor and treat patients and the integration of those technologies into care models may also be requested. CHFS plans to use the RFI results to develop a model to include Medicaid members receiving LTSS and/or LTC in an ACO. CHFS plans to release a RFP to eventually provide the LTSS, LTC, and medical services for these members through an ACO.

Encourage the use of complex chronic condition (CCC) and population management strategies with an emphasis on physical and behavioral health within an ACO

Similar to the PCMH initiative, as part of its ACO initiative, Kentucky is proposing to develop a CCC component that targets specific populations – those with complex and/or chronic physical and behavioral health comorbid conditions, who would benefit significantly from enhanced care coordination and support. As referenced in the PCMH initiative, this population is at additional risk when routine recommendations are made without specificity to the person's unique sociocultural, physical, and behavioral needs.

While the CCC focus within the PCMH initiative is the specific Medicaid Health Home program and expansion of that program to a broader range of payers participating in the PCMH model, the ACO initiative will adopt the same CCC and population management principles with an emphasis on behavioral health consumers. As part of the design of the ACO initiative, the ACO Steering Committee will recommend that participating payers adopt CCC and population management strategies through the adoption of performance measures that can be positively impacted by improved care coordination of individuals with complex comorbid conditions.

5.5.2 Goals

The Commonwealth is committed to setting ambitious, yet achievable goals for the introduction of an ACO initiative that builds on ACO activity already underway in Kentucky. Specific quantitative goals for an ACO initiative in Kentucky will be developed in the categories outlined below.

- Number of payers involved

- Number of participating providers with the consideration for geographic dispersion (e.g., tracking ACO participation by region, encouraging participation in geographic areas with low participation, and inclusion of multiple provider types)
- Number of Kentuckians receiving care through an ACO

In addition to specific targets for the number of participating payers and providers and Kentuckians reached through an ACO, the ACO Steering Committee will help develop additional initiative-specific goals focused on improved consumer experience and quality of care and health outcomes achieved through an ACO model. The ACO Steering Committee will consider other initiative-specific goals for the ACO initiative based upon stakeholder input and evidence-based practices.

5.5.3 Targets and Timeline

Phased Approach

The approach to achieving the ACO goals outlined will occur over a multi-year implementation period. To that effect, the Commonwealth has developed both a high-level rollout timeline, as well as an implementation roadmap for the ACO initiative. The high-level rollout timeline shown in Figure 34 depicts the four main phases of the ACO rollout. These include: (1) defining the core requirements for ACOs in Kentucky; (2) encouraging an open-door policy among existing ACOs and providers interested in joining an ACO; (3) adding more at-risk populations, such as individuals receiving LTSS services, to ACOs; and (4) launching a Medicaid ACO for the LTSS/LTC populations.

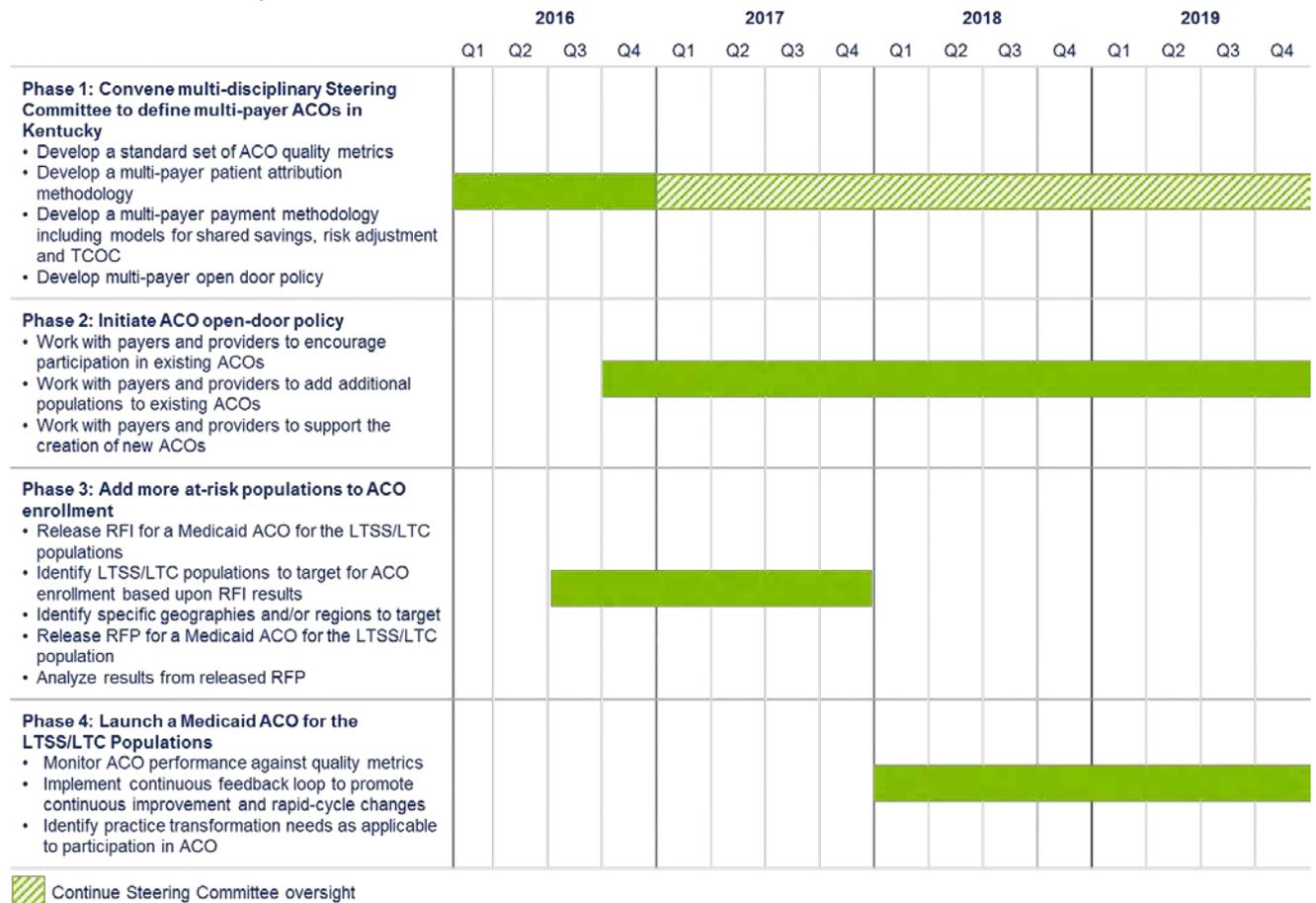


Figure 34. ACO Rollout Strategy

The implementation roadmap breaks out the high-level activities in each subject area during each phase of the rollout. As indicated in Figure 35, the process will begin by developing a detailed design for the ACO initiative, which will include an attribution and payment methodology, as well as quality metrics. These design elements will be informed by the work of the ACO Steering Committee, which will be formed and spearheaded by leadership in CHFS.

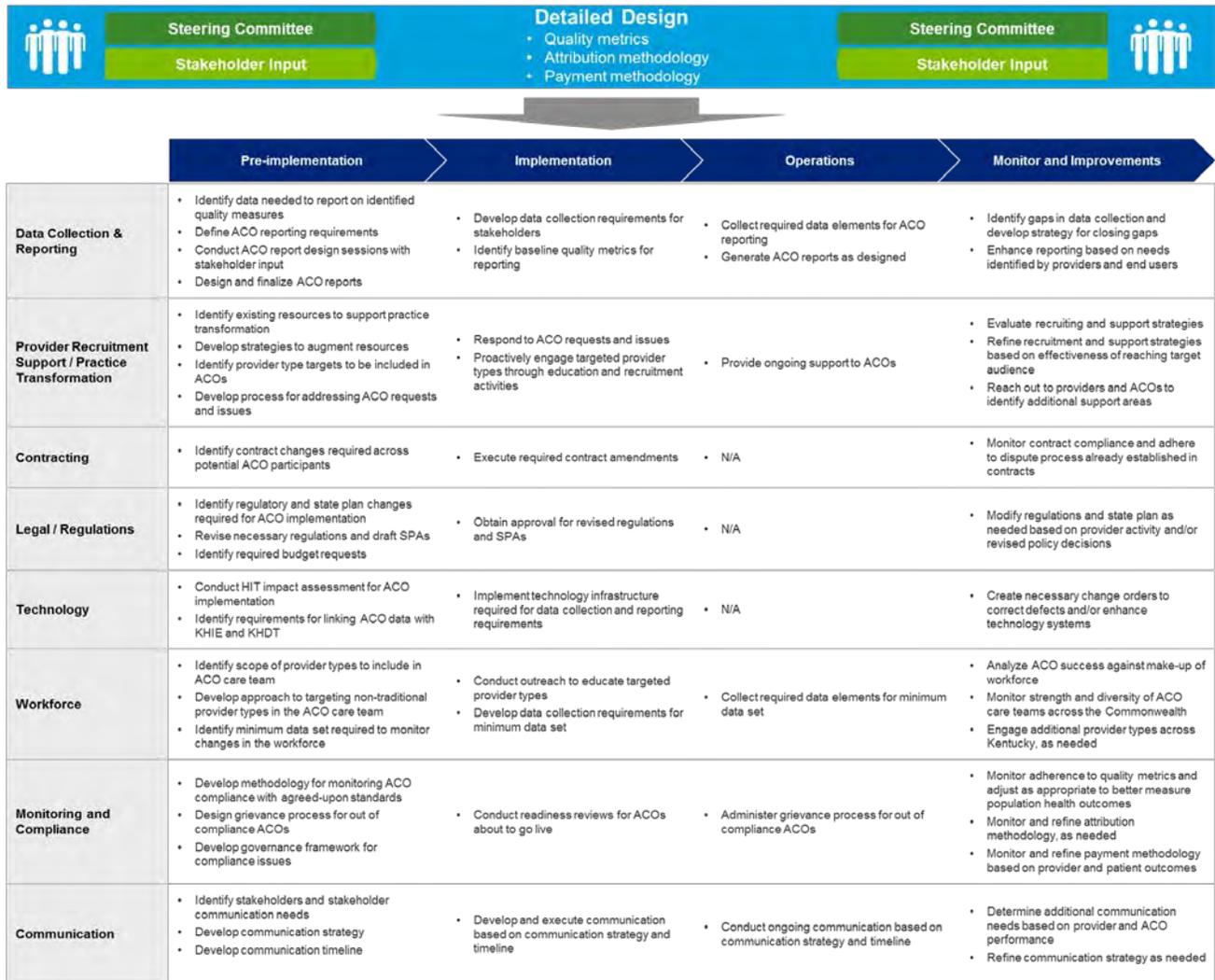


Figure 35. ACO Implementation Roadmap

5.6 Episodes of Care (EOC) Initiative

5.6.1 Definition

Recognizing the direction CMS has provided with various EOC initiatives, along with efforts underway in nearby states, the Commonwealth and SIM stakeholders have identified the potential to align elements of the payment reform strategy to focus on the implementation of a Kentucky-specific set of EOCs over the course of the SIM implementation period. The Commonwealth believes that EOCs can be a potential entry point for providers making the transition to value-based care who may not yet be prepared to take on performance and financial risk for the total cost of care for broad population groups. However, the Commonwealth realizes that organizations already may be pursuing one of the other value-based strategies outlined in this plan or may want to focus their efforts on one of those strategies. In these instances, the

Commonwealth understands that organizations may elect to not participate in the EOC initiative if they can demonstrate their engagement in one of the other initiatives.

Throughout the stakeholder engagement process in Kentucky, stakeholders identified several important objectives for a Kentucky-specific EOC initiative. These objectives include:

1. Increase the number of episodes covered under an EOC initiative by encouraging payers to support providers who wish to include their populations in the program
2. Encourage the number of episodes covered under an EOC initiative by harmonizing participation, attribution reporting, data sharing reporting, and measurement requirements across multiple payers
3. Increase the use of EOCs by developing a collaborative Medicaid/KEHP EOC demonstration
4. Promote the adoption of the EOC model where providers continue to bill for their services through a fee-for-service model with performance and financial risk held by the EOC coordinating entity.

Kentucky's EOC initiative will accomplish these objectives through the use of the stakeholder-defined core elements detailed in the following paragraphs. The core elements identified will be the Commonwealth's priority areas as it begins to implement the payment and service delivery reform initiatives. The EOC initiative and these core elements also create opportunities to leverage and expand on EOC models underway in other states and within CMS. More specifically, over the course of the Model Design, CHFS met with neighboring SIM states who are in the process of implementing episodic models (e.g., Tennessee, Ohio, and Arkansas) to discuss best practices, lessons learned, and the potential to regionalize episodes with the understanding that consumers in Kentucky may also receive care in these neighboring states. CHFS plans to continue this engagement with Kentucky's surrounding states as these states begin to identify the impact and outcomes that EOC models have had on their populations.

Review and leverage outcomes, challenges, and successes of EOCs used in surrounding SIM states and Medicare, and develop a roadmap for the deliberate, phased implementation of Kentucky-specific, data-driven EOCs

During the pre-implementation period of a SIM testing grant, the Commonwealth will identify states with a history of implementing EOC initiatives in an effort to identify best practices and bring them to Kentucky's implementation process. CHFS also will convene an EOC Steering Committee during this phase of the project to help review the EOC initiatives of neighboring states and Medicare to create alignment and synergies with policies at a national and regional level. An example component would be how the quality and/or outcomes-based measurement strategy in other states and within Medicare is used in developing incentives and/or penalties for participating providers.

This research will be used by the Steering Committee to help develop a thorough roadmap that outlines the specific episodes that will be implemented, the length of the episode, services to be included in the episode, a detailed reimbursement methodology, and the lead provider who will be responsible for managing the consumer's care throughout the episode. The intent of the roadmap is to give payers and providers the time needed to modify existing business processes and technology systems to support the successful transition to a payment system incorporating EOCs to reward improvements in consumer experience, quality of care, improved health outcomes, and reductions in the cost of care.

Establish a multi-payer, "open-door" policy where payers agree to implement EOCs at the request of providers

Kentucky will encourage payers across the Commonwealth to align with its proposed phased approach to implementing EOCs. The Commonwealth recognizes that providers need to balance the desire to have a single operating and clinical model as they transition to a value-based payment environment with their capacity to accept additional performance risk. To address this challenging dynamic, the Commonwealth will convene an EOC Steering Committee to help create a process for providers to request adding additional payer populations to their existing EOC initiatives.

An “open-door” policy to implementing EOCs is a framework for payer commitment to the initiative that works to broaden the reach/experiment of EOC effectiveness. Within this framework, as many payers as possible will be in agreement with EOCs and express their willingness to engage providers in EOCs at the provider’s request. The EOC Steering Committee will help develop the components of this framework and will review and consider the approaches taken by other states.

Create a collaborative EOC demonstration between the KEHP and Medicaid MCOs

EOC initiatives are currently underway in three surrounding states with SIM testing grants, and Medicare continues to increase its emphasis on this payment reform strategy, as evidenced by the testing of mandatory bundled payments for hip and knee replacements through the Comprehensive Care for Joint Replacement (CCJR) model. In keeping with this national and regional focus, and to demonstrate Kentucky payer leadership, the Commonwealth will explore the creation of an EOC demonstration initiative focused on the state employees enrolled in KEHP as well as Medicaid consumers. The focus of such an initiative is better coordination of acute and post-acute services. This demonstration will be developed in a manner that recognizes both the goals and limitations of each organization and is comprised of lessons learned from both groups. In exploring this initiative, the Commonwealth will consider opportunities to harmonize its approach with the initiatives of other states and/or Medicare, while at the same time prioritizing EOCs that would have the most positive impact on Kentucky’s population health goals. This demonstration will include the objectives previously defined. Specifically, harmonized participation, attribution reporting, data sharing reporting, and measurement requirements will also be key elements of the Medicaid/KEHP demonstration, as the MCOs and Medicaid Fee-For-Service would use the same methodology and reporting requirements and would create a standardized EOC approach between MCOs and the KEHP. Additional elements within this demonstration will be developed with guidance from the EOC Steering Committee.

5.6.2 Goals

The Commonwealth is committed to setting ambitious, yet achievable goals for the introduction of an EOC initiative in Kentucky. Specific goals for an EOC initiative in Kentucky will be developed in the categories outlined below.

- Number of episodes covered under an EOC initiative
- Number of providers engaged in an EOC initiative
- Number of participating payers

In addition to specific targets for the number of episodes and participating payers, the EOC Steering Committee will help develop additional initiative-specific goals focused on consumer experience, quality of care, and improvements in health outcomes. The EOC Steering Committee will consider other initiative-specific goals for the EOC initiative based upon stakeholder input and evidence-based practices.

5.6.3 Targets and Timeline

Phased Approach

The rollout of increased EOCs in Kentucky will take a phased approach. As illustrated in Figure 36, there will be five primary phases involved in the rollout of this reform initiative. The first phase will involve creating a detailed roadmap of episodes in order to provide clarity to payers and providers who will need to transform their practices and the identification of potential target EOCs. The second phase will promote transparency within the model by collecting and reporting on those EOCs. The third phase will involve the rollout of a pre-defined set of EOCs, which will be created from the input of multiple stakeholders during the roadmap development process. The fourth phase will evaluate the effectiveness of those episodes implemented in phase three, or “wave one” of the initiative, in order to gather lessons learned and to make improvements before introducing new episodes. The final phase, scheduled to begin in mid-2019, will include the rollout of the additional episodes, or “wave two,” identified by the stakeholders and refined by the evaluation of “wave one.” This final

phase will include a continuous review cycle of the effectiveness of each episode to inform future demonstrations or waves of episodes.

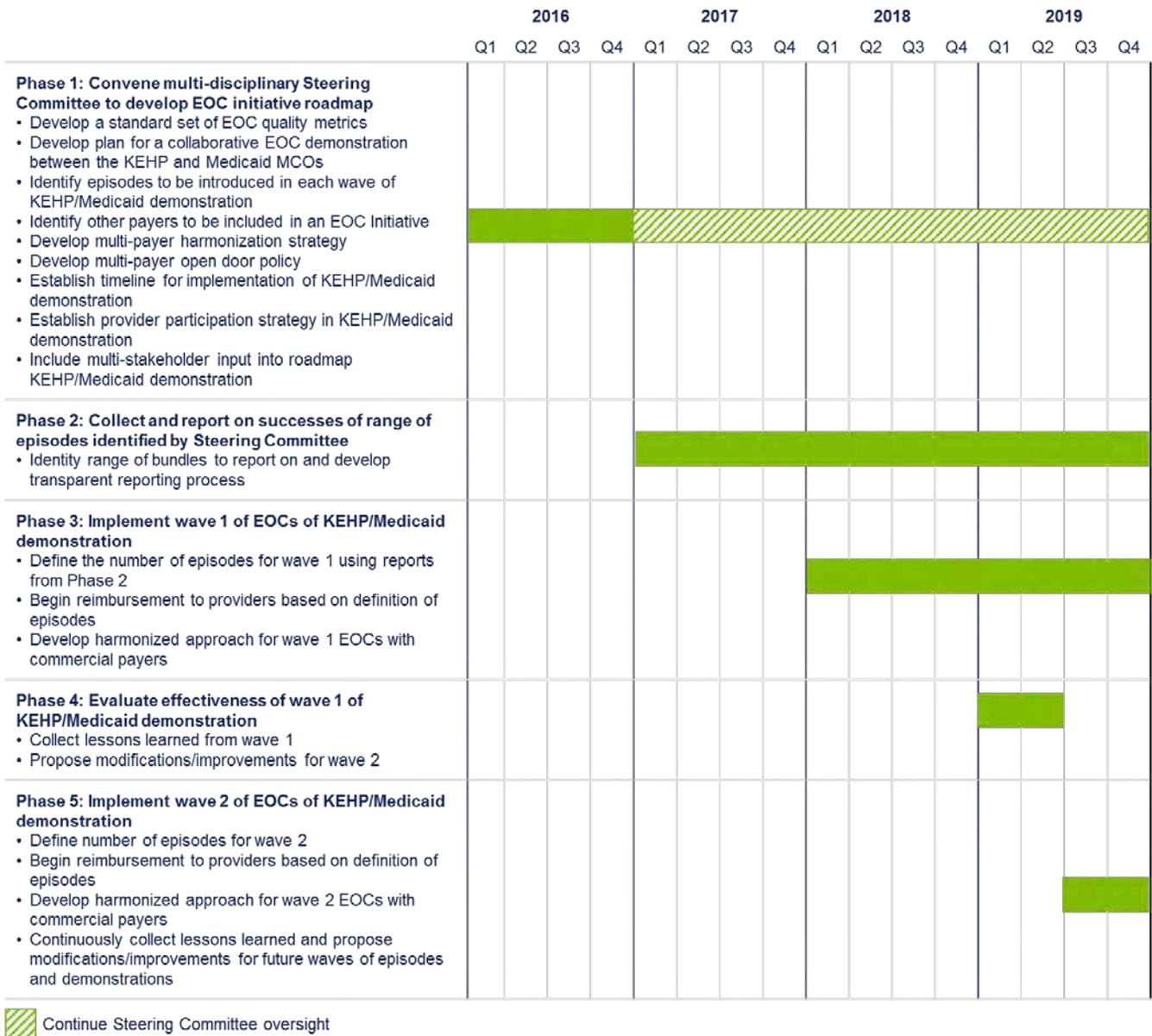


Figure 36. EOC Rollout Strategy

In addition to the high-level rollout strategy depicted in Figure 36, the Commonwealth has also developed an implementation strategy, which outlines the high-level activities that will need to occur across various business domains in order to successfully implement this reform initiative. Figure 37 is a visual representation of this roadmap, and will be the foundation of a more detailed project plan that will be developed during the pre-implementation phase of a SIM testing grant.

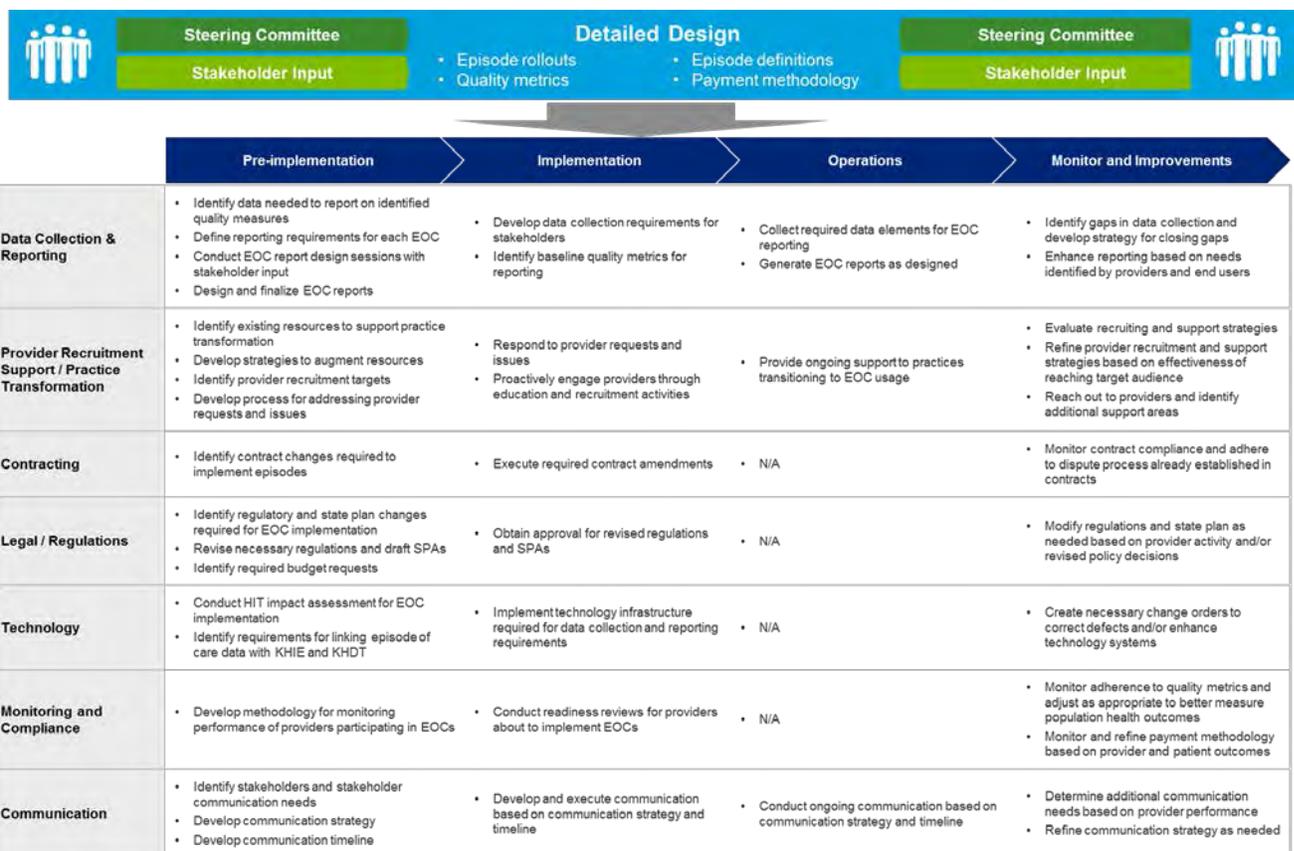


Figure 37. EOC Implementation Roadmap

5.7 A Community Innovation Consortium

5.7.1 Definition

As part of its Model Design, Kentucky will create a forum for communities and providers to develop new delivery system and payment model demonstrations focused on achieving PHIP goals with multi-payer, provider, and consumer leadership and support. The Community Innovation Consortium will be designed to encourage innovations in response to community health needs assessments and other community planning activities. The creation of this consortium is in response to direct feedback from stakeholders and guiding principles developed around the importance of health care solutions occurring at the community level in addition to broad-based system changes.

Kentucky envisions the Community Innovation Consortium to be a structured forum for leaders of community health initiatives to engage payers, providers, and consumers to create partnerships that support sustainable transformation at the community and provider level. The intent of the Consortium is not to duplicate existing community resources or programs, but rather to be flexible in how new innovations are designed to adapt to the current environment. For example, the Consortium could explore expanded participation by the Medicaid MCOs and KEHP in the Greater Louisville Healthcare Transformation Plan, an existing effort to reform the health care system in a specific region. Also, as an example of leveraging an existing, operational program, the Consortium could explore collaboration among the Medicaid MCOs and KEHP with the seven recipients of the Investing in Kentucky's Future (IKF) grant to implement their business plan, which addresses key health issues in Kentucky. Another example could be a partnership between the existing Diabetes Prevention Program (DPP) within DPH and physical therapists (PTs) to develop individualized activity programs that improve adherence and/or understanding of their disease process and management. The Consortium could also explore how to leverage the existing CHW programs in place in Kentucky, including the Kentucky Homeplace Program

operated within the University of Kentucky Center of Excellence in Rural Health or the program in place at the Barren River District Health Department. These examples represent ways in which payers, providers, and consumers can leverage existing efforts as part of the Consortium, which is a strategy that can be applied across a broad array of community programs and services.

5.7.2 Goals

The Commonwealth is committed to setting overarching goals for the introduction of the Community Innovation Consortium in Kentucky that would measure the statewide impact that the combination of these programs and/or initiatives may have. Specific quantitative goals for the Community Innovation Consortium will be developed in the following categories:

- Number of participating community-based organizations
- Number of participating payers
- Number of participating providers
- Number of Kentuckians reached by community health initiatives

While these quantitative goals are intended to measure the overall impact of forming the Consortium, it is anticipated that the initiatives that are generated out of the Consortium will have initiative-specific goals, which will be the priority areas for each initiative. These initiative-specific goals will likely focus on addressing the population health issues facing specific communities, cities, and/or counties, and will be targeted at making improvements at the community-level. While the Steering Committee will help develop a measurement strategy to quantify the statewide impact of the Consortium as a whole, the Commonwealth believes that the most beneficial changes will occur at the community-level and has designed the Consortium to provide the opportunity to develop novel programs and foster local innovations.

5.7.3 Consortium Governance and Design

The Commonwealth will launch the consortium by bringing together the Medicaid MCOs, the KEHP Administrator, and other relevant payer, provider, and local consumer leaders to meet on a regular basis to review proposals from community organizations and providers from across Kentucky. The development of the consortium model has been informed by the concepts of similar initiatives underway in other state and Federal programs focused on community innovation, such as Accountable Communities of Health (ACHs) in the state of Washington and the Community-based Care Transitions Program developed by the Federal Innovation Center. As part of the Community Innovation Consortium Steering Committee, payers, providers, and community organizations will work together to determine how to best support local initiatives that are consistent with the goals of the Transformation Plan and the PHIP. These groups will be responsible for developing specific programmatic and/or financial supports and conduct sustainability planning for each initiative designed by the Consortium. As an example, support could take the form of new payment models or investments in infrastructure that are critical to the success of the community-based initiative.

The Community Innovation Consortium Steering Committee will also help identify a set of specific focus areas in which future proposals and initiatives will target. Based upon stakeholder input, the Commonwealth has a particular interest in focusing on the expansion of oral health-related community initiatives. In addition to oral health, other initiative focus areas may include, but are not limited to, behavioral health, physical health comorbidities, obesity/tobacco use/diabetes prevention, person-managed conditions and the role of exercise, annual older adult screening and fall prevention, and other population health-focused efforts.

The Commonwealth will solicit payer, provider, and consumer participation and convene quarterly meetings of the Consortium. The Consortium meetings will both review new proposals submitted within each focus area and progress reports on existing Consortium projects. The Community Innovation Consortium Steering Committee will also help assure that supported initiatives are coordinated with the other reform activities outlined in this plan.

5.7.4 Targets and Timeline

The implementation of a Community Innovation Consortium will occur in two distinct phases. During the initial phase, the framework for the consortium will be established. This involves the development of a specific charter, vision statement, and goals for the consortium and the recruitment of payers, providers, and consumers to participate in the consortium. The second phase will focus on launching partnership initiatives across the Commonwealth.



Figure 38. Community Innovation Consortium Rollout Strategy

In addition to the high level rollout strategy for the Community Innovation Consortium initiative, the Commonwealth has developed an implementation roadmap for each phase of the rollout. This roadmap, shown in Figure 39, contains a description of the activities that need to occur within each business area. It will serve as the foundation for a detailed workplan that will be created during the pre-implementation phase of a SIM testing grant.

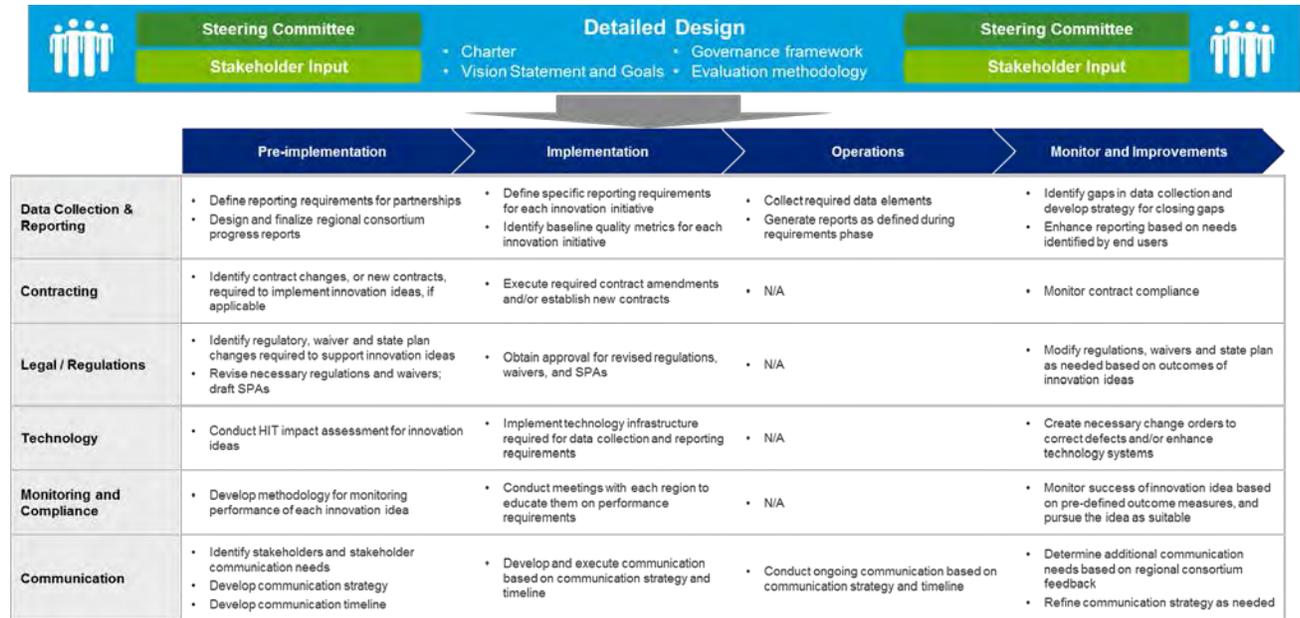


Figure 39. Community Innovation Consortium Implementation Roadmap

5.8 Supporting Strategies

While the focal points of this section have primarily been discussed in the Integrated & Coordinated Care and Payment Reform workgroups, the guiding principles and strategies developed by the Quality Strategy/Metrics, HIT Infrastructure, and Increased Access workgroups were also used in the development of the SIM reform initiatives. Each supporting strategy described below contains core elements deemed to be necessary and imperative to transform the Commonwealth's health care system. Kentucky SIM stakeholders and CHFS have done an immense amount of work over the past nine months to develop these strategies in support of the SIM initiatives, each of which can be applied to the four proposed reforms outlined in this plan.

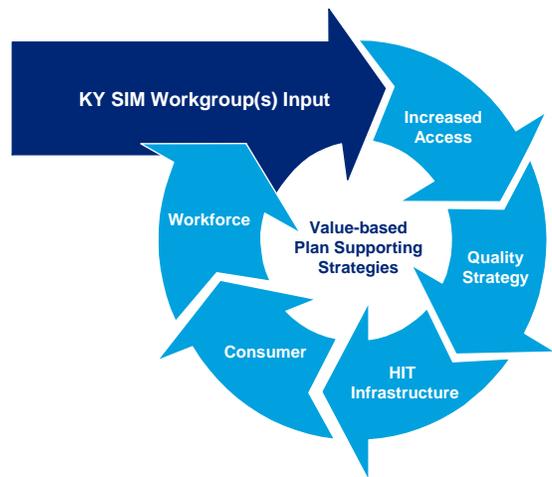


Figure 40. Value-based Plan Supporting Strategies

5.8.1 Increased Access

The Kentucky SIM Increased Access Workgroup was formed to establish a vision for health care delivery system transformation through a broad range of initiatives and the use of regulatory and statutory levers to advance Kentucky's SIM Model Design. The Workgroup developed a strategy that incorporates concepts and themes from the PHIP with particular attention to primary care and preventive services as well as improving rural access to health care services.

Examples of these strategies include increasing access to care in the Commonwealth by encouraging the co-location of primary care with specialty care, behavioral health, oral health services, and habilitation and rehabilitation services. The expansion of coverage for specific services, including telemedicine and tele-dentistry strategies, and diagnostic and preventive care, was also recognized as a strategy to increase access to care with a focus on prevention.

In addition to exploring co-location and expansion of services, it is clear that there are multiple administrative and/or business processes that can be improved upon to eliminate restrictions on care delivery. For example, Kentucky SIM stakeholders identified the need to revise current same-day Medicaid billing processes to allow for multiple visits across the care spectrum and reduce administrative barriers to telehealth, telemedicine, and tele-dentistry services. Reducing administrative burdens by standardizing and eliminating clinical and/or business process variation wherever possible can increase access to care across the Commonwealth. Several examples of where this standardization can occur to support this strategy include: provider licensure and credentialing, smoking cessation product formularies, smoking cessation reimbursement policies, prior authorization criteria for diabetes-related drugs and products, quality reporting across payers, language/translation services across payers, and others.

These strategies focused on increasing access to care are described at greater length in the Leveraging Regulatory Authority section of the SHSIP.

5.8.2 Quality Strategy

The Quality Strategy/Metrics Workgroup was formed to establish a vision and roadmap for more effective measurement of quality and quantifiable improvement in clinical outcomes, and the use of policy levers to advance Kentucky's SIM Model Design. In addition to developing the guiding principles for an overarching quality strategy, as well as the guiding principles for measure selection, the Quality Strategy/Metrics Workgroup identified several core elements that are focused at the statewide level, overarching each reform. These elements including linking all quality metrics to the PHIP goals and objectives, leveraging existing state and national efforts to consolidate measures and develop a core measure set, standardizing and streamlining quality reporting processes wherever possible, and developing a statewide quality reporting strategy that also measures quality improvement at the community level. This overall strategy will be used across Kentucky's SIM Model Design and will work to inform the individual quality components included within each reform

outlined in this plan. This overall quality strategy is described further in the Quality Measure Alignment section of the SHISP.

5.8.3 Health Information Technology (HIT)

The Kentucky SIM HIT Infrastructure Workgroup was formed to establish a vision for using HIT to advance Kentucky's SIM Model Design. In doing so, the workgroup worked to develop a HIT Plan that provides the data and analytical capability needed to support provider organizations, improve care coordination and delivery, and facilitate the real-time exchange of clinical data in order to improve population health. The HIT Plan leverages Kentucky's Quality Health Initiative (QHI) and the work of the Kentucky Health Information Exchange (KHIE) and Kentucky Health Data Trust (KHDT), while incorporating concepts and themes from the PHIP. Over the course of the Model Design, this workgroup identified several core elements to comprise an HIT strategy and discussed five key questions that were used to refine this strategy during the development of the HIT section of this plan.

Specifically, the workgroup recognized the need to move toward real-time data collection and sharing to increase collaboration within the SIM reforms, as well as the need to develop a more robust infrastructure for data analytics. In addition, SIM can be used to identify ways technology can be used to more actively engage consumers in taking a role in their health and their participation in transforming the Commonwealth's delivery system.

With the support of CHFS' Office of Administrative and Technology Services (OATS) – which administers a broad range of CHFS programs and services from information technology to facilities management and KHIE – the workgroup developed a five-part HIT Plan Strategy that will be used to develop the broader HIT Plan and support the value-based initiatives outlined in this plan. This strategy focuses on information, analytics, and reporting; engagement technologies; workflow and core application environments; population health management; and interoperability and integration. These strategic issues, as well as tactical approaches to make progress in each of the identified areas, are described at length in the HIT section of the SHSIP.

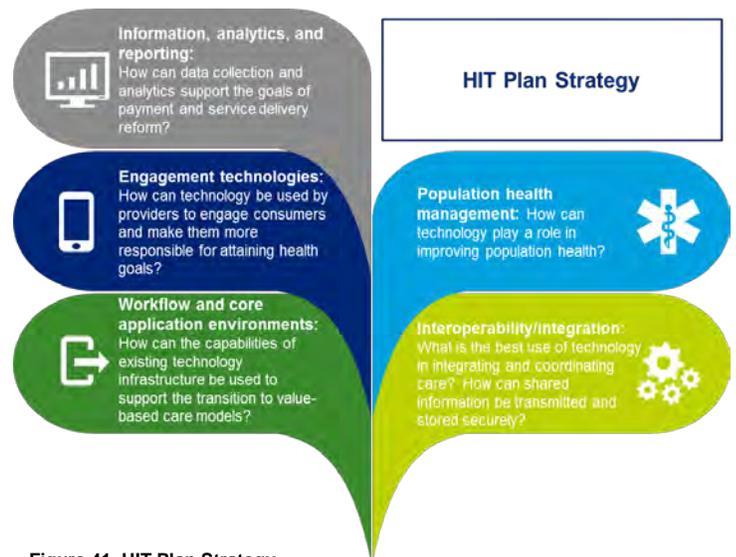


Figure 41. HIT Plan Strategy

5.8.4 Workforce Development

Another task of the Increased Access Workgroup was to explore workforce needs and local resource maximization strategies to support the SIM initiatives. The workgroup identified existing barriers to workforce development, as well as potential initiatives to support overcoming each barrier. The workgroup also identified workforce capabilities and recruitment and retention strategies to support providers participating in each reform initiative. Also, as part of the National Governor's Association (NGA) Policy Academy, the Commonwealth developed an action plan titled *Building a Transformed Health Workforce: Moving from Planning to Implementation* focused on developing health workforce strategies based on accurate data. This plan contains three core areas: data, pipeline, and health workforce planning. This action plan outlines vision statements, goals, and strategies in three core areas that will serve as the foundation for a workforce strategy for the SIM initiatives and inform the SIM Governing Body as it moves the Model Design from planning to implementation. This action plan and the workforce development strategies in support of the SIM initiatives are described at greater length in the Workforce Development Strategy section of the SHSIP.

5.8.5 Consumer Engagement and Accountability

Throughout the Model Design process, each Kentucky SIM stakeholder workgroup has identified the need for evidence-based consumer-specific strategies to support the SIM initiatives that delineates the role of the consumer in transforming the health care delivery system in Kentucky. While the four reforms outlined in this section contain targeted consumer education and communication strategies, stakeholders recognized the importance of having a consumer-specific strategy for health reform. This strategy would include a broader use of benefit design to encourage consumers to engage in healthier lifestyles and value-based plans. It would focus on individuals with, or at risk of developing, a chronic condition to encourage more active engagement and self-management of health issues. Stakeholders also recognized the importance of increasing consumer health literacy and cultural competency and in developing consumer ownership of their health. As alluded to in the Stakeholder Engagement section of this plan, CHFS and the SIM Governing Body plan to develop a formal consumer engagement strategy that considers each of these components for each of the initiatives described above.

6.0 Quality Measure Alignment

Central to the success of each SHSIP reform initiative will be a targeted quality measurement strategy that measures outcomes at both the individual reform level and at the overall model level to promote statewide transformation and population health improvement. This section outlines a systematic approach and framework for developing and aligning quality metrics and for monitoring and tracking the Commonwealth's progress towards its quality improvement goals as each SIM initiative is implemented. Kentucky's approach aligns with CMS' view that the development and use of quality measures is essential for ensuring that changes maintain or improve the quality of care and patient experience, and that quality measure alignment across payers is a critical success factor for each initiative.

Kentucky also agrees with CMS' recommendation that SIM states consider measures for each of the three components of the triple aim – the health of the population as a whole, the quality of care provided to individual patient panels, and the cost of care. By tying the quality measures used within each reform initiative back to the delivery system and payment reform goals outlined in the Value-based Health Care Delivery and Payment Methodology Transformation section of the SHSIP, Kentucky will be able to measure both the quality and cost improvements made by each value-based model and the model's overall impact on population health statewide.

More specifically, for the PCMH initiative, CHFS is proposing a payment structure that increasingly ties payments to outcomes over time. For the Medicaid FFS ACO initiative, it is CHFS' intention to use an approach similar to Medicare that gates attaining quality measures before any shared savings are distributed. CHFS also envisions a similar quality strategy to the Medicaid FFS ACO for the Medicaid and KEHP EOC initiative in which participants must pass through a quality gate before participating in system savings.

This section outlines the steps Kentucky has taken toward a quality measurement strategy as part of the Model Design process. It reviews the approach taken to engage stakeholders in the development of this strategy and describes in detail the outputs and results of this work. This section also outlines CHFS' proposed approach for building upon this initial work to maintain stakeholder commitment using a governance structure and following an evidence-based work plan for quality measure alignment amongst payers. This plan has been developed in direct response to stakeholder input, while leveraging successful strategies and lessons learned from other SIM states working towards the same goal of health system transformation.

6.1 Stakeholder Engagement

While Kentucky's overall stakeholder engagement strategy is described at length in the Stakeholder Engagement section of the SHSIP, it is important to address the priority role that this input has played in developing a successful quality strategy and the role of stakeholders moving forward. CHFS used several methods for engaging a wide range of stakeholders in developing the quality strategy, including providers, hospitals/health systems, payers, state agencies, community organizations, universities, and consumers. First, CHFS formed a targeted Quality Strategy/Metrics Workgroup,

driven by a workgroup charter, which met on a monthly basis to discuss a variety of different agenda topics and reach consensus on the strategies included in this plan. CHFS also released a robust inventory survey to develop a better landscape of existing reforms at the state level and the benefits/challenges associated with the quality measurement strategies being used. This two-pronged approach to stakeholder engagement, which will be further described in the next two sections, establishes a strong base for the continuation of a population health-focused, multi-payer SIM quality strategy beyond Kentucky's Model Design period.

6.1.1 Quality Strategy/Metrics Workgroup

As mentioned above as part of the broader stakeholder engagement strategy, CHFS established a Quality Strategy/Metrics Workgroup at the outset of the Model Design process with the primary responsibility of identifying measurement strategies based on broad stakeholder input. The goal of this workgroup was to establish a vision and roadmap for more effective measurement of quality and quantifiable improvement in clinical outcomes.

Prior to the Quality Strategy/Metrics Workgroup kickoff in March 2015, CHFS developed a formal charter that provided background information on CMMI and SIM, a mission statement, an approach to developing SHSIP components, a list of proposed workgroup topics and key questions, and a phased timeline for the length of the Model Design period. This charter enabled CHFS to engage workgroup members in an organized and targeted fashion and remain on track towards the development of its overall SIM quality strategy.

Upon the review and agreement of the Quality Strategy/Metrics Workgroup's charter during the workgroup's kickoff meeting, CHFS launched a series of monthly meetings and began to solicit stakeholder input regarding multiple different aspects of the SIM quality strategy. The workgroup maintained consistent attendance levels throughout the Model Design period, averaging approximately 50 stakeholders from across the health care landscape at six in-person workgroup meetings between March and October 2015 as outlined in Figure 43.



Figure 42. Quality Strategy/Metrics Workgroup Charter



*July Quality Workgroup was combined with Payment Reform and Integrated & Coordinated Care Workgroups for a joint session

Figure 43. Quality Strategy/Metrics Schedule and Attendance Metrics

Each Quality Strategy/Metrics Workgroup meeting focused on a key topic from the workgroup's charter that would benefit from stakeholder input and consensus prior to inclusion in the overall SIM quality strategy. Workgroup agenda topics varied month to month, but maintained common themes such as the Kentucky quality landscape, existing national and/or other state quality strategies, quality measure alignment with population health goals, and approaches to measure the success of Kentucky's reform initiatives – PCMH, ACO, EOC, and the Community Innovation Consortium. An outline of each workgroup meeting is provided in Figure 44.

March 2015	April 2015	May 2015
<ul style="list-style-type: none"> • “As-Is” Quality Strategy National and Kentucky Landscape • National and Kentucky SIM Goals • Workgroup Charter 	<ul style="list-style-type: none"> • Guiding Principles in Measure Selection • Guiding Principle Alignment with kyhealthnow Goals • Stakeholder Variation in Measure Goals 	<ul style="list-style-type: none"> • Advantages and Disadvantages of Leveraging Quality Strategies of Nearby SIM States and Nationally • Quality Strategies to Improve Population Health in the Context of the PHIP
June 2015	July 2015	October 2015
<ul style="list-style-type: none"> • Detailed Review of Draft Straw Person in Context of Quality Strategy for Each Reform Initiative (PCMH, ACO, EOC, and Community Innovation Consortium) 	<ul style="list-style-type: none"> • Stakeholder Panel Presentations on Existing Kentucky Efforts in Each Reform Area (PCMH, ACO, EOC, and Community Innovation Consortium) 	<ul style="list-style-type: none"> • Other State Approaches to Quality Measure Alignment, PCMH and ACO Measurement, and Behavioral Health and Oral Health Measurement • Presentation of Outline for SIM Quality Plan

Figure 44. Quality Strategy/Metrics Workgroup Topics

The organization and structure of the Quality Strategy/Metrics Workgroup allowed CHFS to facilitate strategic discussions and synthesize stakeholder input into actionable steps. The two key outputs from this work are sets of guiding principles for (1) the overall SIM quality strategy and (2) measure selection for each reform initiative. These guiding principles are described in further detail below.

6.1.2 Inventory Survey

In addition to launching and facilitating the Quality Strategy/Metrics Workgroup, CHFS surveyed existing quality measurement work in Kentucky as part of its stakeholder engagement process. The goal of this survey was to develop a comprehensive list/internal inventory of data related to existing reform initiatives to inform the development of the SHSIP. This inventory data was primarily used for internal, information-gathering purposes, however it directly influenced the development of agendas for stakeholder workgroup sessions as well as sections of the SHSIP. In the survey released to stakeholders in June 2015, CHFS asked a set of targeted questions related to quality to gauge stakeholders’ participation in quality measurement activities and their perceptions of successes and challenges:

1. Does your organization participate in quality initiatives supporting health reform within Kentucky?
2. Please describe the quality initiatives your organization participates in to support health reform.
3. What challenges have you faced in participating in these quality initiatives?
4. How does your organization measure success for each initiative?
5. Based on your organization’s definition of success, has your participation in these initiatives been successful?
6. What evidence can you provide to support the conclusion that your organization’s participation in quality initiatives has been either successful or unsuccessful?

CHFS received 123 stakeholder responses to the Quality component of this survey. Approximately 48 percent of the total stakeholder respondents indicated their participation in a quality initiative supporting health reform in some capacity. Of this group, approximately 53 percent described the level of success of their quality initiative as either extremely or very successful, and 42 percent described the initiative as neither successful nor unsuccessful. The remaining 5 percent described their initiatives as somewhat or completely unsuccessful.

CHFS also collected qualitative data from several of the survey questions listed above. This data was used to inform future Quality Strategy/Metrics Workgroup topics, identify panelists and presenters on individual reform efforts, and develop recommendations for quality governance described further below. For example, The Kentuckiana Health Collaborative

(KHC), in coordination with the development of the Greater Louisville Healthcare Transformation Plan, has been conducting both public and private consolidated measure reporting for almost ten years (Kentuckiana Health Collaborative, 2015). KHC is a consortium of over 60 organizations representing physicians, hospitals, health plans, employers, unions, and academic medical centers dedicated to improving community health and health care. The KHC provides multiple quality reports to individual providers and groups. Data supplied in these reports allow comparison to local and state average and benchmark scores on the quality of care patients received on select clinical areas of focus. Kentucky's private insurers provide data derived from their annual NCQA Healthcare Effectiveness Data & Information Set (HEDIS®) submissions.

KHC has also begun the development of a quality measure crosswalk amongst Kentucky private insurers and federal sources, which CMS has identified as a key first step toward identifying the universe of potential measures that are already being collected. This effort will be instrumental in working towards a multi-payer quality measure alignment strategy, and CHFS plans to leverage existing efforts such as KHC's to advance this work beyond the Model Design.

6.2 Guiding Principles

As previously noted, the key outputs from Kentucky's robust stakeholder engagement process were two sets of guiding principles focused on (1) the overall SIM quality strategy and (2) measure selection for each reform initiative. Both sets of guiding principles were based upon direct stakeholder input gathered during in-person, facilitated workgroup sessions, and were subsequently compiled and reported back to the workgroup for review. Both sets of guiding principles will be used beyond the Model Design period to implement an overall quality strategy for the SIM initiatives, both at the individual reform and overall model levels. As further described in the Quality Governance section of this plan, CHFS will be establishing Steering Committees and a Quality Committee that will help apply these guiding principles to the SHSIP components and select measures that are multi-payer aligned, actionable, and focused on population health.

6.2.1 Guiding Principles for an Overall Quality Strategy

The first set of guiding principles were developed by the Quality Strategy/Metrics Workgroup and finalized in June 2015. These principles for an overall quality strategy are designed to inform the selection of a SIM core measure set that focuses on monitoring and tracking state progress towards quality improvement goals for the population, providers, and payers, through the Model Design. During workgroup meetings between April and June 2015, stakeholders reviewed and provided feedback on the overall quality strategies used in other SIM states, with particular attention focused on SIM Round One Model Test states. The workgroup also considered national sources such as The National Quality Strategy (NQS) led by the Agency for Healthcare Research and Quality (AHRQ) and the Institute of Medicine (IOM). After establishing this baseline, the workgroup focused on answering a set of key questions and compiling responses into a draft strategy:

1. How can we ensure that population health measures are integrated into the transformed delivery system?
2. How can we create a consistent multi-payer quality measure strategy that establishes payers' commitment?
3. What regulatory and/or policy levers are needed to design a statewide quality strategy?

Based upon stakeholder responses to these questions and using the keys to success and reasons for failure from Kentucky's experiences, as well as approaches taken in other SIM states, the workgroup reached consensus on a set of guiding principles. While each individual value-based initiative outlined in this plan will have its own quality strategy and measure set, Kentucky recognizes the need to measure SIM's success statewide. Therefore, the Quality Committee will use these guiding principles as outlined in Figure 45 to develop this measurement strategy – a process that is further described in the Quality Governance and Future State Quality Measure Alignment sections of this plan.

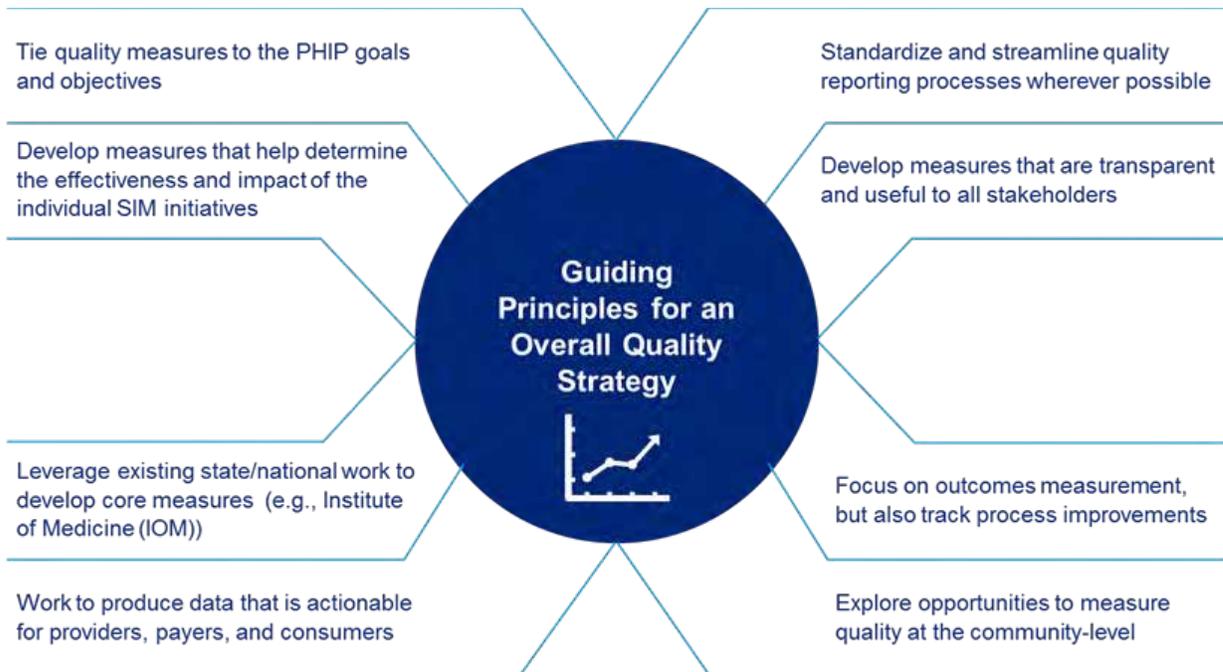


Figure 45. Guiding Principles for an Overall Quality Strategy

6.2.2 Guiding Principles in Measure Selection

Through a similar process taken to develop Kentucky’s guiding principles for an overall quality strategy, the Quality Strategy/Metrics Workgroup developed a set of guiding principles to select meaningful metrics related to the progress of each transformation plan component in April 2015. The workgroup began this process by reviewing similar sets of guiding principles for measure selection in other SIM states, again paying particular attention to SIM Round One Model Test states, and providing feedback on successes and failures of each model. The workgroup also considered the strategies proposed by the IOM in its April 2015 report release titled *“Vital Signs: Core Metrics for Health and Health Care Progress”* which outlines a set of core measures focused on yielding the clearest understanding and focus on better health and well-being for Americans (Institute of Medicine, 2015). Using this national research in conjunction with stakeholder presentations on Kentucky’s experience, the workgroup sought to answer the question of what Kentucky’s guiding principles should be when selecting measures for the SIM initiative.

The Commonwealth understands the differences between PCMHs, ACOs, EOCs, and the Community Innovation Consortium will result in each initiative outlined in this plan having its own quality strategy and measure set. Therefore, the individual Steering Committees for each reform initiative will use these guiding principles as outlined in Figure 46 to help develop the most appropriate multi-payer measure sets for each reform initiative. The Quality Committee’s role will be to coordinate with each Steering Committee in an effort to help develop a cohesive quality strategy across all the reform initiatives – a process that is further described in the Quality Governance section of this plan.

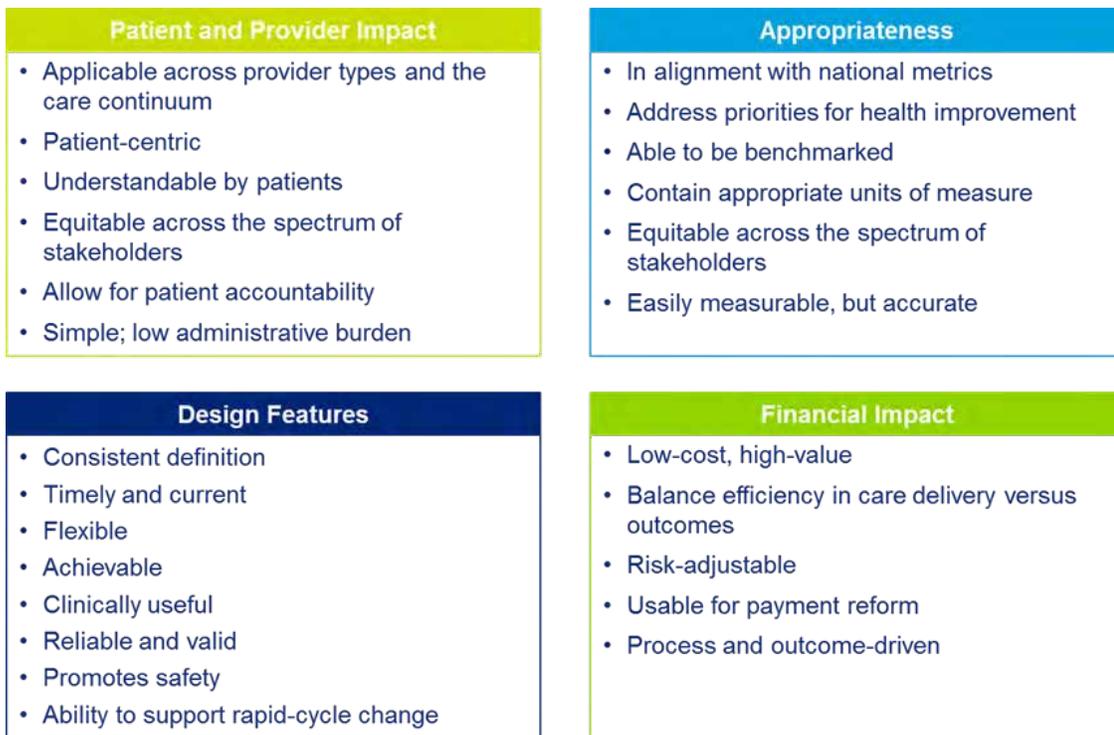


Figure 46. Guiding Principles for Measure Selection

6.3 Quality Governance

6.3.1 Quality Committee

As outlined in the Value-based Health Care Delivery and Payment Methodology Transformation section of the SHSIP, a formal governance structure has been established through an administrative order signed by the Secretary of CHFS to help carry forward the health system transformation efforts begun during the SIM Model Design period. This administrative order establishes a SIM Governing Body that will be responsible for overseeing the combined success of each SIM reform initiative. The administrative order also establishes a Quality Committee, which will be responsible for developing a comprehensive, cohesive quality strategy across all the reform initiatives. The placement of the Quality Committee within the SIM governance structure is highlighted in Figure 47 to demonstrate the two-way communication that will occur between this committee and the Steering Committees for each reform.

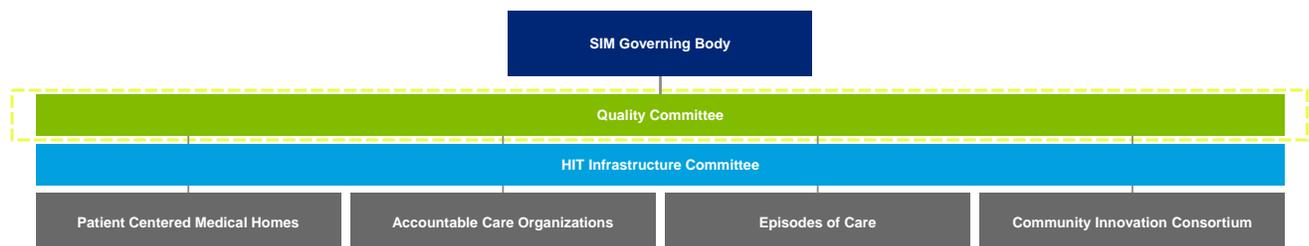


Figure 47. SIM Governance Structure

The Quality Committee will have several responsibilities, which will be outlined in an official charter that will be developed at the beginning of the SIM pre-implementation period. At a minimum, the Quality Committee will be responsible for the following tasks:

- Work with each Steering Committee to help develop a cohesive quality strategy across all the reform initiatives
- Leverage the work of the Quality Strategy/Metrics Workgroup and specifically focus on applying the guiding principles developed by this workgroup
- Support the development of the quality strategies of each Steering Committee, monitor each reform initiative's performance against quality metrics, and report quality outcomes for each reform initiative to the Steering Committees and the SIM Governing Body
- Support the development and monitoring of adherence to an overall quality strategy and measure impacts on PHIP-driven population health metrics
- Support the development of a SIM dashboard, which will outline progress against population health goals and goals for each reform initiative

6.3.2 Steering Committees

While the Quality Committee will be responsible for aligning measures across each SIM reform initiative, each reform Steering Committee, working with the Quality Committee, will be responsible for recommending quality measures specific to its respective reform efforts. The Steering Committees will use the Quality Measure Alignment Tool provided by CMS to help develop an inventory of quality measures and prioritize the ones most relevant to each SIM reform initiative. The alignment tool has the ability to intake the guiding principles for measure selection and rank a series of metrics based on their appropriateness for each reform initiative. More specifically, it will be the Steering Committees' roles, in consultation with the Quality Committee, to help identify the specific process that will be used to select measures using guiding principles for measure selection (e.g., ranking prospective measures, developing a consensus process to eliminate measures, determining decision-making authority over the final set, and/or identifying measurement gaps).

6.4 Overview of Kentucky's Quality Strategy

In addition to developing the guiding principles for an overarching quality strategy, as well as the guiding principles for measure selection, the Quality Strategy/Metrics Workgroup identified four core elements that are focused at the statewide level, overarching each reform. These elements are:

1. Linking all quality metrics to the PHIP goals and objectives,
2. Leveraging existing state and national efforts to consolidate measures and develop a core measure set,
3. Standardizing and streamlining quality reporting processes wherever possible, and
4. Developing a statewide quality reporting strategy that also measures quality improvement at the community level.

This overall strategy will be used across Kentucky's SIM Model Design and will work to inform the individual quality components included within each reform outlined in this plan.

6.4.1 Link quality metrics to the PHIP goals and objectives

One of the guiding principles established early in the SIM Model Design process centers around developing a quality strategy that ties the SIM reform initiatives to the goals outlined in the PHIP. Specifically, Kentucky's ongoing population health initiatives, kyhealthnow and *Unbridled Health*, as well as feedback from SIM stakeholders, formed the foundation for the current population health goals at the center of the SIM Model Design:

- Reduce Kentucky's smoking rate by 10 percent
- Reduce the rate of obesity among Kentuckians by 10 percent
- Reduce Kentucky cancer deaths by 10 percent

- Reduce cardiovascular deaths by 10 percent
- Reduce the percentage of children with untreated dental decay by 25 percent and increase adult dental visits by 10 percent
- Reduce deaths from drug overdose by 25 percent and reduce by 25 percent the average number of poor mental health days of Kentuckians
- Decrease by 10 percent the percentage of Kentuckians with diabetes whose most recent hemoglobin A1C level was greater than 9 percent during the preceding year

This guiding principle has remained central to the SIM Model design and will be foundational to the development of quality metrics for each reform initiative. It will be the responsibility of the Quality Committee to work with the Steering Committees for each reform initiative to establish, where possible, a causal linkage/relationship between the attainment of quality goals selected for each initiative and the achievement of the PHIP's population health goals. This responsibility will be outlined in the Quality Committee's charter, which will be developed during the pre-implementation period. Also, to strengthen the connection between the overall quality strategy and the population health goals outlined in the PHIP, CHFS will focus on aligning data collection and reporting requirements for providers with the achievement of these goals. Once the quality measures for each reform initiative are selected and the linkage between these measures and the PHIP is established, it will be important to align the data collection and reporting requirements for providers to report on these measures as well. The data collection and reporting processes necessary as part of SIM are described at greater length in the HIT section of this plan.

6.4.2 Leverage existing state and national efforts to develop a core measure set (e.g., the IOM)

Throughout the stakeholder engagement process, the SIM team received many comments that the SIM Model Design should simplify an already complex health care landscape. Stakeholders overwhelmingly agreed that, where possible, administrative simplification and streamlining of quality reporting and processes should guide the development of a core measure set to track the progress of each SIM reform initiative and the overall success of the SIM effort. With that in mind, Kentucky is committed to aligning with ongoing state and national efforts to develop a core measure set for the SIM initiative. In particular, the work that has been done by KHC to promote the consolidation and public reporting of quality data across the state will provide a foundation from which the Steering Committees can build upon in helping to develop a set of measures.

From a national perspective, CMS and the IOM have done extensive work developing a set of core measures related to population health and health care reform efforts. Specifically, the CMS measure inventory, which contains over 2,000 process, outcome, patient engagement, and other measures, includes core sets for various reform initiatives, such as ACOs. The 17 ACO measures will be considered by the ACO Steering Committee throughout the selection process. Additionally, the IOM published a core measure set containing 15 categories of health, process, patient engagement, and other measures in 2015. These measures will also be evaluated and form the foundation for the selection of metrics for each reform initiative. In addition to IOM, CHFS has reviewed the measures that are being developed by the National Dental Quality Alliance (NDQA) as it relates to the oral health components of this plan. The NDQA work as well as other national sources of targeted measures will be reviewed as potential frameworks for incorporating other care types (e.g., oral health, behavioral health, and community-based care) into each reform initiative.

Once a universe of measures has been identified, each Steering Committee, under the guidance of the Quality Committee, will help prioritize the universe of measures for each reform initiative using the CMS tool for measure prioritization. This will help to simplify and de-duplicate a vast inventory of measures for each reform initiative. After each Steering Committee has helped to develop a prioritized list of measures, the Quality Committee will work to create alignment and harmonization across all the reform initiatives prior to publicizing a final set of measures.

6.4.3 Standardize and streamline quality reporting processes wherever possible

As stated previously, stakeholders throughout the Commonwealth reiterated the need to simplify reporting requirements and processes wherever possible. They also talked about the limited resources of smaller provider practices, and the need to accommodate providers who may have different capabilities with regards to quality reporting. In response to that, one of the primary tasks of the Quality Committee will be to gain multi-payer and provider support for quality reporting requirements developed throughout the SIM pre-implementation period. This will be accomplished in two primary ways: 1) broad representation of providers and payers on the Quality Committee, and 2) recurring meetings with payers and multi-disciplinary providers throughout the measure selection process. The recurring nature of these meetings will allow the Quality Committee to incorporate the feedback they receive from stakeholders into the guidance they provide to the Steering Committees for each reform initiative, as well as provide a channel the Quality Committee to update stakeholders on the progress of measure development.

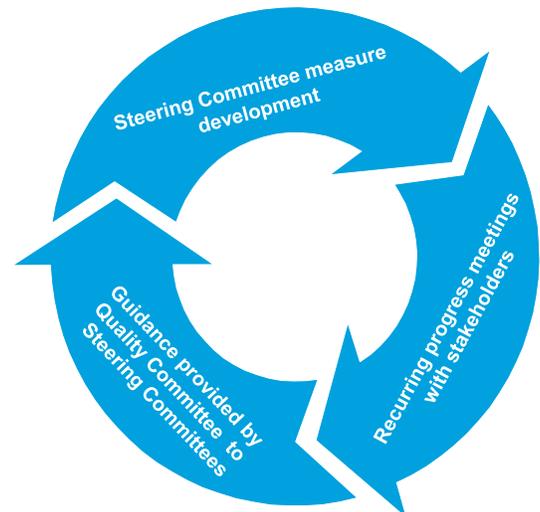


Figure 48. Measure Development Lifecycle

6.4.4 Develop a statewide quality reporting strategy that also measures quality improvement at the community level

As described in the Value-based Health Care Delivery and Payment Methodology Transformation section of the SHSIP, one of the four key reform initiatives that Kentucky has designed as part of SIM is the Community Innovation Consortium. This initiative was designed in response to stakeholder input that Kentucky's rural nature and its strong reliance on community providers puts the Commonwealth in a unique position to implement delivery system and payment reform changes statewide. One of the functions of the Consortium is to encourage the development of innovations in response to community health needs assessments and how they fluctuate within different populations or regions. Once the Community Innovation Consortium is formed and projects/initiatives within it are launched, it will be important to individually measure each project/initiative and the impacts the project has at the community level. The Quality Committee will work closely with the SIM Governing Body to help develop and implement HIT strategies to build out the capacity to collect and analyze data at the community and regional level. It will be the responsibility of the Consortium's Steering Committee to help develop a reporting strategy and select quality measures for the community-based reforms that are able to measure success within distinct populations, geographies, and health statuses.

Supporting Elements

In addition to developing a set of core elements as part of an overall quality strategy, the Quality Strategy/Metrics Workgroup also generated a list of action steps and strategies that can be taken to support the core elements described above. These supporting elements were generated through workgroup discussions and consensus for their inclusion in this plan was reached in June 2015. Each supporting element represents either an existing initiative within the Commonwealth that SIM would benefit from aligning with or new measurement and/or monitoring strategies that should be used in the future measurement of the SIM initiatives.

Expand Medicaid MCO quality incentive program

The first supporting element relates to Kentucky's Medicaid program and how CHFS measures the performance of MCOs. DMS requires that Kentucky's Medicaid MCOs measure and report to the state its performance, using standard measures required by the state or data submitted to the Commonwealth that enables the state to measure the MCOs' performance. MCO performance measures (PMs) are reported annually. These PMs, selected by DMS, include both the HEDIS® and state-specific PMs which are based upon the Healthy Kentuckians 2010 and Healthy Kentuckians 2020 goals and health care priorities identified by DMS. Together, the measures address the access to, timeliness of, and quality of care provided for children, adolescents, and adults enrolled in managed care with a focus on preventive care, health screenings, prenatal care, as well as special populations (e.g., adults with hypertension, children with special health care needs). SIM stakeholders have supported the concept of adopting an expanded Medicaid MCO quality incentive program to align with each SIM initiative and promote the standardization of measure sets and streamlined reporting. It was also noted that as more states require their Medicaid MCOs to support and implement value-based purchasing strategies that are linked to their incentive and/or withhold programs, consideration should be given to developing a similar approach for Kentucky's MCOs.

Leverage existing community health needs assessments when developing quality goals for each reform initiative

It was noted during several of the stakeholder sessions that it is important to coordinate on-going health planning activities at the community level with provider and state based health planning efforts. Building off this concept, the second supporting element recommends that the SIM initiatives leverage provider-reported data within existing community health needs assessments when setting quality goals. This supporting element works to maintain the focus on population health improvement through delivery system and payment reform, but recognizes that this transformation can pose burdens for providers. Leveraging existing reporting structures such as community health needs assessments is an example of how SIM can standardize and streamline reporting processes wherever possible, subsequently reducing administrative burdens on providers, while still impacting the health of Kentuckians.

Improve measurement strategy of screening and counseling activities

To truly make progress on population health improvement in Kentucky, the Commonwealth must expand its focus beyond medical care for and treatment of the chronic conditions to early interventions and preventive care. The Quality Strategy/Metrics Workgroup recognized the need for this paradigm shift and how measuring the effectiveness of screening and counseling services offered by providers could improve outcomes. Therefore, the third supporting element calls for the Quality Committee and the individual Steering Committees to consider the inclusion of quality measures related to screenings, preventive care, and early interventions when developing the quality measurement strategy for each initiative. To be successful, the overall SIM quality strategy must consider the full continuum of care as it relates to measure development. This supporting element is an example of how better evaluation of specific providers and service categories can help drive a more comprehensive care model centered around population health improvement.

Promote rapid cycle evaluation and monitoring

The fourth supporting element focuses the continuous improvement of each of the Commonwealth's initiatives. CHFS agrees with CMS' guidance on the importance of promoting monitoring and rapid-cycle evaluation to encourage real-time program improvement. As prefaced by one of the guiding principles for measure selection outlined above, Kentucky SIM stakeholders reached consensus around the importance of the SIM overall quality strategy promoting rapid-cycle evaluation to assess performance within the reform initiatives. It is expected that the Quality Committee and the individual Steering Committees will develop their measurement strategies to allow for early evaluation of each step of the initiatives in order to facilitate needed changes in the design of the initiatives. Once executed, this strategy would provide the Commonwealth with the ability identify promising practices and positive impacts made on health care cost and quality by SIM.

6.4.5 Data Sources

In order to calculate and report on the quality metrics recommended by each SIM reform Steering Committee, the Commonwealth is committed to undertaking a data needs assessment at the beginning of the pre-implementation period of the SIM project. This data needs assessment will entail developing an inventory of the current data available publicly across the Commonwealth, identifying the data needed to calculate and report on progress being made against quality metrics, and developing a plan to obtain data that is required, but that is not currently available or being collected. The data needs assessment tool shown in Figure 49 will provide the Commonwealth with a template to track the data needs for each of the chosen metrics, as well as evaluate progress towards having the ability to collect needed data.

SIM Reform	Metric	Data Source	Data Owner	Currently Available?	Relevant Data Stakeholders
	<i>(e.g. Readmission within 30 days)</i>	<i>(e.g., Claims)</i>	<i>(e.g. Medicaid)</i>	<i>(e.g. Yes)</i>	<i>(e.g., State, Payers)</i>
PCMH					
ACO					
EOC					
Community Innovation Consortium					

Figure 49. Data Needs Assessment Tool

6.5 Future-State Quality Measure Alignment

As Kentucky’s SIM initiatives span several different multi-payer delivery system and payment reform efforts, measuring the overall success of the Model Design will require a targeted measurement effort that consists of stakeholder engagement, governance, and continuous improvement. Kentucky plans to focus on quality measurement alignment among the Commonwealth’s payers as a key element of this measurement strategy because of its potential to improve delivery system performance and significantly reduce the administrative burden on providers. By studying other SIM state approaches to quality measure alignment, the Commonwealth recognizes that a successful strategy will require committed stakeholder engagement to pursue measure alignment across public and private payers, combined with a well-founded governance structure and consensus process for both developing and continuously improving the core measure set.

6.5.1 Work Plan

Leveraging successful approaches taken by other SIM states who are currently testing their models, CHFS developed a detailed work plan focused on achieving stakeholder buy-in and developing a set of SIM Core Measures that will, by aligning quality measures across all payers in the state and being mapped to the PHIP goals, measure the statewide progress across the PCMH, ACO, EOC, and Community Innovation Consortium initiatives.

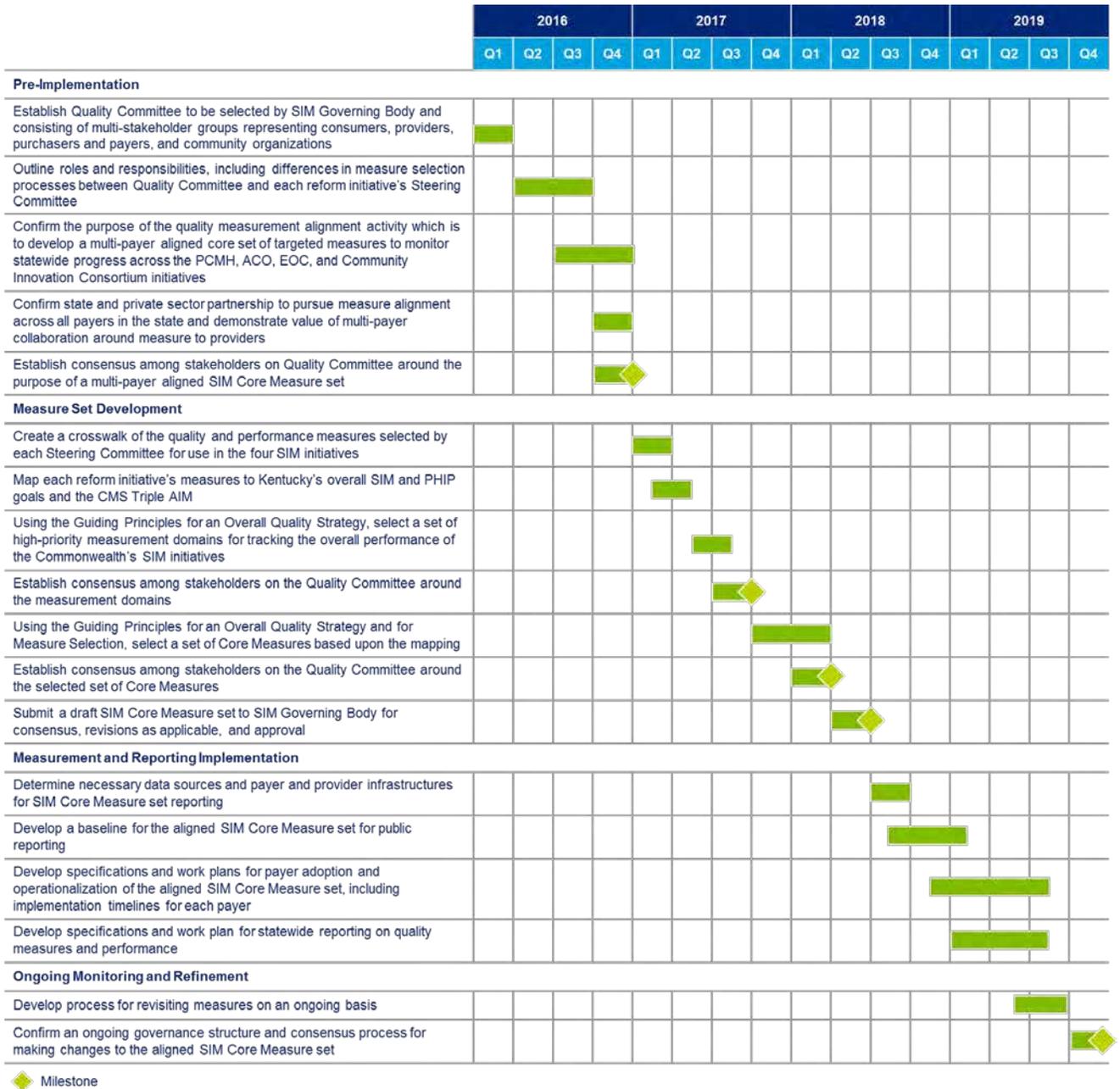


Figure 50. Quality Measure Alignment Work Plan

7.0 Monitoring and Evaluation

The monitoring and evaluation plan described in this section is designed to help SIM stakeholders learn about both the process of the SIM reform initiatives being implemented and the outcomes of Kentucky's Model Design. The evaluation is an ongoing collaborative effort between the selected external evaluator, the Quality Committee, and SIM Governing Body to identify outcome measures. In addition, the evaluator will collaborate with state agencies tasked with monitoring aspects of the State Health System Innovation Plan (SHSIP) and other system transformation initiatives. For example, the evaluation team will collaborate with the SIM Quality Committee, which is tasked with monitoring progress in achieving the kyhealthnow goals included as part of the PHIP. The efforts under the external evaluation will also tie into the proposed rapid cycle feedback and consumer engagement.

The evaluation and monitoring plan comprises two overarching evaluation goals:

1. A process evaluation to assess implementation of the core goals and objectives of each SIM reform initiative. This qualitative aspect of the evaluation is formative in that it will inform the implementation process, allowing for rapid-cycle feedback and the opportunity to modify the implementation process in real-time.
2. An outcome evaluation to monitor the progress and outcomes of each reform initiative proposed.

The evaluation team will employ a mixed methods analytic approach, using both qualitative and quantitative methods to ascertain the ultimate impact of the project on the health care delivery system and patient outcomes, as well as possible reasons for achieving or not achieving the program goals. To the extent possible, the evaluation will focus on determining the causal effects of the project in the context of any simultaneous policy and programmatic interventions occurring in Kentucky. Data from the evaluation will be used in the SIM dashboard. To protect objectivity of the evaluation team, the evaluation functions proposed below are designed to be entirely separate from the formal communication and dissemination functions of the Cabinet under the SHSIP.

7.1 Process Evaluation

The process evaluation will focus on assessing stakeholder perceptions of implementation processes and opportunities for improvement. Stakeholder groups such as payers, providers, health service delivery organizations, consumers and consumer advocates, state agencies, policymakers, community-based social service organizations, and other health researchers each have an important perspective on the project, as described by the Agency for Healthcare Research and Quality and summarized in Table 16.

Stakeholders	Stakeholders' Perspective
Consumers, patients, caregivers, and patient advocacy organizations	It is vital that research answer the questions of greatest importance to those experiencing the situation that the research addresses. Which aspects of an illness are of most concern? Which features of a treatment make the most difference? Which kinds of presentation of research results are easiest to understand and act upon?
Clinicians and their professional associations	Clinicians are at the heart of medical decision-making. Where do we lack good data about diagnostic or treatment choices causing the most harm to patients? What information is needed to make better recommendations to patients? What evidence is required to support guidelines or practice pathways that would improve the quality of care?
Health care institutions, such as hospital systems and medical clinics, and their associations	Many health care decisions are structured by the choices of institutional health care providers, and institutional health care providers often have a broad view of what is causing problems. What information would support better decisions at an institutional level to improve health outcomes?
Purchasers and payers, such as employers and public and private insurers	Coverage by public or private purchasers of health care plays a large role in shaping individual decisions about diagnostic and treatment choices. Where does unclear or conflicting evidence cause difficulty in making the decision of what to pay for? Where is new technology or new uses of technology raising questions about what constitutes a standard of care? What research is or could be funded?

Health care industry and industry associations	The manufacturers of treatments and devices often have unique information about their products.
Health care policymakers at the Federal, State, and local levels	Policymakers at all levels want to make health care decisions based on the best available evidence about what works well and what does not. Comparative effectiveness research/patient-centered outcomes research can help decision-makers plan public health programs, design health insurance coverage, and initiate wellness or advocacy programs that provide people with the best possible information about different health care treatment options.
Health care researchers and research institutions	Researchers gather and analyze the evidence from multiple sources on currently available treatment options.

Table 16. Stakeholder Groups and Perspectives (AHRQ, 2014)

Documenting input on implementation from each of these stakeholder groups will provide meaningful information to the SHSIP implementation team and the Commonwealth as implementation progresses. The qualitative evaluation will address the following six research questions:

1. To what extent have the SIM strategies been implemented?
2. What are the barriers to and facilitators of implementation?
3. What modifications were undertaken and in response to what?
4. What opportunities exist for improving implementation of identified strategies?
5. What are the lessons learned relative to increasing access to care, increasing integration and coordinated care, improving systemic efficiency and effectiveness, expanding the HIT infrastructure, and improving population health?
6. To what extent do stakeholders perceive that the program goals were achieved, and why or why not?

Data will be collected routinely via semi-structured key informant interviews and using document review of publicly available information. As necessary, different interview modules will be designed and used to target particular respondent types and perspectives. Stakeholder perspectives identified through the process evaluation will be reported back to the SIM Governing Body for use in ongoing quality improvement and strengthening of the SHSIP. The data collection process will complement other efforts to engage consumers, such as those of Kentucky Voices for Health (KVH), a statewide coalition whose mission is to advocate for access to high quality, affordable health care for all Kentuckians. As a coalition, KVH not only collaborates with other advocacy agencies, but also routinely engages Kentuckians through outreach within local communities regarding barriers to and opportunities for achieving health.

7.2 Outcome Evaluation

The goal of the outcome evaluation is to determine the extent to which the initiatives developed through the Model Design project contribute to achieving the Triple Aim: improved health, improved care, and decreased costs. The evaluation and monitoring plan is structured around the major goals outlined in the SHSIP:

1. Alignment with PHIP Goals
2. Population Reach
3. Cost Savings

All efforts to measure and evaluate the impact of the strategies designed to achieve each of these goals will align with the efforts of the Quality Committee to understand the patient and provider impact, appropriateness and design features of implemented strategies, and the financial impact of each. The Kentucky Health Data Trust is a key resource for this evaluation, providing data to examine the impacts of the reform initiatives outlined in the SHSIP. The Kentucky Health Data Trust will combine a number of data sources, linking them together to enhance the ability to track health outcomes, and

provide the capability to examine quality and value within the health care system. These data sources include, at a minimum: claims from Medicaid, Medicare, the Kentucky Employee Health Plan, commercial carriers, and self-insured plans; Vital Statistics; Kentucky All Schedule Prescription Electronic Reporting (KASPER); Kentucky Health Information Exchange; Kentucky Health Benefits Exchange; Department of Behavioral Health, Developmental and Intellectual Disabilities; and public universities. The KHDT is currently in its development stage, with the goal for full implementation by the end of 2017. In the interim, SHSIP evaluation will rely independently on each of the data sources as appropriate.

A description of the outcome evaluation, organized by these goals is provided below.

- 1. Alignment with PHIP Goals.** The population health goals outlined in the PHIP form the foundation for the overall SHSIP. Each payment and service delivery reform is designed to drive Kentucky’s population closer to reaching these established goals.

The evaluation and monitoring plan will link closely to efforts to track progress against the population health goals identified in Table 17. As the final evaluation methodology is developed, the external evaluator will work with the kyhealthnow Oversight Team and the SIM Governing Body to map each SHSIP strategy to specific population health outcomes.

SIM Population Health Goals
Reduce deaths from drug overdose by 25% and reduce by 25% the average number of poor mental health days of Kentuckians
Reduce cardiovascular deaths by 10%
Reduce the rate of obesity among Kentuckians by 10%
Reduce Kentucky’s smoking rate by 10%
Reduce Kentucky cancer deaths by 10%
Reduce the percentage of children with untreated dental decay by 25% and increase adult dental visits by 10%
Decrease by 10% the percentage of Kentuckians with diabetes whose most recent hemoglobin A1C level was greater than 9% during the preceding year

Table 17. SIM Population Health Goals

Data sources such as the Behavioral Risk Factor Surveillance System (BRFSS), National Health Interview Survey, National Health and Nutrition Examination Survey, National Survey on Drug Use and Health, Kentucky Health Data Trust, Medicaid claims data for dental care, and vital records will be used to measure attainment of these goals. However, in an effort to reduce duplication, the evaluator will work with the kyhealthnow Oversight Team to coordinate responsibility for measurement of these goals.

- 2. Population Reach.** As outlined in Kentucky’s SIM application, the Commonwealth’s vision is to implement comprehensive payment reform mechanisms that align economic incentives with population health goals, ideally impacting at least 80 percent of the covered population. Kentucky has formulated a framework for payment reform based on the principles of moving payers and providers toward value-based purchasing, setting evidence-based benchmarks for care, and capturing and using data in a consistent and actionable manner.

In collaboration with the SIM Governing Body, the Quality Committee, and each Steering Committee, the external evaluator will identify appropriate participation, utilization, quality, and patient and provider satisfaction measures for evaluating the impact of the PCMH, ACO, and EOC models. Participation will be measured through assessment of the number of providers adopting, payers covering, and consumers receiving care within each of the PCMH, ACO, and EOC models. Utilization data related to inpatient and outpatient hospital services, physician services, prescription drugs, as well as quality data from both the provider and patient perspective are essential for measuring value-based care. Further, linking outcomes under this goal with potential cost savings, or a reduction in the growth of health care costs, as measured under Goal 3 is critical for understanding the overall impact of SHSIP. Potential data sources for these analyses include the Kentucky Health Data Trust (specifically claims data), BRFSS (patient-reported), Health Cost and Utilization Project

(HCUP), and the Consumer Assessment of Healthcare Providers and Systems (CAHPS; patient-reported). In addition to analyzing secondary data, patient and provider quality outcomes may be assessed directly by deploying CAHPS and provider satisfaction surveys to patients and providers affected by each of the reforms. The evaluator will also use provider reports from participating delivery organizations to assess the number of individuals impacted by these initiatives.

As health information technology is a key component of the SHSIP, the evaluator will also work with the HIT Committee to incorporate measures of HIT implementation and utilization across the state. Measures may include those related to HIT implementation at an organizational level, progress on developing and implementing statewide databases, submission of provider and payer data into state databases, use of data systems to report back to providers, and the extent to which those HIT systems are integrated across communities. Additionally, the evaluation will track outcome measures such as adherence to clinical practice guidelines, decreased medical errors and adverse events, and changes in utilization (Chaudhry, 2006). Data sources will include provider reports, document review, the American Hospital Association Annual Survey IT Database, and the Kentucky Health Data Trust or other claims-based data sources to measure outcomes. Administrative data may not be the most reliable method of measuring medical errors and adverse events, so the external evaluator will work with the Quality Committee to identify other reporting systems to monitor these outcomes (Thomas, 2003).

Finally, under this goal, the evaluator will measure the operation and impact of the Community Innovation Consortium, which is designed to bring community providers and payers together to identify innovations that address community and consumer needs. As proposed by the SIM workgroups, measures of the Community Innovation Consortium may include:

- Number of participating community-based organizations
- Number of participating payers
- Number of participating providers
- Number of community health initiatives implemented
- Number of Kentuckians reached by community health initiatives

3. Cost Savings. While a demonstration of cost savings is a required component of the SIM initiative, the Commonwealth believes savings will ultimately result from the more important result of improving population health outcomes. Implemented together, all the reform initiatives detailed in this plan are designed to help the Commonwealth achieve a targeted two percent cost savings over a four-year implementation period.⁹

Evaluation efforts under this goal will link strategies under Goal 2 to measures of cost and value, including the total cost of care per person, as well as overall utilization and quality metrics. Where possible, health outcomes will be ascertained from clinical data using the Kentucky Health Data Trust or other clinical records. Additionally, organization-level financial data may be queried. Cost savings will be aggregated to the state-level to measure success in achieving a two percent cost savings over the implementation period.

7.3 Analysis Plan

Process evaluation data will be analyzed using qualitative research methods described by Miles, Huberman, and Saldaña (Miles, 2014). The methods they describe provide a structured approach to managing and coding qualitative data and synthesizing results. All data under the outcome evaluation will be analyzed longitudinally, where possible, to identify trends, examine the impact on sub-groups (e.g. stratify analyses by race, ethnicity, gender, disability status, among others), and determine the differential effects of the strategies over time. While a true experimental design is not feasible, quasi-experimental methods for assessing change over time will provide data and information to monitor outcomes of the program and provide evidence for future expansions or innovations. The evaluator will monitor trends of average and median out-of-pocket medical expenditures of Kentucky residents compared against trends in neighboring states. Sub-

⁹ “Cost savings” refers to the dollar value of the amount of cost avoidance that can be attributed to a reduction in the growth of health care costs as a result of implementing the initiatives described in this plan.

group analyses will also help to determine if there are specific groups and service regions in the state that recognized a greater share of cost savings. By monitoring cost savings, or a reduction in the growth of health care costs, alongside population health improvements, the value of the SHSIP program will be assessed.

Since much of the data that will be used for the evaluation is administrative and longitudinal survey data, the evaluation is able to assess baselines prior to Medicaid Expansion, ACA implementation, and SHSIP implementation. This allows for monitoring to change over time and accounts for continuous changes in the health care landscape in Kentucky. In addition to administrative data sources, national survey data sources used to monitor the effects of state policies will be prepared for this component of the evaluation including multiple years of the Current Population Survey (CPS) and the Consumer Expenditure Survey (CES). The benefit of adding national surveys to the evaluation is adding another benchmark to test the sensitivity of the evaluation results. Combining analyses of data from the CPS and CES against behavioral analyses from the BRFSS will also help allow the evaluators to determine the cost savings to the state as well as to individuals.

8.0 Health Information Technology (HIT)

The Commonwealth recognizes that building a strong technology infrastructure will be a critical success factor for the health reform initiatives identified in the SIM Model Design (e.g., PCMH, ACO, EOC, and Community Innovation Consortium). Kentucky is already recognized as a national leader with respect to large-scale HIT initiatives, such as KHIE, the Kentucky All-Schedule Prescription Electronic Reporting (KASPER) system, and kynect, the Commonwealth's health benefits exchange (HBE). The Commonwealth proposes to build upon its progress to date by leveraging the infrastructure and systems already in place in order to achieve the population health goals identified in the PHIP and accelerate health system transformation throughout Kentucky.

The Kentucky SIM team has chosen to align its HIT strategy with CHFS' overall framework for health technology transformation – the QHI framework. At its core, the QHI framework enables the connection of disparate data sources to seamlessly and accurately provide patients, providers, program administrators, and other key stakeholders with the decision support information needed to improve quality and value in health care delivery. Through collaboration with SIM stakeholders and in recognition of the need to move to a health care system built on value, the QHI framework has been updated to reflect the HIT infrastructure and data needs required for a value-based health care environment as envisioned by CMS. Both the current version of the QHI framework as well as the "enhanced" QHI framework for value-based care are described in more detail later in this section. Many of the components are either currently operational or in the process of being implemented. It will be the role of the HIT Committee to facilitate alignment with the enhanced QHI framework and promote the inclusion of SIM goals in the design and implementation of future HIT initiatives in Kentucky.

8.1 Stakeholder Input and Engagement

Stakeholder input and engagement have been critical in the formation of the Commonwealth's HIT strategy. The Kentucky SIM team recognized the fundamental role of technology in implementing payment and service delivery reform from the outset of the SIM initiative, and therefore created the HIT Infrastructure Workgroup. The Workgroup's activities were guided by an initial workgroup charter, which contains a mission statement as shown in Figure 51. The charter also identified the following key topics that were discussed over the course of the Model Design process:

- SIM alignment with Kentucky QHI framework
- Virtual health and virtual monitoring programs
- Governance and decision-making best practices
- Federal HIT resource investments in Kentucky
- Expanding coordination across the care continuum
- Collecting population health data

The role of the HIT Infrastructure Workgroup is to establish a vision for using HIT to advance Kentucky's SIM Model Design. In doing so, the workgroup will develop a HIT Plan that provides the data and analytical capability needed to support provider organizations, improve care coordination and delivery, and facilitate the real-time exchange of clinical data in order to improve population health. The HIT Plan will leverage the Quality Health Initiative (QHI) in place in Kentucky while incorporating concepts and themes from the Population Health Improvement Plan (PHIP).

Figure 51. HIT Infrastructure Workgroup Mission Statement

- Information needs of providers, payers, consumers, and other health care stakeholders

Through a series of monthly recurring meetings, the Commonwealth began to solicit stakeholder feedback on the components of the SIM HIT Plan. One of the first courses of action for the workgroup was to identify the strengths and challenges with current HIT initiatives in Kentucky through the use of a strengths, weaknesses, opportunities, and threats (SWOT) analysis, as shown in Figure 52. This analysis helped to frame future Workgroup discussions by helping stakeholders actively consider what is working well in Kentucky and what could be improved upon during the development of the Model Design.

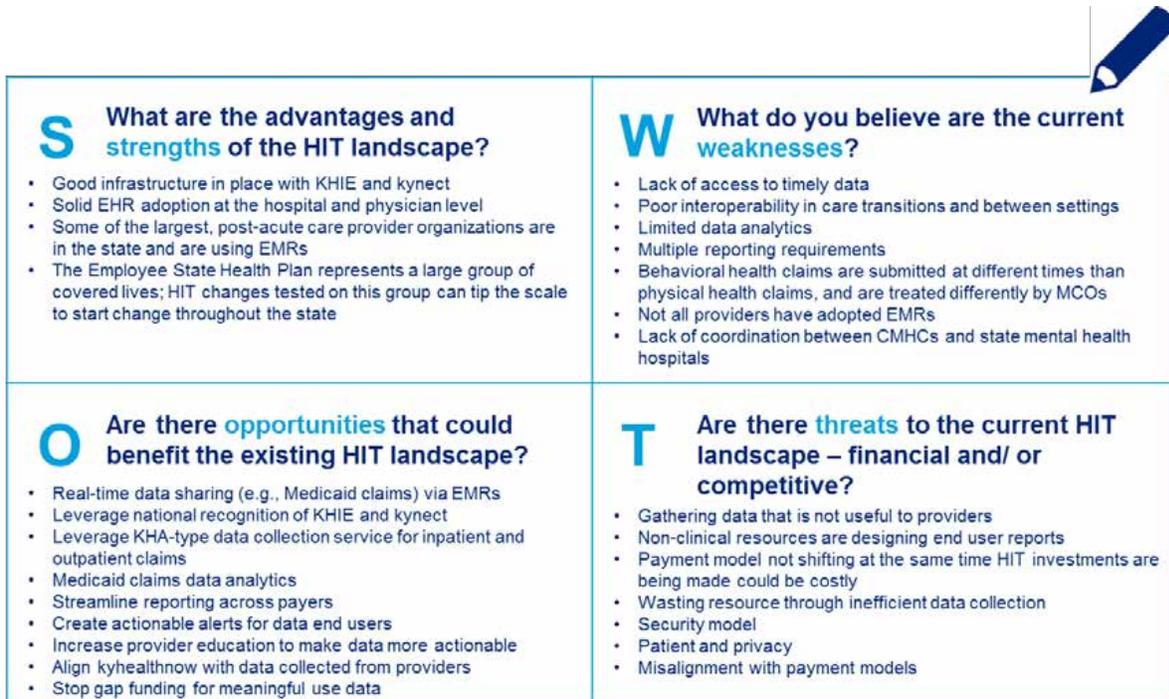


Figure 52. HIT Infrastructure Workgroup SWOT Analysis

The HIT Infrastructure Workgroup began meeting in parallel with the other four SIM Workgroups in March 2015. The Workgroup saw strong attendance – an average of 47 stakeholders per meeting – throughout the duration of the Model Design process, as shown in Figure 53.

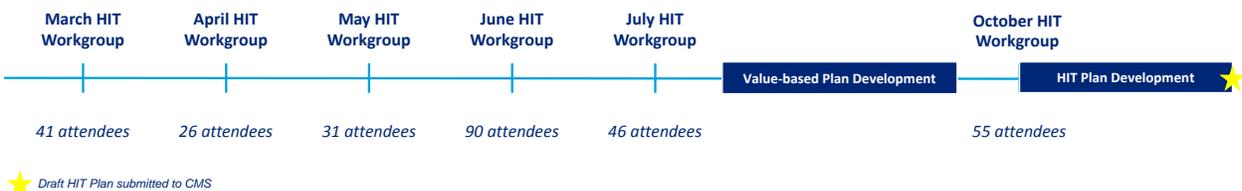


Figure 53. HIT Infrastructure Workgroup Schedule and Attendance Metrics

The agendas for each of the Workgroup meetings, as shown in Figure 54, were structured around one of the key topics identified in the Workgroup charter. The discussions held in these Workgroup meetings culminated in the HIT Plan; however the feedback received throughout the first eight months of the SIM Model design process also informed other parts of the SHSIP, such as the Value-based Health Care Delivery and Payment Methodology Transformation Plan and the Quality Measure Alignment Plan.

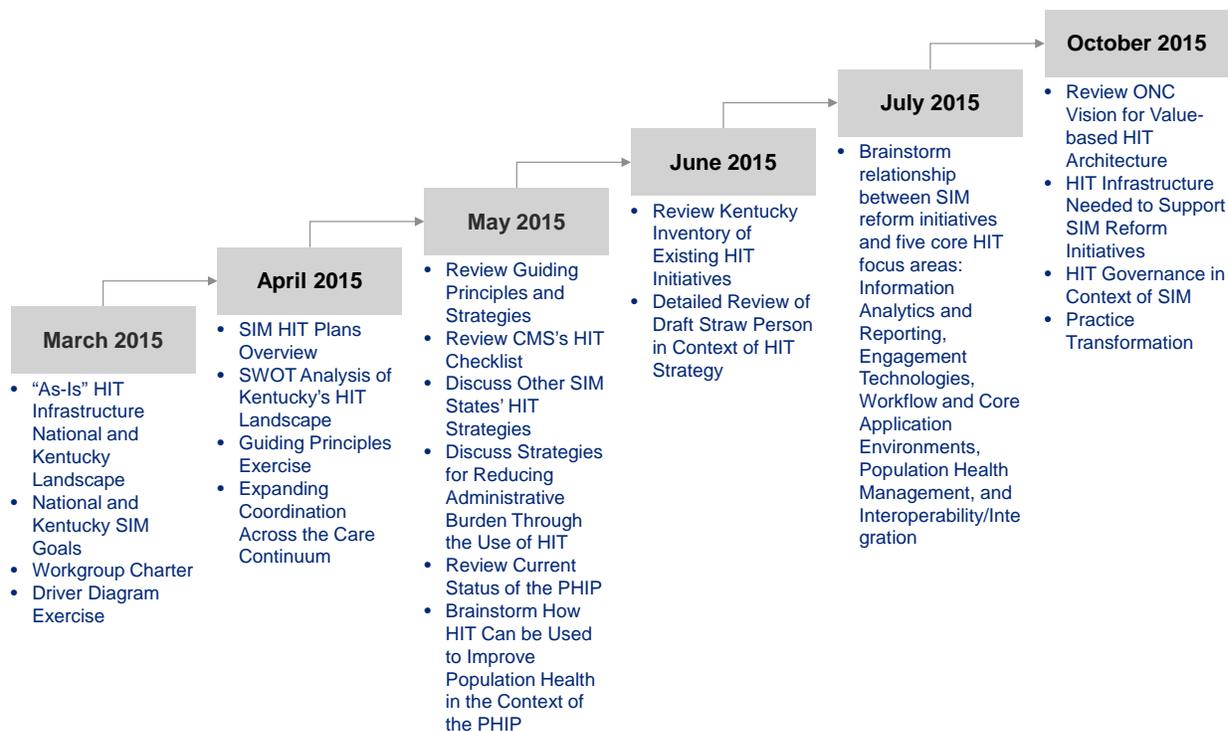


Figure 54. HIT Infrastructure Workgroup Agendas

8.1.1 Guiding Principles in Expanding HIT Infrastructure

One of the key outputs of the HIT Infrastructure Workgroup was a set of guiding principles for expanding HIT infrastructure to support the SIM reform initiatives. These guiding principles were developed through a combination of direct input from stakeholders as well as feedback from internal stakeholders within CHFS. Ultimately, the guiding principles were broken down into two categories that represent the need to leverage existing infrastructure, while also looking forward and understanding HIT Infrastructure needs in a future health care landscape more focused on value-based service delivery and payments.

Similar to the guiding principles developed in the other SIM workgroups, the HIT Infrastructure guiding principles will be used by members of the SIM governance structure to guide the decision-making process during the pre-implementation phase of the SIM process.

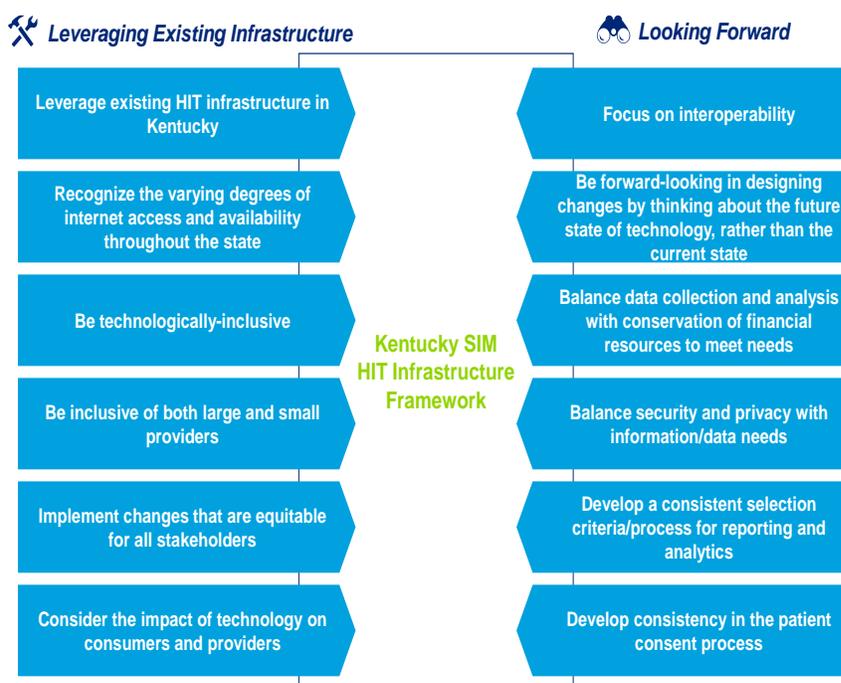


Figure 55. Guiding Principles in Expanding HIT

8.2 HIT Governance

CHFS understands that a robust HIT governance structure is needed to align the goals of the SIM reform initiatives with HIT initiatives already underway within the Commonwealth. That said, the HIT Committee will mirror the Quality Committee in that it will span across each of the four SIM reform initiatives. This will enable the HIT Committee to support the Steering Committees for each reform initiative by understanding the technology and data needs required for each initiative and making recommendations to the SIM Governing Body that will help to drive policy and funding decisions to support each reform.

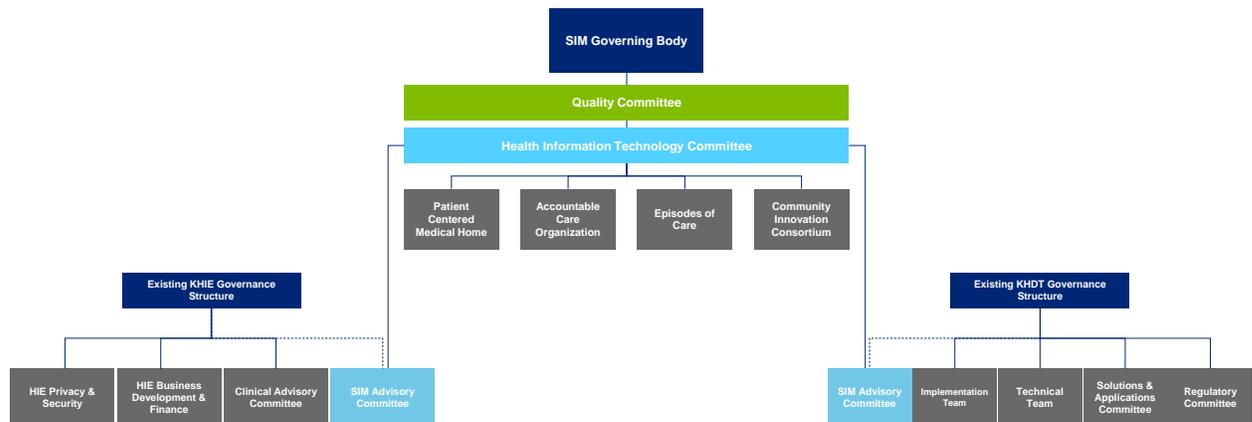


Figure 56. SIM HIT Governance Structure

Recognizing that SIM is a multi-payer initiative that requires collaboration and data sharing across multiple payers, the HIT Committee has been designed to link the governance structures of two critical HIT systems in the Commonwealth: KHIE and the Kentucky Health Data Trust (KHDT). The functions of these two systems is described in further detail in the QHI section of this document. Multi-payer participation in KHDT and widespread provider participation in KHIE will be fundamental to the success of SIM, and the alignment of the governance structures will help to drive multi-payer support for the HIT strategy as it relates to the SIM initiatives. The SIM HIT Committee will include representatives from KHIE, KHDT, KHBE, the Medicaid Enterprise Management System (MEMS), Public Health, other CHFS support programs, private payers, the Kentucky RECs, provider organizations, consumers/consumer advocates, and virtual health stakeholders.

Similar to the Quality Committee, the HIT Committee has been created through an administrative order by the Secretary of CHFS. The SIM Governing Body will be responsible for appointing members of the HIT Committee, who will in turn appoint members to two new SIM Advisory Subcommittees within the existing KHIE governance structure and the proposed KHDT governance structure. There will be a direct reporting relationship between the SIM HIT Committee and the SIM Advisory Committees underneath the KHIE and KHDT governance structures, as well as an advisory relationship between the SIM Advisory Committees and the overarching KHIE and KHDT governance bodies. This will help to facilitate alignment of SIM objectives with the overall vision and strategy for KHIE and KHDT within the Commonwealth.

8.3 Policy Options to Support HIT Infrastructure

CHFS recognizes the need for broad stakeholder support to accomplish the goals of its QHI initiative, as well as the overall SIM Model Design goals. In order to achieve this level of support, policy changes will be required in order to foster participation in initiatives and create common standards for functions such as data governance and interoperability. These changes may involve formal statutory and/or regulatory changes in order to gain payer, provider, and consumer commitment with regards to the proposed SIM reform initiatives. One of the roles of the HIT Steering Committee will be to assess the policy changes needed to implement the HIT vision of the SIM Model design. These recommendations will be

presented to the SIM Governing Body, which will in turn present its recommendations to the Secretary of CHFS for state consideration.

Based on the approaches taken by other SIM Model Design states that have begun testing their models, the Kentucky SIM team recognizes that not all policy decisions will require formal regulatory and/or statutory changes. For example, CHFS can leverage contracting authority with the Medicaid MCOs to obtain commitment that patient claims and encounter data will be submitted to KHDT. Beyond the Medicaid population, CHFS also has the option of drafting a commitment document and working with private payers throughout the state to commit to sending data to the KHDT. While these represent two possibilities for policy options to support HIT aligned with SIM goals, there are other possibilities that will be identified by the HIT Steering Committee during the pre-implementation phase of the four-year test period. In identifying the potential options, the HIT Steering Committee will make recommendations incorporating stakeholder feedback that data transparency and access are fundamental to successfully implementing health reform in the Commonwealth. Two illustrative examples of policy considerations related to this feedback include the role policy can play in enhancing privacy and security concerns as well as its role in increasing access to data by developing data release and consent policies.

8.4 Current State of HIT in Kentucky

To understand the existing landscape of HIT activity in Kentucky, several HIT questions were included in the SIM stakeholder survey issued in June 2015. The survey asked respondents to indicate whether their organizations participate in HIT initiatives that support health reform. For this survey, health reform was defined as one of the SIM reform initiatives (e.g., PCMH, ACO, EOC, and the Community Innovation Consortium). The question generated 131 responses, including 57 organizations (43 percent) indicating they use HIT to support health reform. Of these 57 organizations, 24 (42 percent) indicated the HIT efforts were either very successful or extremely successful, based on their organization's definition of success. Only four respondents felt their initiatives were somewhat unsuccessful or completely unsuccessful, while the remainder indicated neither success nor failure with respect to their HIT activities.

Of the participants that answered "Yes" to participating in HIT activities to support health reform, 20 (35 percent) stated that they participate in KHIE, while 15 (26 percent) indicated they use Electronic Health Records (EHRs). Other responses included participation in telehealth initiatives, use of the Medicaid Waiver Management Application (MWMA), and helping individuals enroll for health insurance using kynect. Overall, the survey responses are reflective of the feedback received from stakeholders throughout the SIM Model Design process, specifically feedback regarding the strong level of provider participation and support of existing HIT activities in the Commonwealth.

In addition to the results of inventory survey, there are several initiatives underway within the Commonwealth that either directly or indirectly support the SIM reform initiatives proposed in the Model Design. As mentioned throughout this document, one of the primary principles adopted by the SIM leadership team during the Model Design development process was to leverage existing programs and infrastructure to accelerate health system transformation. This is particularly relevant for HIT given the significant investment and progress in Kentucky over the past several years. The sections which follow provide a brief overview of the key HIT initiatives underway in the Commonwealth that will be critical to the successful implementation of the SIM reform strategies being proposed in Kentucky's Model Design.

8.4.1 Quality Health Information (QHI) Framework

Kentucky's primary vision for health IT transformation is its QHI framework, as illustrated in Figure 57. At its core, the QHI framework enables interoperability, reusability, and sharing of information across all organizations within CHFS and with its business partners (e.g., providers, MCOs, etc.). The framework provides a strategic vision for IT in the Commonwealth, with which the SIM leadership team aligned in developing its HIT vision for the Model Design.

The QHI framework is heavily dependent on citizen data from the Kentucky population. This data will be housed in a number of source systems, which will be accessible to providers, workers, and citizens across the Commonwealth via three portals. The data also will be critical to calculating a baseline from which the SIM Quality Committee can track the progress of each reform initiative, as well as the progress being made in achieving the goals outlined in the PHIP section of the SHSIP.

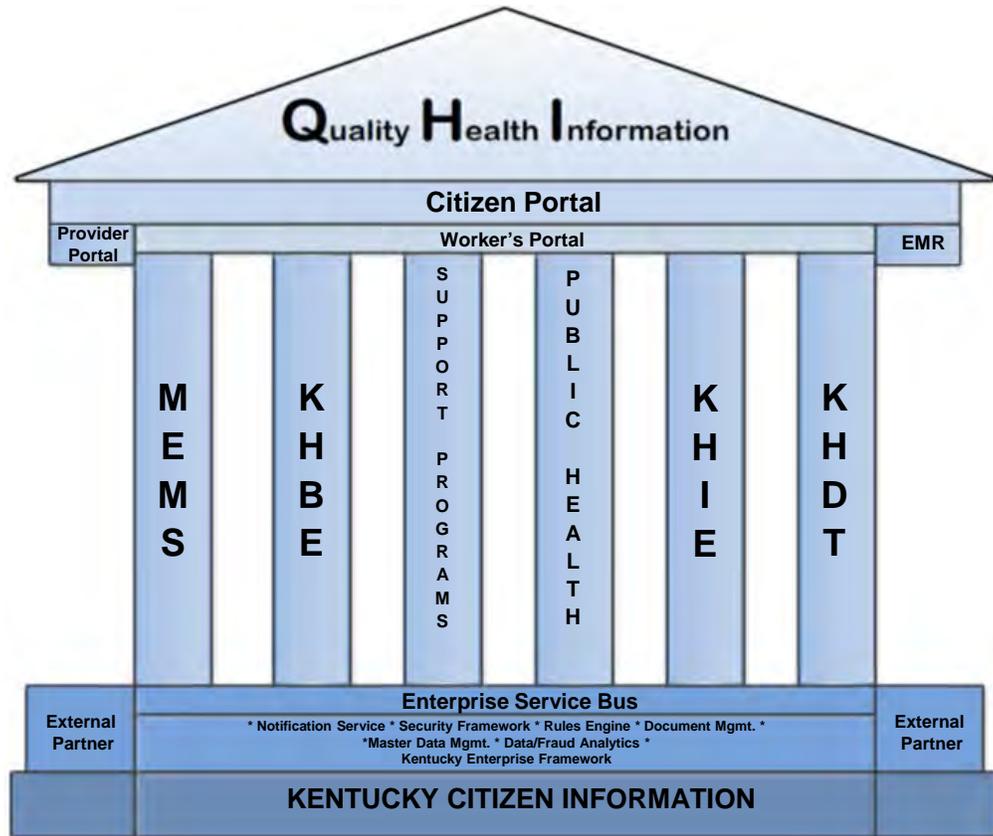


Figure 57. Kentucky QHI Framework

The QHI framework can be grouped into three primary categories: portals, data sources, and technology enablers (Kentucky Finance and Administration Cabinet, 2015). Each of these categories is described in more detail below.

Portals

Portals are the primary means by which data from the various source systems is, or will be accessed by stakeholders. The portals will give different stakeholders the ability to view data that is appropriate for their business or personal function. For example, the Provider Portal will give providers access to data about their patient panel, which they can use to identify patients with complex health needs that may benefit from increased care coordination. The Citizen Portal will allow eligible users to keep track of their enrollment and eligibility status, as well as the status of their claims if the benefits are administered by CHFS. The Worker Portal will provide CHFS workers with a single sign-on access point to view consumer data and conduct relevant business operations from their desktops. A more detailed description of each portal is described in Table 18.

QHI Component	Description
Citizen Portal	The CHFS Citizen Portal provides access via single sign-on to view information including eligibility, enrollment status, MCO encounters, and claims for benefits received from CHFS. In addition, it will be a vehicle to view personal health records through KHIE.
Provider Portal	The Provider Portal, which is currently being developed by CHFS, will provide access via single sign-on for provider enrollment, disenrollment, information inquiry, information management, communication, grievance and appeals, and outreach.
Worker Portal	QHI contains a centralized Worker Portal that will allow users with the appropriate permissions to access data from relevant source systems. The Worker Portal will span all the source systems with the exception of MEMS, which will have a separate worker portal.

Table 18. QHI Framework Portals

Data Sources

The data sources in the QHI framework are represented by pillars, as their function is to enable the capabilities envisioned in the QHI framework. These data sources will be populated by all health and human services programs housed within CHFS. A more detailed description of each data source is provided in Table 19 below.

QHI Component	Description
Medicaid Enterprise Management Solution (MEMS)	The Kentucky Medicaid Management Information System (KYMMIS) is the current claims processing and retrieval system. KYMMIS is a customized system, which supports both Fee-For-Service (FFS) reimbursement as well as Managed Care programs. MEMS is designed to replace the KYMMIS when it is implemented.
Kentucky Health Benefit Exchange (KHBE)	The Commonwealth of Kentucky has developed a HBE which is comprised of a closely integrated Eligibility and Enrollment (E&E) solution as well as a Plan Maintenance and Billing (PMB) solution. The HBE solution is currently being expanded to include additional benefit programs, including the Supplemental Nutritional Assistance Program (SNAP) and Temporary Assistance for Needy Families (TANF). The new MEMS solution will interface in real time with the HBE E&E solution for all Medicaid eligibility information.
Support Programs	CHFS maintains a number of application systems to support other Health and Family Services programs such as Child Support, Child Care, Child Welfare, etc. Efforts are underway to modernize these systems as appropriate to utilize the QHI framework.
Public Health	The Department for Public Health (DPH) provides policy and program governance for systems supporting Local Health Departments (LHDs), communicable disease control, disease and injury surveillance, enforcement of public health regulations, public health education, risk identification and reduction, policy development, and responses to disasters. The Kentucky Immunization Registry (KY IR) is vendor-hosted, and it is envisioned that registry data will be accessible through the Provider and Citizen Portals.
Kentucky Health Information Exchange (KHIE)	KHIE is a fully functional health information exchange engaged with multiple small, medium, and large providers of health care data for the purpose of improving the quality and safety of health care in Kentucky. To accommodate the diversity of data sources in the health information exchange space, KHIE has implemented a broad set of technologies to collect and consolidate clinical and claims-based data that are made available to exchange participants through web-based technology or direct consumption. In addition, KHIE supports the collection of health care data for secondary use such as the population of registries and public health surveillance systems. KHIE will be registering patients with the Kentucky Master Data Management (MDM) solution, and MEMS will supply Medicaid claim and encounter data to KHIE.
Kentucky Health Data Trust (KHDT)	Following on Kentucky's implementation of the American Recovery and Reinvestment Act (ARRA), the Health Information Technology for Economic and Clinical Health (HITECH), and the Affordable Care Act (ACA) health care reform and HIT stimulus initiatives, the Commonwealth desires to move forward with implementation of a Kentucky Health Data Trust (KHDT). The KHDT will essentially be an All Payer Claims Database (APCD), but will also include non-clinical data such as public health data and personal health information provided by consumers that will be required to track the status of achieving the SIM population health goals. More details regarding KHDT are provided in the paragraphs that follow.

Table 19. Description of Core QHI Components

Implementation of the KHDT will be especially critical in both achieving the desired outcomes of each reform initiative and measuring the progress that has been made with respect to achieving the goals. This is because the vision of KHDT expands beyond collecting and distributing claims information from public and private sector payers in Kentucky; it also includes the capture of non-clinical information, such as unstructured case notes, and information from other state-based agencies in the Commonwealth such as the Kentucky Department of Corrections (DOC) and the Transportation Cabinet.

Table 20 includes a set of potential data streams to the KHDT, which would ultimately support the SIM reform initiatives and provide a robust foundation of data to QHI partners, citizens, providers, and workers.

CHFS “Internal” Data Sources	“External” Data Sources	“Other” Data Sources
Medicaid Decision Support System (DSS) (Includes Medical, Rx, all MCO)	Kentucky Employee Health Plan (KEHP)	Department of Corrections
Medicare (Dual-eligible: Parts A, B, D)	Kentucky Commercial MCO: HEDIS	Department of Revenue
Department for Behavioral Health, Developmental, and Intellectual Disabilities (DBHDID)	Medicare (Kentucky Non-dual: Parts A, B, D)	Department of Housing, Buildings, and Construction
Kentucky All Schedule Prescription Electronic Reporting (KASPER)	Medicare (Dual-eligible: Parts A, B, D)	Kentucky Transportation Cabinet
Worker Information System (TWIST)	Kentucky Other Public institutions: Universities	
Department for Public Health (DPH): Vital Records	Commercial Carriers (Self-funded)	
DPH: Immunization Registry	Commercial Carriers (Fully-insured)	
Office of Health Policy (OHP): Kentucky Hospital Association (KHA) Data	Bureau of Primary Health Care (BPHC): Uniform Data System (UDS)	
DPH: Behavioral Risk Factor Surveillance System (BRFSS)	Hospital Billing Data	
Medicaid MCO: Healthcare Effectiveness Data and Information Set (HEDIS)	Independent Laboratory	
KHIE [Clinical Admission, Discharge, Transfer (ADT), Continuity of Care Documents (CCDs), EHRs, etc.]	Software Systems (Case Management notes, etc.)	
KHBE/Health Insurance Exchange (HIX)		
TANF		
SNAP		
Medicaid: Provider Integrity		
DPH: Cancer Registry		
DPH: State Laboratory		
Medicaid Waiver Management Application (MWMA)		
Department for Aging and Independent Living (DAIL)		

Table 20. Potential Data Streams for KHDT (Freedman Healthcare, 2015)

Technology Enablers

Underlying the core components of the QHI framework are a number of technology enablers. These technology enablers will be fundamental to achieving the overarching vision of the QHI initiative. The technology enablers include:

- **Enterprise Service Bus (ESB):** Enables the integration of services and information across the CHFS enterprise
- **Notification service:** Delivers notifications, messages, and documents to eligible stakeholders
- **Security framework:** Provides user provisioning and authorization services across CHFS

- **Rules engine:** Creates and maintains complex eligibility and other rules
- **Document management:** Maintains centralized document management repository for CHFS workers
- **Master Data Management (MDM):** Creates and maintains both a Master Person Index and Master Provider Index
- **Data/fraud analytics:** Analyzes data to identify fraud, waste, and abuse activity as well as areas for programmatic, operational, financial, and health improvement across health programs in the CHFS enterprise

8.4.2 Kentucky Health Information Exchange (KHIE)

KHIE is the statewide health information exchange for the Commonwealth of Kentucky. It is housed within CHFS and seeks to advance the ability of health care service providers to improve the quality and safety of Kentuckians by integrating HIT systems. KHIE began in the Commonwealth with an initial pilot in April 2010. The initial pilot included six hospitals and one clinic. Today, more than 775 participation agreements (PAs) have been signed with providers, including 95 percent of LHDs. This represents over 3,232 locations across Kentucky. KHIE has nearly 1,100 provider locations submitting data and exchanging information with other KHIE participants in the Commonwealth. Other notable KHIE achievements include (CHFS DMS IAPD, 2015):

- The KHIE team works closely with the two RECs in the state and the Kentucky Medicaid EHR Incentive Program Team to assist Medicaid providers in their pursuit of Meaningful Use (MU). This has resulted in significant progress toward provider adoption of HIT and MU. For instance, 100 percent of Kentucky's critical access hospitals have received a portion of MU incentive payments.
- KHIE has worked closely with the Kentucky Medicaid EHR Program to assist Kentucky providers in securing more than \$200 million in Medicaid MU incentive dollars. This includes 206 hospital payments and 3,288 other health care provider payments. Kentucky Medicaid incentive dollars total over \$242 million to 4,600 providers.
- KHIE has six EHR Outreach Coordinators located across the state who serve as the first point of contact for providers.
- All acute care hospitals are in KHIE's onboarding queue, and 91 percent are live in production. Of FQHCs, 21 of the 23 have signed PAs and 50 percent of these are live and sharing data with KHIE.
- KHIE currently supports over 1,000 active connections. However, close to 2,000 additional provider locations have signed on and are in the onboarding queue. Over four million unduplicated patients have records in the exchange. On average, health care providers are querying the exchange over 200,000 times per week.

More information about the scope and reach of KHIE can be accessed via the Commonwealth's live KHIE connection map: <http://khie.ky.gov/nr/Pages/khiemap.aspx>.

8.4.3 KentuckyWired

The goal of the KentuckyWired initiative is to fill broadband service gaps through the creation of a statewide fiber optic “interstate” system. The project is using both public and private resources to create this infrastructure, which will ultimately connect rural communities throughout the state to high-speed broadband access. Increased access to broadband service will help to facilitate several SIM goals and will have the largest impact on providers in rural parts of the state who do not have the technical infrastructure in place to implement EHRs or participate in KHIE. A design map for the initiative is shown in Figure 58 (Kentucky Finance and Administration Cabinet, 2015).



Figure 58. Design Map for KentuckyWired Initiative

8.4.4 2-1-1 Initiative

The 2-1-1 initiative allows individuals to dial 211 from either a landline or mobile phone and speak with somebody who can connect them with available community resources to help find food, housing, health care, and other needed services. The service is currently available to residents of 31 counties in Kentucky. The program is administered by three separate United Way organizations in the Commonwealth, and primary areas of coverage include the Louisville and Lexington metropolitan areas, as well as counties in Northern Kentucky that are covered by the United Way of Greater Cincinnati. While the three organizations currently administer the program separately, a proposal is underway to create a combined initiative that would cover citizens residing in all counties across the Commonwealth.

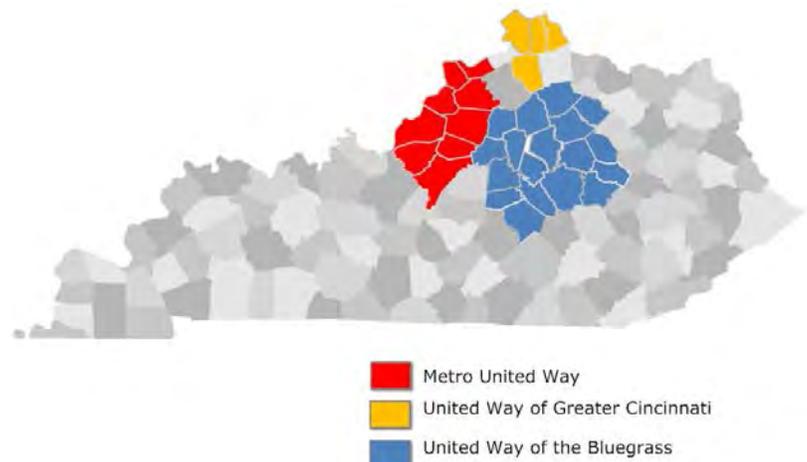


Figure 59. 2-1-1 Initiative Coverage in Kentucky

8.4.5 Regional Extension Centers (RECs)

Throughout the Model Design process, the Kentucky SIM team worked closely with the two RECs in the Commonwealth – the Kentucky REC and the Northeast Kentucky Regional Health Information Organization (NeKY RHIO). Both organizations presented the variety of practice transformation services they offer to HIT Infrastructure workgroup members during the October HIT Infrastructure workgroup meeting. A brief description of each organization and the services they provide related to HIT are outlined below.

The Kentucky REC

The Kentucky REC is the largest in the state, providing practice transformation services to 92 counties throughout the Commonwealth. The Kentucky REC is housed in the University of Kentucky College of Medicine. It provides HIT implementation and support services to providers and practices trying to achieve MU of EHRs. The Kentucky REC provides a number of services to both physicians and hospitals, including:

- MU consultations
- Privacy and security consulting
- EHR optimization
- Health Insurance Portability and Accountability Act (HIPAA) security risk assessments
- Request for Proposal (RFP) review for EHR procurements
- Clinical decision support development assistance

In addition to HIT services, the Kentucky REC also provides PCMH consulting services, continuing education opportunities, and placement services for medical professionals seeking to practice in the Commonwealth.

NeKY RHIO

The NeKY RHIO was formed in 2008 to improve the care coordination between referral institutions, improve access to critical medical information by clinicians at the point of care, and improve the overall health care quality, safety, and efficiency of Kentucky's health care system (NeKY RHIO, 2015). The NeKY RHIO provides services to PCPs, specialists, hospital systems, rural health clinics, and critical access hospitals across 17 counties in Kentucky. The NeKY RHIO provides a number of consultation services that help providers and practices with HIT adoption and transformation, including:

- MU consultations
- HIPAA security risk assessments
- Billing and coding support
- Health IT workforce training

8.4.6 Advancement in EHR Adoption for Behavioral Health Providers

In October 2014, DBHDID signed a contract with Centennial Corporation to install Meditech EHR software at the state's behavioral health facilities: three psychiatric hospitals, one forensic/correctional hospital, three skilled nursing facilities, four Intermediate Care Facilities (ICFs) for persons with developmental and intellectual disabilities, and one specialty medical clinic. Over the past year, teams of clinicians and staff from all the facilities have worked together to standardize processes and forms and to tailor the software to DBHDID's operations model. The first facility is scheduled to go live on February 2, 2016. The remaining facilities will be rolled out in stages over the next two years. Currently, the facilities operate on paper-only or hybrid paper/EHR systems. Once fully installed, the Meditech EHR will affect, cover, and track medical records for patients and clients from all Kentucky counties. Information from patients, or their guardians who provide consent, will be shared with KHIE.

8.5 HIT Infrastructure to Support SIM Reforms

To align with CMS' vision for value-based payment transformation and to enable the reform initiatives in the SHSIP, CHFS recognizes the need to update its existing QHI framework to further promote a health care system focused on value-based payment and service delivery. The enhanced QHI Framework for Value-based Care depicts the HIT environment that is needed in order to successfully support Kentucky's SIM goals. In aligning with the Office of the National Coordinator's (ONC) vision for a HIT stack in a value-based health care environment, CHFS has proposed an enhanced version of the QHI, as shown in Figure 60.

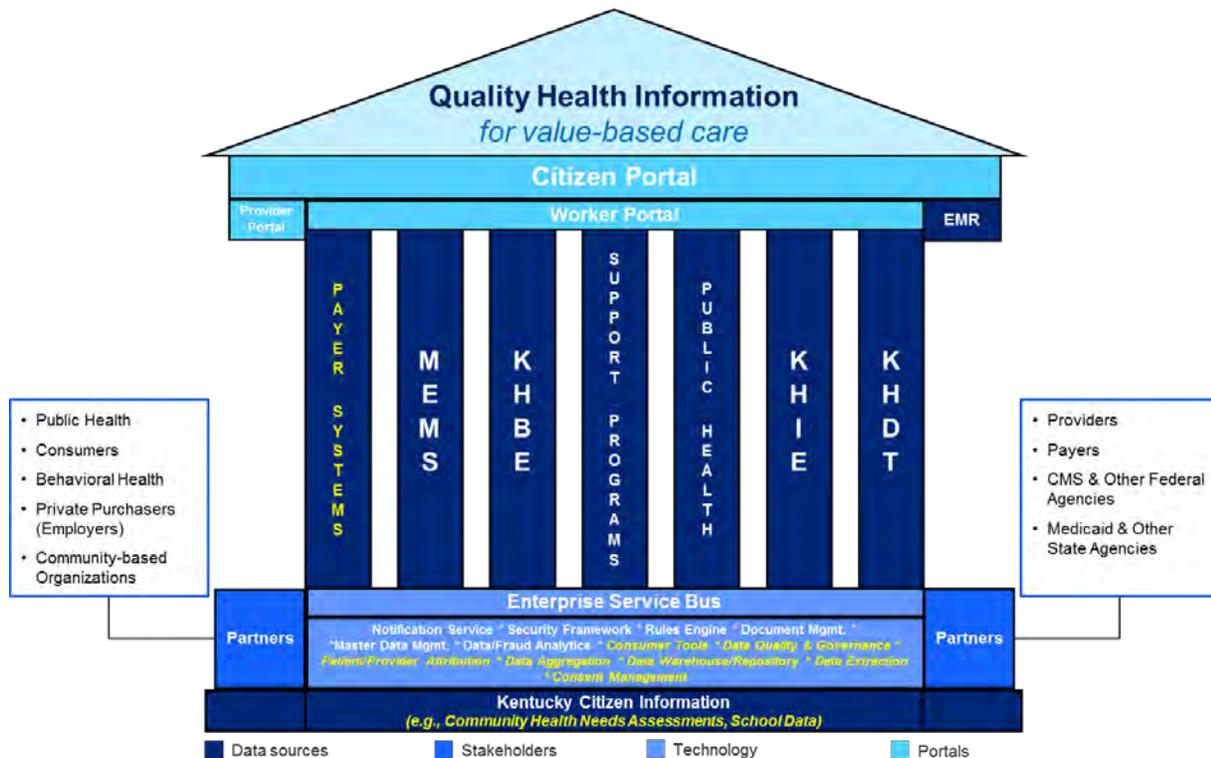


Figure 60. QHI Framework for Value-based Care

“enhanced” QHI Framework for Value-based Care includes additional technology, data sources, and stakeholders that are necessary in a value-based health care landscape. The additions to the framework are highlighted in yellow in Figure 60, and described in further detail below. CHFS plans to solicit stakeholder and consumer input as each of the enhanced QHI framework components are designed and implemented.

8.5.1 Technology

- **Consumer Tools:** Based on stakeholder feedback throughout the SIM process, CHFS recognized the need to apply a consumer-based focus on health care transformation. With that in mind, consumer technology tools such as mobile applications and personal fitness devices will be critical in capturing a consumer's individual health data, which is the first step in aggregating it in a system such as the KHDT.
- **Data Quality and Governance:** Data quality and governance tools will be essential in a value-based health care environment comprised of multiple payers. For example, standardized definitions for data elements and data transfer protocols will be critical in an environment where better coordination across the entire care continuum is the goal.

- **Patient/Provider Attribution:** A method for prospective attribution of patients and providers will be essential to gaining provider and payer buy-in for the SIM reform initiatives. This is particularly relevant to the ACO initiative, as attribution methodologies are often a perceived barrier to provider acceptance of the ACO model.
- **Data Aggregation and Data Warehouse/Repository:** A tool for cleansing, standardizing, aggregating, and storing data from a variety of different sources both within and outside CHFS will be crucial. The KHDT will function as the primary repository for this data; therefore the KHDT governance committee will be responsible for developing standards for data quality, governance, and aggregation.
- **Data Extraction:** Data extraction tools will be required to retrieve unstructured data from sources such as case management notes, Community Health Needs Assessments, and potentially consumer-reported data. These tools will allow the data to be further processed and stored for analysis.
- **Consent Management:** In an environment where health care data is more freely accessible to both consumers and providers, a system that manages authorizations and consents will be crucial to maintain compliance with HIPAA privacy and security standards. A consent management tool will help to provide structure around this process in a value-based health care environment.

8.5.2 Potential New Data Sources

- **Community Health Needs Assessments:** A pillar of the Commonwealth's SIM reform efforts is community innovation. In order to achieve health reform at the community level, it will be critical to collect and consolidate baseline data in order to track progress against established goals. Community Health Needs Assessments are a rich source of information captured at the regional level around Kentucky.
- **School Data:** Stakeholders throughout the SIM process emphasized the need to connect data collected at schools throughout the Commonwealth to information systems that can aggregate and store the data for population health analytics. Collecting and populating school-based data in an accessible data warehouse will help to drive policy decisions that can positively impact the health of young people throughout the Commonwealth.
- **Payer Systems:** Capturing claims from private payers in Kentucky will be essential for populating the KHDT. Payer systems have been added to the QHI framework to reflect the need for multi-payer buy-in to improve population health through data sharing and collaboration efforts. Collecting information from private payer systems will help to establish a robust KHDT. This will enable the Commonwealth, payers, providers, and others with the appropriate permissions to access the data and conduct analytics in an effort to improve population health.

This list of potential new data sources is not intended to be exhaustive. In addition to community health needs assessment data and school data, CHFS recognizes the opportunity to include First Steps data and other socioeconomic data sources to the enhanced QHI framework. It is also the intent of the enhanced QHI framework to specifically allow for consumer-contributed data to the Citizen Portal and consumer entry to the Kentucky Citizen Data sources. CHFS recognizes the importance of including a consumer-friendly interface that is easy to navigate and allows consumers to make informed decisions by reviewing quality and cost data for providers and services. As CHFS continues to refine the enhanced QHI framework, consumer input will be collected on the design, functionality and testing of this interface.

8.5.3 Stakeholders

The original QHI framework referenced external partners as a foundational element. Throughout the SIM process, CHFS has been able to identify the specific stakeholders that will be critical partners in a health care system focused on value and improving the health of Kentuckians. These stakeholder groups have been identified specifically in Figure 60. The Commonwealth is committed to working with these stakeholders, as well as others identified during the implementation of the SIM reforms, to achieving the goals presented in the overall Model Design.

8.6 HIT Infrastructure Timeline

Leveraging successful approaches taken by other SIM states that are currently testing their models and aligning with the existing QHI timelines, the Commonwealth developed a timeline focused on making HIT infrastructure enhancements and investments necessary to support the PCMH, ACO, EOC, and Community Innovation Consortium initiatives. This timeline also includes tasks and milestones that strengthen the Commonwealth's commitment to providing practice transformation support to participating providers, developing new technologies and capabilities as part of the transition to value-based care, and identifying virtual health strategies that will work to increase access to health care across the Commonwealth.



◆ Milestone

Figure 61. HIT Infrastructure Timeline

8.7 PCMH

It is widely known that technology can support the PCMH model by collecting, storing, and managing personal health information, as well as supporting the aggregation of data that can be used to improve processes and outcomes. Technology infrastructure and capabilities can also support clinical decision-making, communication techniques, and patient self-management as part of a PCMH – topics that have been discussed in SIM HIT Infrastructure Workgroup meetings throughout the Model Design (AHRQ, 2015).

As part of this plan to identify HIT infrastructure needs to support the SIM reform components, the HIT Committee will leverage the work done by the Commonwealth and the HIT Infrastructure Workgroup to outline specific data and infrastructure needs for the PCMH initiative. Using successful PCMH models implemented in other states as the benchmark, CHFS has identified the universe of data and infrastructure needs for the state, payers, providers, and citizens enrolled in a PCMH for the Steering Committee to consider as it advances the design. These data and infrastructure needs also support the CCC components within the PCMH model and are applicable to Kentucky's Medicaid Health Home planning initiative.

8.7.1 Data Needs

CHFS and the SIM HIT Infrastructure Workgroup reviewed PCMH approaches taken in other SIM states to identify lessons learned and similarities between existing models and the model proposed for Kentucky. In doing so, CHFS researched the landscape of data needs that PCMH models require as a point of reference for the PCMH Steering Committee, who will help design the initiative. Examples of the types of data that may be necessary for a successful PCMH initiative include but are not limited to:

- Multi-payer claims data to support robust models for attribution and total cost of care calculations
- Provider information, at both the rendering and billing level
- Diagnosis and procedure code information at the claim level
- Patient-reported outcomes and/or patient experience data

These data needs emphasize the importance of the KHDT's and the KHIE's existing and future roles in the Commonwealth and the need to enhance these infrastructures with functionality that supports a PCMH model. The Commonwealth is committed to identifying additional Kentucky-specific data needs that will strengthen PCMH activity across the state (e.g., consumer-reported data and/or community-reported data).

8.7.2 Infrastructure Needs

In addition to identifying the data sources necessary as both inputs and outputs of a PCMH model, the HIT Infrastructure Workgroup developed a set of infrastructure needs to support a PCMH that includes 30 different functionalities and maps each to PCMH stakeholders – payers, providers, the state, and citizens. It is important to note that in this exercise, the state was viewed in its role as a facilitator and not as a payer.

The workgroup discussed information, analytics, and reporting capabilities and how data collection and analytics can support the goals of a PCMH. The workgroup also discussed engagement technologies and how technology can be used by providers to engage consumers and make them more responsible for attaining health goals. Workflow and core application environments were a key topic in terms of how the capabilities of existing technology infrastructure can be used to support the transition to value-based care models, including PCMH. The workgroup also considered the importance of interoperability and integration and discussed the best use of technology in integrating and coordinating care. Interoperability of EHRs for oral and behavioral health providers was a topic addressed heavily given the PCMH oral health pilot outlined in the SHSIP. Finally, the discussion about how shared information can be transmitted and stored securely across the Commonwealth was addressed throughout the Model Design process. Combining these key themes with population health management and the role that technology can play in improving population health, the Commonwealth

plans to further explore how each functionality listed in Figure 62 can be supported and incorporated into the PCMH initiative. The list of functionalities was developed by combining stakeholder feedback and CHFS input and recommendations.

Functionality	Payer	Provider	State	Citizen	Functionality	Payer	Provider	State	Citizen
Contract administration	x				Performance measurement and analytics	x	x	x	
Provider enrollment	x				Contract management (payment for value)	x			
Member enrollment	x				Quality measurement	x	x	x	
Enrollment – attributions	x				Provider reporting	x	x		
Member eligibility	x				Initiative reporting		x	x	
Payment functionality	x				Cost reconciliation	x		x	
Provide clinical information		x		x	Consumer engagement/activation	x	x		
Provide non-clinical data (e.g., device data)		x		x	Personal health monitoring	x	x		x
Capture claims information	x		x		Virtual health/virtual medicine	x	x	x	
Data aggregation	x	x	x		Lifestyle-based analytics	x	x		
Care & case coordination (includes communication)	x	x	x		Transmission of clinical information		x	x	
Population and value-based analytics	x	x	x		Customer Relationship Management (CRM) tool	x	x	x	
Data normalization/activation	x		x		Provider portal	x		x	
Member portal	x			x	Consumer incentives/awards	x		x	x
Process improvement	x	x	x		Prescription writing and filling (i.e., consumer compliance)		x		

Figure 62. PCMH Infrastructure and Functionality Needs

8.8 ACO

Similar to the PCMH model, one of the factors that will contribute to the success of an ACO initiative, whether within Medicaid or the private market, is a focused HIT strategy that aligns the ACO's resources with the goals and objectives for value-based care and population health improvement (CCHIT, 2013). The HIT Infrastructure Workgroup discussed the needs within an ACO environment for information sharing among providers, consumers, and authorized entities for data collection and integration from multiple clinical, financial, operational, and patient-reported sources. The Workgroup also discussed the need for technology functions to support patient safety and for strong privacy and security protections for ACO membership.

Consistent with the approach applied for PCMH, CHFS outlined specific data and infrastructure needs for the ACO initiative. These requirements were derived from successful ACO models implemented in other states and from detailed workgroup meetings focused on identifying the Kentucky-specific components of a Medicaid FFS ACO.

8.8.1 Data Needs

CHFS and the SIM HIT Infrastructure Workgroup initially reviewed the existing Kentucky ACO landscape and Medicare ACO model participation, in conjunction with more general ACO approaches taken in other SIM states to identify high-level data needs. Since CHFS is proposing a Medicaid FFS ACO that focuses on a targeted population – individuals receiving Medicaid Long-Term Services and Supports (LTSS) and/or Long-Term Care (LTC) services – CHFS recognizes that data needs may vary from other population-specific ACOs. As such, CHFS plans to conduct a data needs assessment specific

to this population. Examples of the types of data that may be necessary for a successful Medicaid FFS ACO that includes individuals receiving Medicaid LTSS and/or LTC include but are not limited to the following:

- Medicaid physician practice-level information that translates to a mid-level or core structure of comprehensive longitudinal records
- Comprehensive patient data from all Medicaid FFS members who are part of the ACO
- Medicaid FFS administrative medical and pharmacy claims and enrollment data
- Financial and functional eligibility information as outlined in an individual's initial assessment
- Plan of care details including an individual's budget for waiver services
- Patient-reported outcomes and/or patient experience data

These data needs will largely be met through modifications to Kentucky's existing Medicaid Management Information System (MMIS) solution and reporting processes. However, the Commonwealth remains committed to identifying any additional Kentucky-specific data needs that would strengthen the Medicaid FFS ACO initiative as well as promote the expanded scope of existing ACOs to encourage participation across the full continuum of care and focus on behavioral health, public health, and community resources (e.g., consumer-reported data and/or community-reported data).

8.8.3 Infrastructure Needs

In addition to identifying the data sources specific to the Medicaid FFS ACO population, the HIT Infrastructure Workgroup developed a set of infrastructure needs to support an ACO model in the same structure as the PCMH model outlined above. The workgroup discussed the same key themes of information, analytics and reporting, engagement technologies, workflow and core application environments, and interoperability and integration as a basis for identifying these ACO-specific needs. With regards to interoperability of EHRs, the need to promote interoperability across behavioral health and physical health providers was a focus area. The Commonwealth plans to further explore how each functionality listed in Figure 63 can be supported and incorporated into the Medicaid FFS ACO initiative.

Functionality	Payer	Provider	State	Citizen	Functionality	Payer	Provider	State	Citizen
Contract administration	x	x			Performance measurement and analytics	x	x	x	
Provider enrollment	x	x			Contract management (payment for value)	x	x		
Member enrollment	x	x			Quality measurement	x	x	x	
Enrollment – attributions	x	x			Provider reporting	x	x		
Member eligibility	x				Initiative reporting		x	x	
Payment functionality	x				Cost reconciliation	x	x		
Provide clinical information		x		x	Consumer engagement/activation	x	x		
Provide non-clinical data (e.g., device data)		x		x	Personal health monitoring	x	x		x
Capture claims information	x		x		Virtual health/virtual medicine	x	x	x	
Data aggregation	x	x	x		Lifestyle-based analytics	x	x		
Care & case coordination (includes communication)	x	x	x		Transmission of clinical information		x	x	
Population and value-based analytics	x	x	x		Customer Relationship Management (CRM) tool	x	x	x	
Data normalization/activation	x		x		Provider portal	x		x	
Member portal	x			x	Consumer incentives/awards	x	x	x	x
Process improvement	x	x	x		Prescription writing and filling (i.e., consumer compliance)		x		

Figure 63. ACO Infrastructure and Functionality

8.9 EOC

HIT infrastructure is an important asset to providers and payers participating in an episode of care agreement as it relates to both tracking expenditures across sites of care (e.g., inpatient care, post-acute care, and primary care) and measuring changes in consumer health status and outcomes (MITRE, 2011). The Commonwealth recognizes that there are a variety of different approaches providers can take to either enhance their existing systems or adapt new capabilities as necessary to best facilitate data sharing and transfers within an episode. Following the same approach taken for PCMH and ACO, the HIT Infrastructure Workgroup began to identify these approaches and the data and infrastructure needs to support an episode of care model.

8.9.1 Data Needs

CHFS and the HIT Infrastructure Workgroup reviewed the types, waves, and timelines that comprise episodes of care initiatives in surrounding SIM states (e.g., Ohio, Tennessee, and Arkansas) and also reviewed the mechanics of Medicare's mandatory bundled payments for hip and knee replacements through the Comprehensive Care for Joint Replacement (CCJR) model. While the specific episodes and timelines for each episode will be recommended by the EOC Steering Committee following the Model Design phase, CHFS identified the range of data needs that these episodes may require. Examples of the types of data that may be necessary for a successful Medicaid and KEHP EOC initiative include but are not limited to the following:

- Historical and current Medicaid and KEHP claims data to develop algorithms for each episode of care
- Professional, inpatient facility, outpatient facility, and pharmacy Medicaid and KEHP claims
- Medicaid FFS and Medicaid MCO encounter data with proper fields to determine the cost of each claim
- Spend detail, diagnosis, and procedure codes to determine whether specific claims should be included in an episode cost
- Patient identification and eligibility, service date, and billing provider identification
- Patient-reported outcomes and/or patient experience data

As observed for the PCMH initiative, these data needs emphasize the importance of the KHDT's and the KHIE's existing and future roles in the Commonwealth and the need to enhance these infrastructures with functionality that supports an episode-based payment system between Medicaid and KEHP.

8.9.2 Infrastructure Needs

In addition to identifying the data sources specific to an EOC demonstration between Medicaid and KEHP, the HIT Infrastructure Workgroup also developed a set of infrastructure needs that could support this payment model in the same format as the PCMH and ACO models previously described. The workgroup discussed the same key themes of information, analytics and reporting, engagement technologies, workflow and core application environments, and interoperability and integration of EHRs across physical health providers as a basis for identifying these episode-specific needs. The Commonwealth plans to further explore how each functionality listed in Figure 64 can be supported and incorporated into the Medicaid and KEHP demonstration.

Functionality	Payer	Provider	State	Citizen	Functionality	Payer	Provider	State	Citizen
Contract administration	x	x			Performance measurement and analytics	x	x	x	
Provider enrollment	x	x			Contract management (payment for value)	x			
Member enrollment					Quality measurement	x	x	x	
Enrollment – attributions	x				Provider reporting	x	x		
Member eligibility					Initiative reporting			x	
Payment functionality	x				Cost reconciliation	x	x		
Provide clinical information	x	x	x	x	Consumer engagement/activation				
Provide non-clinical data (e.g., device data)	x	x	x	x	Personal health monitoring	x	x		x
Capture claims information	x		x		Virtual health/virtual medicine	x	x	x	
Data aggregation	x		x		Lifestyle-based analytics	x	x		
Care & case coordination (includes communication)	x	x	x		Transmission of clinical information		x	x	
Population and value-based analytics	x	x	x		Customer Relationship Management (CRM) tool	x	x	x	
Data normalization/activation	x		x		Provider portal	x		x	
Member portal	x			x	Consumer incentives/awards	x		x	x
Process improvement	x	x	x		Prescription writing and filling (i.e., consumer compliance)		x		

Figure 64. EOC Infrastructure and Functionality Needs

8.10 Community Innovation Consortium

While Kentucky’s PCMH, ACO, and EOC initiatives have been designed based upon national care models and successful state-based applications of these models, the Commonwealth’s vision for the Community Innovation Consortium – a forum for communities and providers to develop new delivery system and payment model demonstrations – will require different data and HIT infrastructure needs than these traditional value-based care models. The focus of the Community Innovation Consortium will be to create partnerships that support sustainable transformation at the community level and to design initiatives and demonstrations that rely more heavily on non-clinical sources of data and reporting mechanisms.

The primary HIT strategy for the Community Innovation Consortium will be to leverage as much as possible the existing infrastructures in place at the community-level. One of the initiatives’ aims focuses on adapting existing community resources to support new demonstrations that promote population health improvements, care coordination, and/or prevention strategies, rather than causing the duplication of effort. It will be the Community Innovation Consortium Steering Committee’s role to help develop selection criteria for future demonstrations, which will be designed through multi-payer, provider, and consumer leadership and support. To support this effort, the HIT Steering Committee will consider the data needs and technologies necessary to operationalize each effort and identify strategies that leverage existing community-based infrastructure as much as possible. Examples of this approach may be to focus on existing school-based data collection methods or data collection within other physical and social environments that contribute to population health.

8.11 Virtual Health/Virtual Medicine

Both the SIM HIT Infrastructure and Increased Access Workgroups identified the need to include strategies for delivering telehealth and telemedicine services – referred to in this plan as virtual health and virtual medicine – as part of each reform component. This strategy primarily focuses on providing more access to services for consumers, providing more health care coverage throughout the Commonwealth, expanding the network of payers who fund these services, and increasing

the scope of services that can be provided in a virtual manner. For example, for PCMH the workgroups explored how expanding the use of virtual health to increase meaningful patient interaction with a PCMH to improve performance and health outcomes. The workgroups also explored how the use of virtual health in oral health care delivery could improve the coordination between physical/behavioral health and oral health through the use of ACOs.

The HIT Infrastructure and Increased Access Workgroups also discussed how technology can be used in both urban and rural Kentucky in order to make high-value education and preventive services more accessible. Using the CMS-sponsored driver diagram framework which focuses on clearly defining an aim and its drivers to promote a shared view of the theory of change in a system, the workgroups identified to what extent virtual health can be used to provide better access to these populations. The output from this work is referenced in Figure 65.

To advance the ideas developed over the course of the Model Design with respect to virtual health, the HIT Infrastructure Committee will be responsible for developing strategies to reduce the legal, regulatory, and payment barriers to the expansion of virtual health currently in place in Kentucky. The Committee also will work to identify the virtual health needs to support the PCMH, ACO, EOC, and Community Innovation Consortium initiatives and conduct research into other state approaches toward addressing these barriers and implementing virtual health strategies in a value-based care environment.

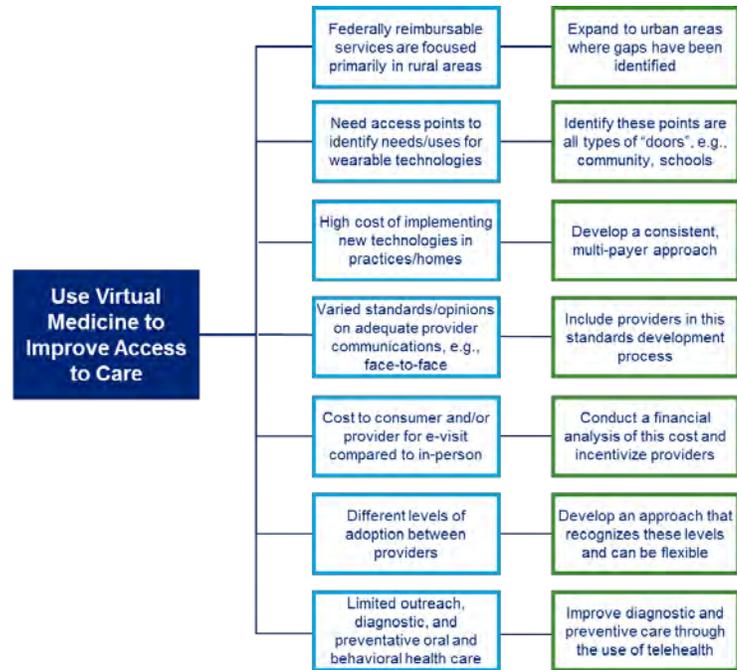


Figure 65. Virtual Health Driver Diagram

8.12 Sustainability Strategy

As previously noted, KHIE and KHDT have individual, existing sustainability strategies to make enhancements to existing infrastructure as well as launch new capabilities within the Commonwealth. The initial funding source for KHIE was federal funding received through the HITECH Act. KHIE's subsequent sustainability model primarily consists of federal 90/10 funding, HIE funding for public health reporting as part of MU, and CMS funding as part of the Commonwealth's recently approved IAPD extending through CY 2017. KHIE also has a funding stream in the form of Kentucky's health benefit exchange, kynect. For KHDT, CHFS currently plans to fund the stakeholder engagement and design process in the short-term. Going forward, the Commonwealth plans to seek sources of federal funding to implement and govern this functionality within the state – a process that can be aided by successful APCD efforts in other states.

As much as possible, the strategy for sustaining the SIM reform components will leverage these existing HIT initiatives and funding sources. In addition to implementing the SIM reform components within these existing structures, future federal funding sources along with state, private enterprise, and philanthropic contributions will be explored to help enable important investments in technology and infrastructure necessary to support a statewide transition to value-based care. Examples of potential federal funding sources that the Commonwealth could consider are maximized 90/10 funding, future demonstration programs released by CMMI, and/or CMS funding as part of a Section 1115 Demonstration Waiver.

In addition to exploring potential funding streams for the technology and infrastructure needed to support the transition to value-based care, the Commonwealth also plans to develop a non-governmental funding strategy for practice transformation efforts to support providers participating in each reform component. This strategy could include approaching

foundations, payers, and employers and working with established RECs in Kentucky that are focused on achieving similar Triple Aim goals.

8.13 Provider Transformation Strategy

Throughout the stakeholder engagement process, the SIM team engaged both small and large providers, providers across the care continuum, and providers in different regions of the state. A common theme that emerged from the conversations was the need to support their practices during the transition to value-based care. Issues such as inadequate technology, lack of funding, excessive reporting requirements, and too few resources to change business processes were identified as common barriers to achieving transformation. In light of this, the Commonwealth recognized the need to develop a provider transformation support strategy to include in the overall SIM Model Design. Kentucky's proposed provider transformation strategy is focused on three initiatives:

1. Increased adoption of EHRs for Non-Meaningful Use Providers
2. Support for Health Information Exchange and Advanced Interoperability
3. Onsite Technical Assistance for Provider Transformation

8.13.1 Increased Adoption of Electronic Health Records (EHRs) for Non-Meaningful Use Providers

This initiative addresses the critical importance of EHR adoption for providers and facilities not currently eligible for MU incentives. These providers include, but are not limited to, Long Term and Post-Acute Care (LTPAC), behavioral health, home health, oral health, public health, and correctional facilities. These organizations will need adoption and implementation support in order to meaningfully participate in reform initiatives such as those proposed in the SIM Model Design. Support for these providers will come from organizations in Kentucky that have the teams and resources available to support practice transformation. Specifically, the UK REC and the NeKY RHIO provide services that can help providers accelerate the adoption of Meaningful Use EHR technology. These organizations can help providers by performing the following services:

- Gap analysis and readiness assessments
- EHR vendor selection support
- EHR adoption and implementation planning
- Audit preparation and attestation assistance

Aligned with Kentucky SIM's focus on oral health, EHR interoperability with dental providers also will be a focus area for provider transformation support. While many oral health providers in Kentucky currently utilize EHRs, they are not interoperable with the systems used by many traditional providers and facilities. By focusing on interoperability with oral health providers, other providers such as hospitals, physicians and other practitioners will be better able to manage the overall health needs of their patients.

8.13.2 Support for Health Information Exchange and Advanced Interoperability

Stakeholder feedback reflected the need to better coordinate services across the entire continuum of care. Recognizing this input, the Commonwealth will focus on improved health information exchange and interoperability standards for providers across the Commonwealth. Kentucky will take a first step toward achieving this goal through an initial pilot program. The pilot will focus on connecting non-Meaningful Use providers, such as behavioral health providers, LTPAC providers, and eligible hospital and physician practices, to KHIE so that the PCMH can retrieve this data from KHIE to better conduct care coordination. Lessons learned from the initial pilot will be developed into a best practices roadmap that can then be scaled to other PCMHs throughout the Commonwealth.

The KHIE currently receives Admission, Discharge, and Transfer (ADT) data from over a dozen hospital IT systems. This ADT data can be used to identify high utilizers whose ED admissions and readmissions may be preventable. Once these patients are identified, their PCPs can be notified each time the patients are discharged in order to conduct rapid follow-ups, which may help improve recovery outcomes and lessen the chance of preventable readmissions. Additionally, the data could be provided to a patient’s care coordinator so that the care coordinator can contact the most appropriate ambulatory care provider, which may prevent an additional ED admission.

8.13.3 Onsite Technical Assistance for Provider Transformation

While enhanced KHIE functionality and adoption, interoperability, and other technical assistance have the ability to help providers transform to a new value-based care environment, onsite technical assistance will be paramount to achieving long-lasting practice transformation. CHFS can also exercise its role as a convener to provide collaborative educational opportunities related to value-based care to providers and practices throughout Kentucky. The collaborative opportunities will be a primary function of the proposed Community Innovation Consortium initiative. This approach will be specifically targeted toward small and rural hospitals and providers in underserved areas. While the format of the collaborative will be finalized during the pre-implementation phase of the SIM project, it could include bi-annual in-person meetings as well as monthly calls focused on evidence-based interventions, best practices, lessons learned, and resources available to improve the chances of success in a value-based health care model.

9.0 Alignment with State and Federal Innovation

Throughout the development of Kentucky’s SHSIP, stakeholders emphasized the need to align with existing initiatives, both within Kentucky and at the federal level, rather than create a set of initiatives that require resources in addition to what have already been committed by providers and payers to date. Stakeholders across the Commonwealth are already involved in a number of innovation models funded by CMMI. A comprehensive list of currently active participants in these innovation models is provided in Table 21 (CMMI, 2015). CHFS will continue to engage these and other key participants to maximize alignment with and synthesis of existing initiatives as the Model Design moves forward.

CMMI Innovation Models at the State or Health Care Facility Level	Number of Participating Kentucky Organizations
Advance Payment ACO Model	3
BPCI Initiative: Model 2	8
BPCI Initiative: Model 3	7
Community-based Care Transitions Program	1
Comprehensive Primary Care Initiative	14
FQHC Advanced Primary Care Practice Demonstration	7
Health Care Innovation Awards	3
Innovation Advisors Program	1
Medicare Care Choices Model	3
Strong Start for Mothers and Newborns Initiative	5
Transforming Clinical Practice Initiative	3

Table 21. CMMI Innovation Models Active Participants (November 2015)

The principle of aligning with federal innovation efforts is particularly evident in the selection of the four reform initiatives described in this plan: PCMH, ACO, EOC, and the Community Innovation Consortium. Each of these initiatives can be mapped to one of seven innovation categories identified by the CMS Innovation Center (CMMI, 2015). This mapping can be seen in Table 22.

CMS Innovation Category	KY SIM Reform Initiative
Accountable Care	<ul style="list-style-type: none"> • ACO
Episode-based Payment Initiatives	<ul style="list-style-type: none"> • EOC
Primary Care Transformation	<ul style="list-style-type: none"> • PCMH • ACO
Initiatives Focused on the Medicaid and CHIP Population	<ul style="list-style-type: none"> • PCMH • ACO • EOC
Initiatives Focused on the Medicare-Medicaid Enrollees	<ul style="list-style-type: none"> • PCMH • ACO • EOC
Initiatives to Accelerate the Development and Testing of New Payment and Service Delivery Models	<ul style="list-style-type: none"> • Community Innovation Consortium
Initiatives to Speed the Adoption of Best Practices	<ul style="list-style-type: none"> • PCMH • Community Innovation Consortium

Table 22. CMS Innovation Category Mapping to KY SIM Initiatives

Most importantly, the Kentucky SHSIP was developed to align with CMS’ vision of a health care system driven by value-based purchasing and improved health outcomes rather than a system that rewards delivering a higher volume of services, as well as the goals of the Triple Aim. In choosing its reform initiatives, SIM stakeholders and CHFS selected three initiatives – PCMH, ACO, and EOC – that are categorized as alternative payment models by CMS. According to the CMS payment taxonomy framework these three initiatives fall into Category 3, which is defined as “some payment is linked to the effective management of a population or an episode of care (CMS Fact Sheets, 2015). Payments still triggered by delivery of services, but opportunities for shared savings or 2-sided risk.” By working with the largest payers throughout the Commonwealth, Kentucky has the opportunity to move toward CMS’ goal for Medicare payments, which is to have 85 percent of payments be linked to value-based purchasing by 2016, and 90 percent by 2018.

Another area in which alignment can be seen with federal innovation initiatives is the inclusion of the Health Home model into Kentucky’s SHSIP. Specifically, individuals with complex, chronic physical and behavioral health comorbid conditions are cited as an area of focus within the PCMH and ACO initiatives detailed in the Value-based Health Care Delivery and Payment Methodology Transformation Plan section of the SHSIP. As stated in this section, Kentucky’s current Health Home planning efforts are focused on individuals with an opiate substance use disorder and who are at risk of developing another chronic condition. The PCMH reform initiative includes a goal to keep the focus on this population, but expand it across all payers within the Commonwealth. Within the ACO reform initiative, the goal will be to encourage participating payers to adopt CCC strategies and performance measures that can be impacted by improving the care coordination of individuals with complex chronic conditions.

From a funding perspective, CHFS is committed to coordinating with federal resources to ensure there is no overlap in funding streams if funding for any of these initiatives becomes available through the federal government. CHFS will also continue to look for areas in which current state funding streams can be leveraged.

10.0 Leveraging Regulatory Authority

Kentucky understands that one of the primary aims of the SIM program is to test the ability of state government to achieve health transformation and multi-payer alignment through use of available regulatory and policy levers. Through leadership and support, states can serve as critical partners to the federal government in transforming health care. CHFS serves as a payer for a significant percentage of health care services delivered in the Commonwealth, has a broad regulatory authority over providers and other payers, has the ability to convene multiple parties to improve statewide health delivery systems, and oversees public health, social, and educational services. The combination of these roles positions CHFS to advance the reform initiatives described in this plan and for realizing the impact on health outcomes each initiative seeks to achieve.

10.1 Regulatory and Policy Levers

Over the course of the Model Design, CHFS reviewed the options for employing multiple regulatory authorities to drive the structure and performance of Kentucky’s health care system toward a more transparent, responsive, multi-payer, value-driven system that aligns with population health metrics. CHFS considered the multiple different levers that can be used, as prescribed by CMS and outlined in Table 23, to determine where Kentucky falls on the continuum of change and what levers are realistic and feasible in the current state environment. To that end, Kentucky’s Model Design currently focuses on cooperative levers and on using the power of collaboration and common goals to pursue voluntary alignment amongst payers and providers within each reform initiative.

Lever Type	Lever Definition	Lever Example
Financial	Using both penalties and incentives to drive behavior and/or behavior change	Funding streams for delivery system transformation (e.g., grant programs) or to reward performance (e.g., shared savings)
Legal/Regulatory	Compelling entities and individuals to comply under the threat of a loss of licensure, privilege, etc.	Licensing, certification or program participation requirements
Structural	Fundamentally changing rules, capacities or conditions of behavior among participants	Using accountable care entities to restructure the delivery system
Cooperative	Using the power of persuasion to pursue voluntary alignment of private entities with public objectives	Voluntary use of common alternative payment methodologies for Medicaid and private payers

Table 23. Lever Types and Examples

As described in the Value-based Health Care Delivery and Payment Methodology Transformation section of this plan, Kentucky’s Model Design focuses on providing health care providers and payers operating in the Commonwealth with options for how they can participate in value-based care delivery and payment reform. While the PCMH, ACO, EOC, and Community Innovation Consortium initiatives proposed in this plan are mutually supportive, the expectation is not that providers, payers, and consumers participate in each reform, but rather that these groups voluntarily participate in the value-based models that are suitable for their organizations. In the absence of legal, regulatory, and policy authority to establish these reform components, the primary goal of the SIM initiative is for Kentucky payers and providers to participate in at least one of the four components of the plan in order to achieve the goal of impacting 80 percent of the covered population through the implementation of payment and service delivery reforms.

10.2 Future State Levers

While the current scope of Kentucky’s Model Design is to focus on cooperative levers and promote voluntary participation in the SIM reforms and alignment across payers, CHFS plans to explore future state levers that can be used to advance/expand the PCMH, ACO, and EOC initiatives after the Model Design phase. Additionally, CHFS plans to pursue levers that may be necessary in advancing the goals detailed in the HIT section of the SHSIP. Leveraging guidance provided by CMS, CHFS conducted preliminary work to identify potential state levers for this health care transformation effort. For example, CHFS may use its contractual authority with the Kentucky Medicaid MCOs to ensure their participation in these initiatives. A similar strategy may be explored with KEHP and its current third-party administrator, Anthem Blue Cross Blue Shield (Anthem), as well. In addition, CHFS held multiple discussions with leadership from the Tennessee Health Care Innovation Initiative to explore their approach to multi-payer engagement and adoption. Tennessee’s approach is centralized around a “Joint Statement of Intent for Population-Based Models” which has been signed by the state’s major payers to establish the commitment to have 80% of members cared for through a population-based model (Tennessee Division of Health Care Finance & Administration, 2014).

One of the first action steps of the Steering Committees for each reform, as well as the HIT And Quality Committees, will be to continue this work and help identify the legal, regulatory, and policy needs for each reform initiative and inventory the levers available in the state to help drive this change. In alignment with CMS’ guidance, Kentucky plans to explore the universe of legal, regulatory, and policy levers available in the Commonwealth, including but not limited to:

- Public health departments (state, county, or local)
- Department of Insurance and health insurance regulations
- The Kentucky Employee Health Plan (KEHP)
- Medicaid and the Children’s Health Insurance Program (CHIP)
- Kentucky’s Health Benefit Exchange, kynect, and the regulation of Qualified Health Plans (QHPs)
- Certificate of Need (CON) regulations
- Professional licensure / re-licensure standards
- Hospital, skilled nursing facility (SNF), and other institutional quality regulations
- Price and quality transparency initiatives
- State antitrust laws and medical malpractice laws
- Educational programs for health and allied professionals
- Other state agencies (e.g., housing, transportation, labor, environment, agriculture, and/or education)
- The Department of Corrections health system
- The Kentucky Legislature (e.g. Health & Welfare Committee)
- Community-based service networks’ processes

Kentucky recognizes the operational, legal, and policy challenges in selecting levers beyond the current cooperative levers in place. To assist the Steering Committees with this work, the Commonwealth plans to leverage as much as possible the decision-making tools and assistance provided by CMS. Specifically, the Steering Committees for each reform initiatives, as well as the HIT and Quality Committees, will use the CMS Policy Levers Template displayed in Figure 66 to explore the authority, strength, and breadth that different policy levers can have over each reform. The Steering Committees will use the template to help identify which policy, statute, regulation, or other federal/state vehicles

State Role/Sample Lever	Related State Efforts	Issues with Activating Lever(s)	Next Steps	SIM Team Lead
Purchaser				
1. Payment reforms (value-based purchasing, shared savings, medical home, bundled payments, etc.), including new payment models designed to enhance primary care capacity, integrate physical and behavioral health, integrate health care with community-based and long-term services and supports and encourage transition from fee for service				
2. Medicaid specific policies around: <ul style="list-style-type: none"> • Eligibility • Benefit package – both traditional and alternative benefit plans for newly eligible/ expansion Section 1937 beneficiaries • Service delivery system and payment method 				

Figure 66. Policy Levers Template

(e.g., waivers) are the best authorities over each reform, as well as analyze to what degree each lever can motivate change in behavior and what stakeholders the lever will impact. Throughout this process, it will be important to maintain an emphasis on which regulatory levers are practical for Kentucky and focus on driving forward a select set of regulations, policies, and/or statutes that will have the greatest population health impact in the Commonwealth.

10.3 Stakeholder Input and Engagement

As alluded to above, Kentucky stakeholders began to identify both the types of existing regulatory barriers and potential levers for change throughout the Model Design process. Operating within the current state environment and the construct of a cooperative design model, CHFS is limited in the advancement of these recommendations; however it has positioned them as a starting point for the SIM Governing Body to consider and potentially recommend.

These topics were primarily covered in the Increased Access Workgroup, whose mission focused on establishing a vision for health care delivery system transformation through a broad range of initiatives and the use of regulatory and statutory levers to advance Kentucky’s SIM Model Design. The Increased Access Workgroup’s activities were guided by an initial workgroup charter that outlined this mission statement, a consensus-based approach to identifying changes needed to transform the health care system, and a high-level timeline. The charter also identified the following key topics that were discussed over the course of the Model Design process with a lens focused on the use of regulatory and policy levers to address existing constraints:

- Rural Health Care
- Local Resource Maximization
- Workforce Needs
- Consumer Service and Convenience

10.3.1 Guiding Principles in Increasing Access to Care

One of the key outputs of the Increased Access Workgroup was a set of guiding principles for increasing access to care across the Commonwealth through the implementation of the SIM reform initiatives. These guiding principles were developed through a combination of direct input from stakeholders as well as feedback from internal stakeholders within CHFS. As shown in Figure 67, the majority of these concepts will require legal, regulatory, and/or policy support from the state in order to implement and/or expand statewide. Similar to the guiding principles developed in the other SIM workgroups, the Increased Access guiding principles will be used to guide the identification of the legal, regulatory, and policy needs for each reform initiative and inventory the levers available in the state to help realize these improvements.

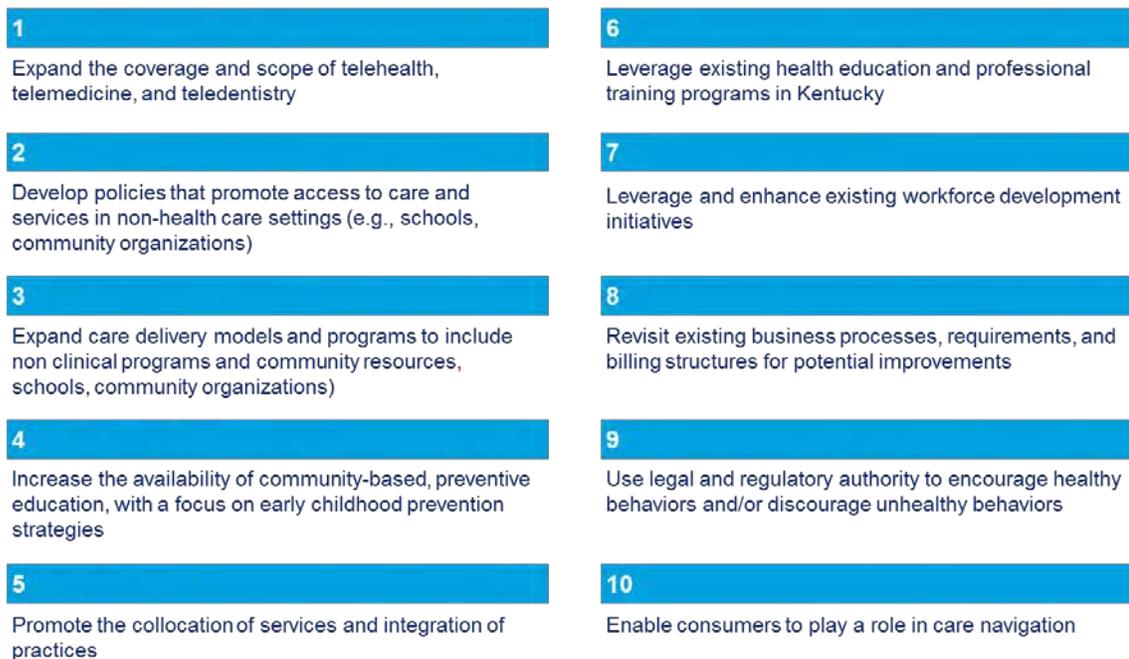


Figure 67. Increased Access Guiding Principles

10.3.2 Potential Strategies to Increase Access to Care

Upon completion of guiding principles to increase access to care as outlined above, the Increased Access Workgroup began to identify tangible recommendations for the SIM governance structure to consider. At the July Increased Access Workgroup, stakeholders worked to identify the current laws/regulations that could be changed to increase access to appropriate evidenced-based care and services in Kentucky. The workgroup also discussed the legal and regulatory

changes that can be made to encourage healthy behaviors amongst Kentuckians. These discussions were structured into four different groups: physical, behavioral, oral, and community health.

The stakeholder-developed list of recommendations below represent examples of future legal, regulatory, and policy changes that the Commonwealth could consider making in an effort to advance the initiatives outlined in this plan and to truly make progress against the goals outlined in the PHIP. Three recommendations rose to the level of “themes” given the frequency with which they were discussed during workgroup sessions. These will be prioritized by the SIM Governing Body and incorporated into future work to identify necessary changes to position SIM for success in Kentucky.

Key Themes

- Define a change in billing structures to allow providers to bill for two services per consumer in one day
- Reduce administrative barriers to virtual health, virtual medicine, and virtual dentistry services
- Reduce administrative burdens by standardizing and eliminating clinical and/or business process variation wherever possible:
 - Provider licensure and credentialing
 - Smoking cessation product formularies
 - Smoking cessation reimbursement policies
 - Prior authorization criteria for diabetes-related drugs and products
 - Quality reporting across payers
 - Language/translation services across payers

In addition to the key themes described above, stakeholders also recommended considering more specific policy changes, as detailed below. These recommendations will also be considered by the SIM Governing Body during the pre-implementation phase of the project.

Other Recommendations

- Determine a certification and reimbursement structure for non-clinical providers to enhance patient care teams
- Increase evidence-based activity through the use of legislative agendas (e.g., drug prevention programs in schools)
- Identify regulations to support non-clinical providers focused on prevention, such as CHWs
- Explore statutory authority to promote statewide tobacco-free legislation, in alignment with kyhealthnow
- Identify regulations to increase access to dental care through the increased role of dental hygienists
- Explore statutory authority and other measures to increase the emphasis on nutrition and health and wellness, for example through improving school nutrition programs and increasing acceptance of nutrition assistance at farmer’s markets
- Increase and expand the health care and/or health insurance training programs for law enforcement

11.0 Workforce Development Strategy

CHFS recognizes that changes in the process of delivering health care, including those changes outlined in this plan, will require a specialized workforce and new skill sets across the continuum of providers. For example, providers who have been trained to practice autonomously may require training for team-based care and shared decision making. New types of

care team members, such as CHWs and other non-clinical and/or non-licensed providers, may need to adapt to state education and/or training requirements, in addition to certification at the state level for augmenting preventive, primary, and/or behavioral health care. Staff in acute care settings and those working in LTSS or community-based, rural settings may need to learn new communication processes to better serve consumers. While these are several examples to consider when identifying the changes to develop an enhanced and sustainable health care workforce as prescribed by CMS, Kentucky plans to identify the universe of required skill sets and training needs to support the reform initiatives contained in the SHSIP.

This section presents existing Kentucky health care workforce data, reviews goals and strategies developed by the Commonwealth to expand the existing workforce, and identifies specific workforce needs in order to successfully implement the initiatives described in this plan.

11.1 Current State of Kentucky’s Health Care Workforce

In March 2013, CHFS contracted with Deloitte Consulting to assist in a study to assess current access to and availability of Kentucky’s health care workforce, examine the Commonwealth’s workforce capacity, and identify gaps by provider type (Deloitte Consulting, 2013). This workforce capacity report identified eight key provider groups in assessing the current supply and future need for health care workers in Kentucky. The study identified several themes as part of the analysis for each provider group, as outlined in Table 24.

Provider Group	Current Supply	Themes
Physicians	10,475	<ul style="list-style-type: none"> Overall physician need in 2012, including both Primary Care Physicians (PCPs) and specialists, across the Commonwealth is 3,790 Full Time Equivalents (FTEs) (excluding surpluses) 61% of unmet need is concentrated in rural counties The PCP subset, which is calculated from more defined benchmarks and modeling, indicates a need for 183 in 2012 to 284 FTEs in 2017, which includes Medicaid expansion Physician retirement and retention issues add to the challenges of growing the physician population through traditional measures Licensing database is fairly correct and includes county of practice; benchmarks for this group are also widely available
Dentists	1,711	<ul style="list-style-type: none"> Overall dentist need in the Commonwealth is high with 612 additional FTEs (excluding surpluses) or 36% of the current supply required to meet current demand Many counties in Kentucky need greater than 100% increases in the current dentist workforce and three counties appear to have no dentists currently practicing Jefferson County has the most pronounced need of 150 dentists Licensing database had duplicative and missing information in crucial fields; widely available benchmarks
Advanced Practice Registered Nurses (APRNs)	3,057	<ul style="list-style-type: none"> Overall APRN need in 2012 is relatively low compared to other groups with only 148 FTEs (excluding surpluses) needed across the Commonwealth Need is nearly evenly split between rural and urban counties Licensing database is one of the most accurate compared to other groups and includes county of practice; widely available benchmarks
Physician Assistants (PAs)	985	<ul style="list-style-type: none"> Overall PA need in 2012 is 296 FTEs (excluding surpluses), or 30% of current supply, which is relatively high as a percentage compared to other groups The need is nearly evenly split between rural and urban counties Licensing database is fairly correct, but does not include crucial county of practice; widely available benchmarks
Registered Nurses (RNs)	48,093	<ul style="list-style-type: none"> The current need for additional RNs across the Commonwealth is 5,635 FTEs (excluding surpluses), or more than 10% of the total RN workforce The need is pronounced across the southern border and in the northeastern corner of the Commonwealth Licensing database is one of the most accurate compared to other groups and includes county of practice; widely available benchmarks

Provider Group	Current Supply	Themes
Licensed Practical Nurses (LPNs)	11,770	<ul style="list-style-type: none"> Overall LPN need in 2012 is low at only 6% growth or 688 FTEs (excluding surpluses) needed over the current workforce supply to meet demand Rural needs are evenly spread across the Commonwealth, and urban needs are concentrated around Warren, Woodford, Bullitt, and Boone counties Licensing database is one of the most accurate compared to other groups and includes county of practice; widely available benchmarks
Nurse Aides (NAs)	43,619	<ul style="list-style-type: none"> Benchmarking does not indicate unmet need in this provider group across the Commonwealth Licensing database is fairly correct, but does not include crucial county of practice; benchmarks available but limited
Optometrists	568	<ul style="list-style-type: none"> Overall optometrist need is high with an additional 269 FTEs (excluding surpluses) or 47% of supply required to meet current need Over 25% of the counties in Kentucky do not have a practicing optometrist represented in the licensing database, and only 10% of counties have enough optometrists to meet the current need Licensing database is fairly correct, but does not include crucial county of practice; benchmarks available but limited

Table 24. General Findings by Provider Group (Deloitte, 2013)

The overall results from the 2013 study indicated that intervention is needed to curb the trending decline of health care workforce capacity in relation to the rising population and increased demand for health care in Kentucky. The report provided a set of recommendations that the Commonwealth considered, including:

1. Improving professional licensure data quality and reporting across all workforce groups
2. Promoting additional limited service clinics (LSCs) to expand access in rural/underserved areas
3. Creating support programs for small practices in rural and underserved areas
4. Increasing/expanding Medicaid reimbursement for rural areas and technology-driven care
5. Expanding programs to engage international medical graduates in rural and underserved areas
6. Addressing scope of practice limitations for mid-level practitioners
7. Evaluating medical malpractice caps
8. Expanding loan forgiveness programs to improve distribution in rural and underserved areas
9. Enhancing programs that support recruiting for retention
10. Expanding regional rural health tracks to improve rural pipeline and retention
11. Increasing health care degree and residency capacity across the Commonwealth

The study also contains a prioritization matrix, which ranks each of the 11 recommendations based on ease of implementation, duration of implementation, and impact on the Commonwealth's workforce. This prioritization matrix is provided in Figure 68.

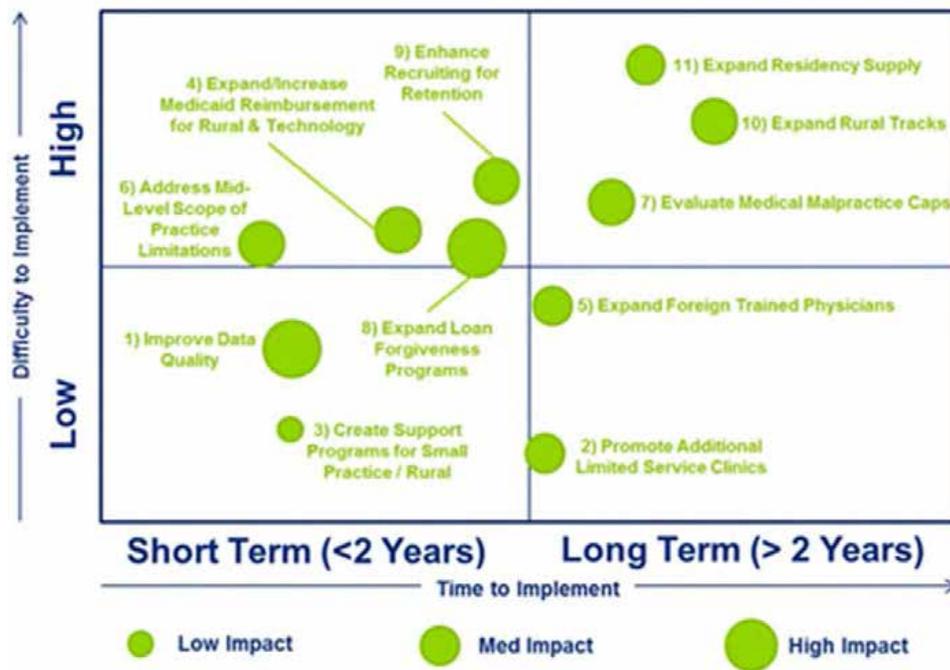


Figure 68. Prioritization Matrix of Recommendations

11.2 Kentucky’s Health Workforce Action Plan

In response to the workforce capacity report, the Kentucky Office of Health Policy (OHP) participated in the National Governor’s Association (NGA) Policy Academy initiative in conjunction with the Kentucky Education and Workforce Development Cabinet, which culminated in November 2015 with Kentucky’s health workforce action plan, titled *Building a Transformed Health Care Workforce: Moving from Planning to Implementation* (CHFS OHP, 2015). The focus of this plan is on developing health workforce strategies based on accurate provider data. The action plan outlines five-year vision statements, goals, outcome measures/indicators, and strategies in three core areas that form the foundation of a workforce strategy for the SIM initiatives. These three core areas – data, pipeline, and health workforce planning – are described in more detail below. The SIM Governing Body and PCMH, ACO, EOC, and Community Innovation Consortium Steering Committees will use this action plan as the base for recommending specific workforce strategies necessary to support each reform.

11.2.1 Data

The first core area within Kentucky’s health workforce action plan focuses on data. Throughout the Model Design period, stakeholders identified the need to collect and report more accurate workforce data in order to establish better baseline data and develop strategies to improve Kentucky’s health workforce. This core area, as outlined in Figure 69, sets specific goals that are tied to outcomes and proposes a set of strategies to meet each goal. The SIM Governing Body will leverage these existing strategies for data collection and reporting as it helps identify the data needs necessary to support the SIM initiatives from a workforce perspective.

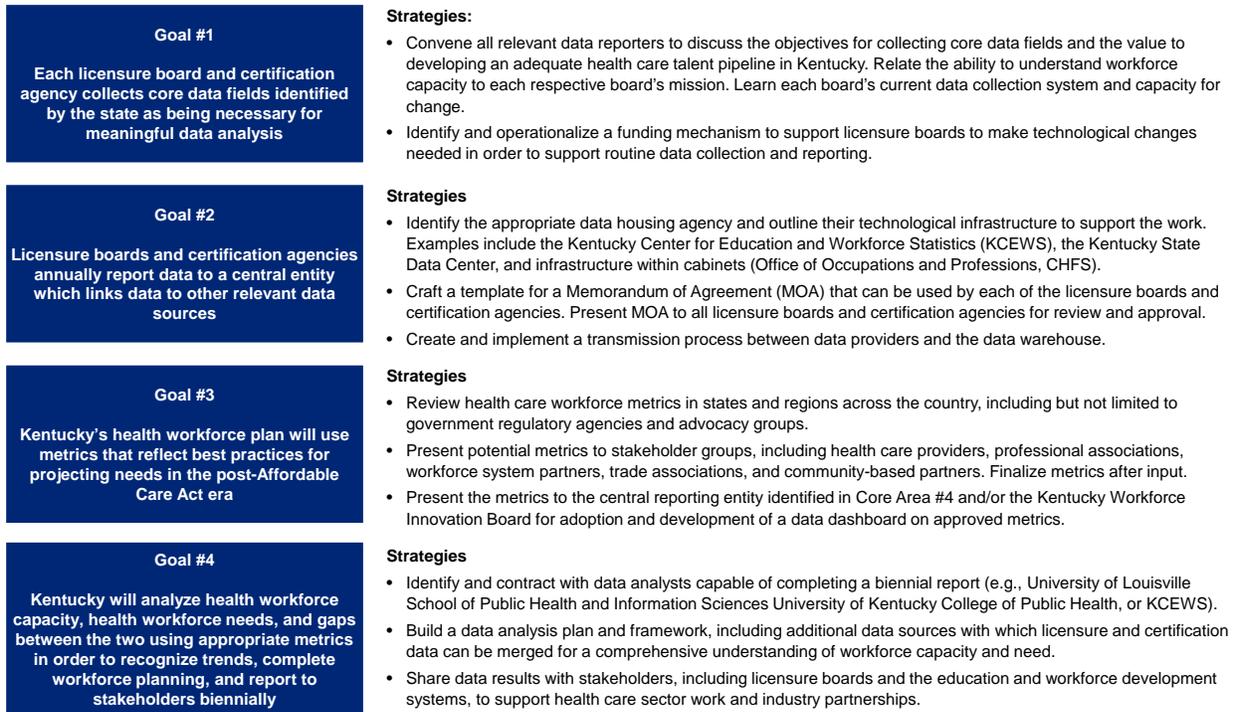


Figure 69. Kentucky Health Workforce Action Plan: Core Area #1 – Data

11.2.2 Pipeline

The second core area within Kentucky's health workforce action plan focuses on the Commonwealth's pipeline and training plans and promotes alignment with the health needs of Kentuckians. Throughout the Model Design period, stakeholders discussed partnership ideas and how the educational system could be leveraged to ensure that the workforce pipeline is trained to support the transforming health care field. Similar to the plan's description of data needs, this core area is outlined in Figure 70 and contains four goals along with supporting strategies for each goal. The SIM Governing Body will leverage these existing strategies and identify necessary training and skill sets as it helps create an environment conducive to building a more robust pipeline to support the SIM initiatives.

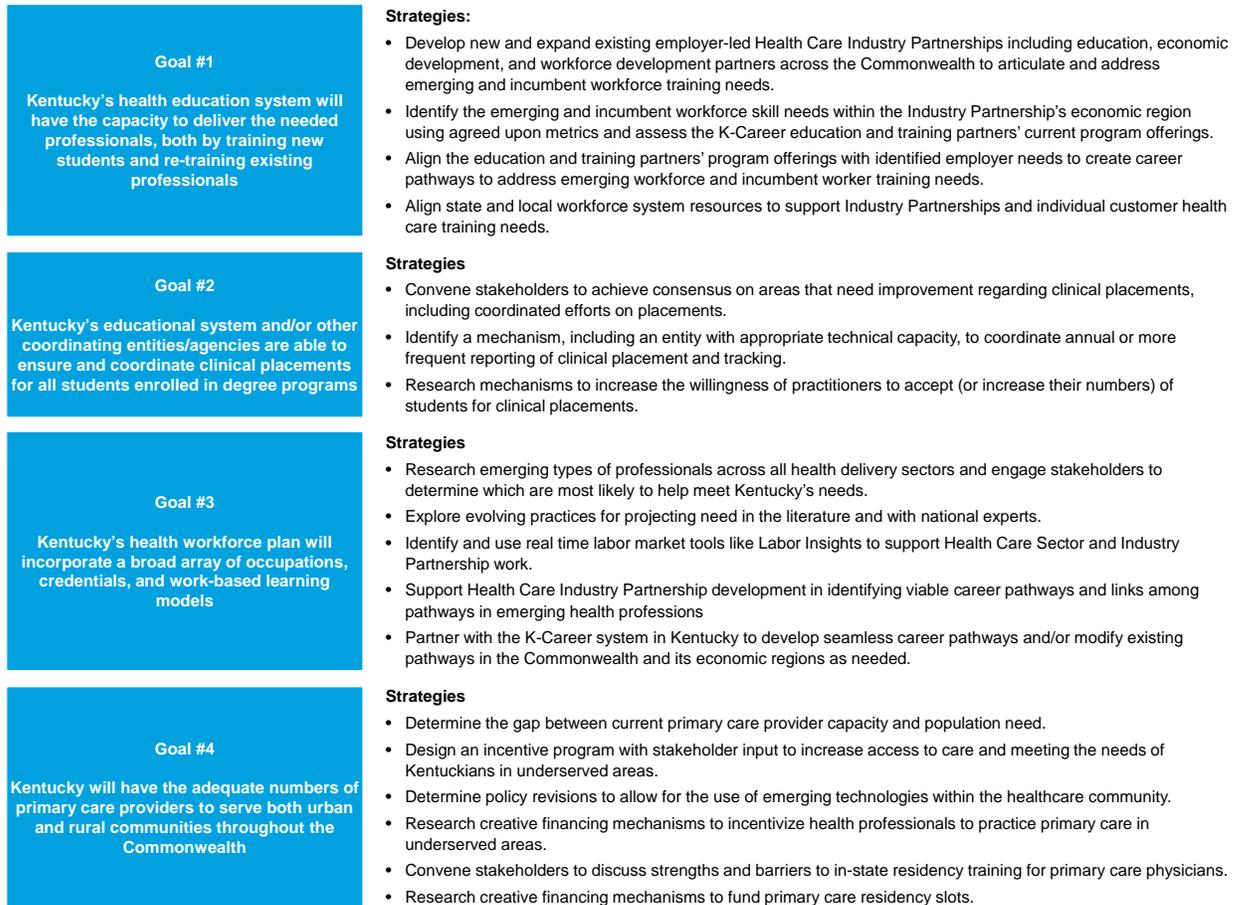


Figure 70. Kentucky Health Workforce Action Plan: Core Area #2 – Pipeline

11.2.3 Health Workforce Planning

The third core area within Kentucky's health workforce action plan focuses specifically on health workforce planning. While this action plan is a strong first step, Kentucky currently lacks a coordinated statewide health workforce effort focused on adapting the Commonwealth's workforce to the changing landscape of care delivery. The action plan outlines the ultimate goal of developing a sustainable, evidence-based state health workforce plan that is updated regularly. This goal, as outlined in Figure 71, aligns with the future work for the SIM Governing Body as it helps advance the SIM reform initiatives. As both efforts move forward, the Commonwealth will work to maintain alignment with health workforce planning efforts at a statewide level and conduct the necessary planning to help develop a workforce capable of implementing the PCMH, ACO, EOC, and Community Innovation Consortium initiatives.

Goal #1

Kentucky will have a single entity responsible for issuing an annual state health workforce plan containing policy recommendations, performance metrics, an analysis of the health workforce pipeline, along with maintaining a real-time ongoing data dashboard assessing the state of the health workforce

Strategies:

- Review existing industry sector workforce planning models in Kentucky and nationwide and incorporate appropriate best practices into the health workforce planning approach.
- Research models for health workforce analysis and planning to determine a model that best fits Kentucky's needs and existing infrastructure.
- Create a state-level health care sector panel that includes representatives from CHFS, health care providers (including licensure boards), economic development, educational systems, consumer advocates, and appropriate stakeholders affiliated with the Kentucky Workforce Innovation Board and the Department of Workforce Investment. This panel will be charged with developing a state-level health care workforce plan which will review licensure data, educational program data, real time labor market data, projected need for health care services across the state, and Industry Partnership insights that includes performance metrics.
- Incorporating evidence on best practices, the state-level panel will identify a single entity or office to house the sector panel and to take primary responsibility for the health workforce plan development, including conducting research and policy studies that will continue to inform and fine tune the Commonwealth's health care workforce plan.
- Kentucky issues its first updated health workforce plan by June 2016, reflecting updated data and timely policy analysis and recommendations.

Figure 71. Kentucky Health Workforce Action Plan: Core Area #3 – Health Workforce Planning

11.3 Workforce Capabilities to Support SIM Initiatives

While Kentucky's health workforce action plan provides a set of goals linked to outcome measures and strategies to support the achievement of each goal, the Commonwealth recognizes that the delivery system and payment reform initiatives described in this plan may require providers to have more specific, targeted skill sets in order to operate successfully under each reform initiative. Therefore, CHFS developed a set of workforce capabilities, which were developed in collaboration with stakeholders, for the SIM Governing Body to consider as it moves the Model Design from planning to implementation. These overarching capabilities are necessary to support the PCMH, ACO, EOC, and Community Innovation Consortium initiatives. The initiatives will require a health care workforce with expertise in at least eight defined skills and/or knowledge areas as displayed in Figure 72. These capabilities are not intended to be an exhaustive list; rather they are intended to inform the SIM Governing Body as well as the Steering Committees for each reform as they consider individual workforce needs for each model and help develop plans to align with the Commonwealth's current action plan and strategies.

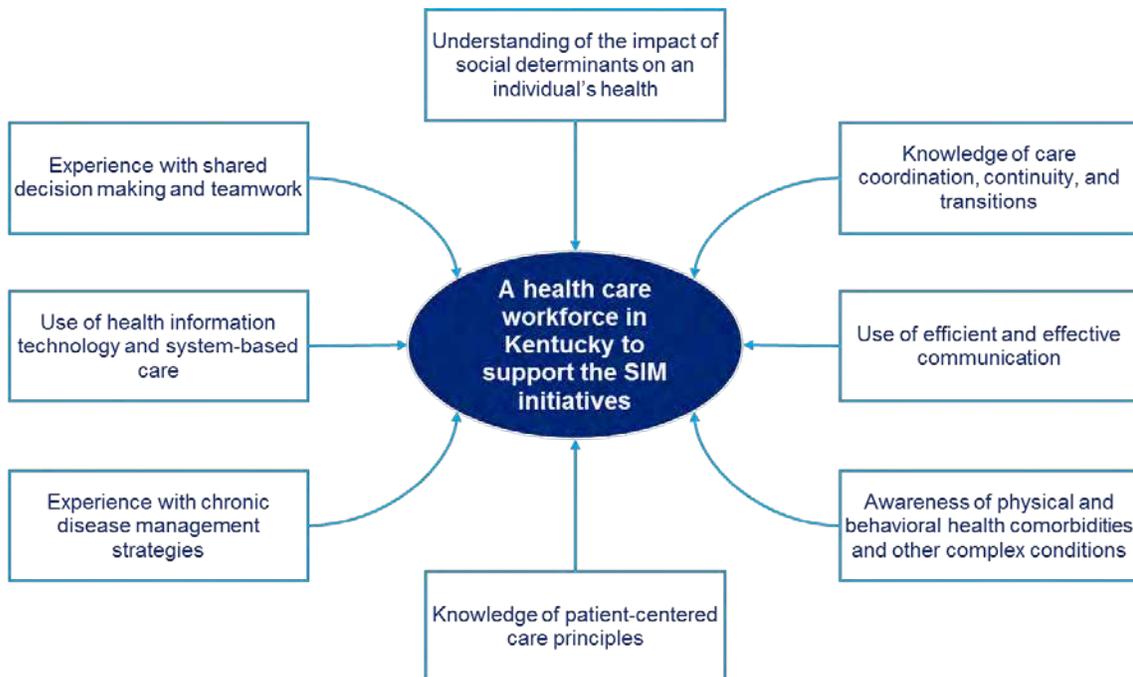


Figure 72. Workforce Capabilities to Support SIM Initiatives

The capabilities can be enhanced by leveraging the resources and expertise of community-based organizations that provide essential social services. In addition to the overarching capabilities displayed in Figure 72, CHFS and stakeholders primarily involved in the Increased Access workgroup identified potential skill sets for providers and/or staff participating in each specific reform initiative. Table 25 proposes several skill sets and/or knowledge areas that stakeholders identified as being critical to successfully operate under each reform. These will be considered by each Steering Committee as they help develop and support the participating organizations and/or teams in each model. This table is not intended to be exhaustive and will benefit from further analysis by each Steering Committee as the skill sets and/or knowledge areas are considered.

Reform Initiative	Identified Skill Sets / Knowledge Areas
PCMH	<ul style="list-style-type: none"> • Knowledge of the PCMH pre-certification and certification processes • Communication with providers beyond PCPs and/or APRNs, RNs/LPNs, including specialists, dentists/RDHs/PHRDHs, non-clinical providers, and other members of an expanded care team • Understanding of the whole person and impact of social determinants • Experience in case management and consumer relations • Experience in project and/or practice management
ACO	<ul style="list-style-type: none"> • Communication across existing care silos (e.g., Medicaid waivers, LTSS, behavioral health, and physical health) • Understanding of the whole person and impact of social determinants • Experience in case management • Experience in project and/or practice management
EOC	<ul style="list-style-type: none"> • Understanding of a consumer's place on the full care continuum • Knowledge of best practices and industry strategies to improve transitions of care • Communication across existing care silos • Knowledge of existing resources at the community level • Experience in case management • Experience in project and/or practice management
Community Innovation Consortium	<ul style="list-style-type: none"> • Knowledge of existing resources at the community-level with an emphasis on social services • Understanding of the health disparities and rural access challenges in the applicable portions of the state

Table 25. Specific Skill Sets to Support SIM Reforms

11.4 Recruitment and Retention Strategies

In addition to identifying workforce capabilities to support the SIM initiatives, the Increased Access Workgroup also discussed recruitment, retention, and local resource maximization strategies to support the expansion of these necessary skill sets/knowledge areas. Specifically, stakeholders recognized the need to encourage providers to practice to the fullest extent of their scope of practice, and that existing scope of practice regulations could be revised to account for skills and education of provider types. For example, this strategy could support the expanded care team components of the PCMH and ACO initiatives outlined in this plan.

To address existing provider recruitment issues, stakeholders identified the need for expanded loan forgiveness programs to other professions (e.g., behavioral health providers) and the need to reduce the difficulty of clinical placements by promoting health centers as teaching centers. Stakeholders also identified the opportunity to implement early training based upon geographic location and/or communities and to conduct rural family physician identification early (e.g., high school to increase provider recruitment in underserved areas of the Commonwealth).

In addition to recruitment strategies, stakeholders identified strategies to address existing retention issues within the health care workforce, including the need to provide financial support for practice transformation for providers “at-risk” of

retirement and to encourage in-state practice and maintenance of community relationships. Members of the Increased Access Workgroup also identified the opportunity to leverage the data collection strategies within existing workforce development initiatives underway in Kentucky. In addition to the data collection strategies outlined in Kentucky's health workforce action plan previously described, stakeholders identified the opportunity to leverage Area Health Education Center (AHEC) programs to reduce disparities among physicians, APRNs, PAs, PTs, etc.

These recruitment, retention, and local resource maximization strategies, which were developed in collaboration with stakeholders, are for the SIM Governing Body to consider a future action steps toward a sustainable health care workforce to support the initiatives outlined in this plan.

12.0 Financial Analysis

While each element of this SHSIP has gone through broad stakeholder review and input, this section has not been reviewed with stakeholders due to the Commonwealth's revised timeline for the SHSIP. This section summarizes the financial analysis of two of the reform components of the Commonwealth's SHSIP – the ACO initiative for the statewide Medicaid FFS population and the EOC initiative for the statewide Medicaid population (across both FFS and managed care) – to review the viability of the potential savings and investment costs of these proposed payment model initiatives. The section describes the methodologies and assumptions used in this financial analysis to estimate the potential savings, investment costs, and return on investment opportunities for these two payment model initiatives. For the purposes of this analysis, these two models are theoretical in nature and have been built as hypothetical reform scenarios to demonstrate savings potential. Given that the detailed design work for these initiatives will be completed under the guidance of the SIM steering committees, it is possible that the actual models that are implemented may look different. Note that all expenditures (i.e., savings and investment cost) are All Funds amounts (i.e., state share and federal match combined).

Accountable Care Organization (ACO) Initiative for the FFS Population

Program Expenditures

The analysis focused on the ACO initiative for the Medicaid FFS population, estimating the potential cost savings, or reduction in the growth of health care costs, that may be recognized as a result of implementing this initiative. The data sources used to estimate future Medicaid expenditures for the financial analysis of the ACO initiative are as follows:

- **Membership:** Monthly Medicaid FFS population counts for calendar year 2014, summarized by eligible month, member program, and Medicaid region
- **Paid Claims:** Aggregated Medicaid FFS paid claims for service dates incurred in calendar year 2014, paid through June 30, 2015, summarized by member program, provider type, and Medicaid region
- **Other ACO Savings Assumptions:** As outlined in the Savings Assumptions section below, to estimate the savings that could be achieved from the ACO initiative, emerging results from other ACO models, and savings assumptions from similar state SIM innovation plan submissions were reviewed

Based on the data sources above, the Commonwealth's Medicaid FFS expenditures for calendar year 2014 were approximately \$2.357 billion, or approximately \$1,540 per member per month (PMPM). To estimate the potential FFS program expenditures during the SIM implementation period, these results were trended forward. The results were trended forward four years to align with the four-year framework of a potential SIM Model Test grant. A variety of sources were reviewed when developing the Medicaid trend assumptions, broadly categorized as follows:

National Health Expenditure Data:

- **Source:** Historical health care spending trend and projected Medicaid trend, published by the CMS Office of the Actuary (CMS Office of the Actuary, 2011; CMS Office of the Actuary, 2014)
- **Summary of Findings:** From 1980 to 2009, total national medical expenditures increased approximately 5.9 percent annually, with Medicaid expenditures projected to increase 6.2 percent annually from 2014 through 2023

Kentucky-Specific Expenditure Data:

- **Source:** Historical health care spending trend published by the CMS Office of the Actuary and the Commonwealth of Kentucky’s proposed operating budget for state fiscal year (SFY) 2016 (Office of State Budget Director, 2013)
- **Summary of Findings:** Based on the CMS Office of the Actuary report, total medical expenditures in the Commonwealth increased approximately 5.1 percent annually from 1980 to 2009. According to the Commonwealth’s SFY 2014 – SFY 2016 operating budget, Medicaid services expenditures are projected to increase by approximately four percent between SFY 2015 (\$7.711B) and SFY 2016 (\$8.021B)

Comparative Analysis of Other States:

- **Source:** Review of other states’ financial assumptions incorporated within their SIM innovation plan submissions, including but not limited to Idaho, Ohio, Rhode Island, and Washington
- **Summary of Findings:** States use a variety of sources for trend development, including the CMS Office of the Actuary trends and state-specific experience. Trend assumptions ranged between 0 percent and approximately 6 percent, with states typically using lower trends for conservatism when estimating future program expenditures

For purposes of the financial analysis, a Medicaid expenditure annual trend assumption of four percent was used, which is consistent with the trend incorporated in the Commonwealth’s operating budget for SFY 2016 Medicaid services. For conservatism, Medicaid enrollment is assumed to remain stable for purposes of the financial analysis.

The trend assumptions were applied to the calendar year 2014 base data described above to estimate Medicaid FFS program expenditures during the ACO initiative implementation period, which as described in Section 5.5.3, is anticipated to occur during calendar years 2016 through 2019. Table 26 summarizes the estimated Medicaid FFS paid claims for calendar years 2016 through 2019.

Year	Estimated FFS Paid Claims (Total \$)	Estimated FFS Paid Claims (PMPM)
2014 (actuals)	\$2.357B	\$1,540
2016	\$2.550B	\$1,660
2017	\$2.652B	\$1,730
2018	\$2.758B	\$1,800
2019	\$2.868B	\$1,870

Table 26. Estimated Kentucky Medicaid FFS Paid Claims (Calendar Years 2016 to 2019)

Savings Assumptions

The Commonwealth anticipates the implementation of the ACO initiative in Medicaid will improve population health, better coordinate consumer care, and ultimately slow the trend of increasing health system costs. To estimate the potential financial impact from the ACO initiative, emerging results from other ACO models and savings assumptions from both Model Design and Model Test SIM states were reviewed. Examples highlighted include Minnesota, Oregon, Rhode Island, and Washington, as well as reported results from commercial ACOs:

Minnesota: Minnesota has implemented accountable care style contracts with providers, which has been accomplished by expanding upon Minnesota’s current Integrated Health Partnership (IHP) demonstration. The model was originally projected to save \$111 million over three years (of which \$90.3M was attributed to Medicaid) (Health Reform Minnesota, 2013). In the first year, 2013, actual savings for the program were \$14.8 million across six providers, and the second year delivered \$61.5 million in savings across nine providers (Health Reform Minnesota, 2012). This represents approximately 69 percent of the estimated program savings goal through two years of implementation (Minnesota Department of Human Services, 2015).

Oregon: Oregon’s Coordinated Care Organizations (CCO) are comprised of a network of clinical and non-clinical health care providers who work together to provide care to those who receive coverage under the Oregon Health Plan (Medicaid). Based on financial data in the most recent 2014 CCO Performance Report, CCOs are continuing to hold costs down, and Oregon is meeting its obligation to CMS to reduce growth in spending by two percent per member, per year (PMPY) (Oregon Health Authority, 2012; Oregon Health Authority, 2015).

Rhode Island: The Rhode Island Innovation Model incorporates a number of overlapping initiatives, including the implementation of an ACO model across Medicare, Medicaid, and commercial populations. Rhode Island leveraged multiple research sources, including other state SIM innovation plan submissions, to develop their ACO model savings assumptions, which ranged from 1.2 percent to 3.0 percent annually (Rhode Island Executive Office of Health & Human Services, 2014).

Washington: The Washington Innovation Model envisions far-reaching and cross-cutting changes to the ways in which the state organizes and purchases health care and support services, and how providers are reimbursed. The model is estimated to generate savings of \$492 million for the Medicaid population over the next three to five years, based on relevant studies of experience from similar interventions in other geographies (Washington State Health Care Authority, 2014).

Commercial ACOs: According to a recent Health Affairs article, “Results are more difficult to compare than Medicaid ACOs due to their lack of uniformity in measurement and reporting. According to the Leavitt Partners ACO Database, there are 287 ACOs with commercial contracts, only 12 of which have reported financial results of some sort. Eleven of the 12 commercial ACOs report having saved money. Very few of these have reported a dollar figure for savings, but costs were reported to have decreased by between 2 and 12 percent” (Health Affairs, 2014).

Table 27 summarizes the findings of the savings research. Overall, anticipated annual cost savings from an ACO model implementation varies between 0 percent and 12 percent, with savings often increasing after the first year of implementation.

For purposes of the financial analysis, a range of cost savings was used for the ACO initiative within the Medicaid FFS population of 0.5 percent and 1.5 percent in the first year of implementation and 1.5 percent to 2.5 percent in the subsequent years. The state-specific experiences highlighted above, the impact on savings specific to the Kentucky Medicaid population, and the impact of implementing the ACO initiative concurrently with the EOC initiative were considered in developing this range. As a result, savings assumptions within the range observed in other states were used with considerations for overlapping initiatives and populations.

Table 28 summarizes the estimated cost savings impact when the range of savings is applied to the estimated future Medicaid FFS paid claims. As outlined in Section 5.5.3, the Commonwealth anticipates implementation of the Medicaid ACO initiative during calendar years 2018 and 2019. Lower savings were assumed in the first year due to the ramp-up of the program as members are attributed, with greater savings assumed in the second year of implementation.

State/Source	Year 1	Years 2+
Minnesota	0.2%	0.6%
Oregon ¹	2.0%	2.0%
Rhode Island (Medicaid)	1.2%	1.2%
Rhode Island (Commercial) ²	3.0%	3.0%
Rhode Island (Medicare) ²	1.3%	1.3%
Washington (Medicaid) ²	0.6%	1.4% - 4.3%
Washington (Commercial) ²	0.0%	0.1% - 0.5%
Washington (Medicare) ²	0.0%	0.1% - 0.2%
Washington (Public Employees) ²	0.4%	0.9% - 2.7%
Commercial ACOs ¹	2.0% - 12.0%	2.0% - 12.0%

Table 27. Research Summary of Potential ACO Model Savings

Year	Estimated FFS Paid Claims	Estimated Cost Savings (% Impact)		Estimated Cost Savings (\$ Impact)	
		Low	High	Low	High
2018	\$2.758B	0.5%	1.5%	\$13.8M	\$41.4M
2019	\$2.868B	1.5%	2.5%	\$43.0M	\$71.7M
Total	\$5.626B			\$56.8M	\$113.1M

Table 28: Estimated Medicaid FFS ACO Initiative Cost Savings (2018 – 2019)

Based on the estimated savings impact and future Medicaid FFS paid claims, the implementation of the Medicaid ACO initiative could result in total cost savings between **\$56.8 million and \$113.1 million** by the end of calendar year 2019. Results may vary depending on a number of variables, including but not limited to, the impact of medical inflation and member utilization on future program expenditures, the selected attribution methodology for participating Medicaid eligible members, and the number of participating ACOs. For example, if program cost inflation exceeds the four percent annual trend assumption, greater savings on a dollar basis may be achieved. Conversely, if membership attribution doesn't cover the entire population or the number of participating ACOs limits participation by region, savings may be reduced as a result.

Episodes of Care (EOC) Initiative

Program Expenditures

To estimate the potential cost savings, or reduction in the growth of health care costs that may be recognized as a result of implementing the EOC initiative, the analysis focused on the Commonwealth's Medicaid population, inclusive of FFS and managed care. The EOC initiative is comprised of pre-defined medical "episodes". Therefore, to estimate future program expenditures, assumptions were developed for future total costs of care for episodes that may be implemented under this initiative. The Commonwealth chose to focus on Arkansas as a result of the state's robust documentation of its EOC model. However, the selection of Arkansas' EOC model does not necessarily signify the Commonwealth's endorsement of or commitment to Arkansas' specific design or rollout. Rather, the Arkansas EOC model was chosen as a basis for this hypothetical model because it represents an established EOC program with adequate data for analysis.¹⁰ The data sources used to estimate future Medicaid expenditures for the financial analysis of the EOC initiative are as follows:

- **Membership:** Monthly Medicaid FFS and managed care population counts for calendar year 2014, summarized by eligible month, member program, and Medicaid region
- **Paid Claims:** Aggregated Medicaid FFS and managed care paid claims for service dates incurred in calendar year 2014, paid through June 30, 2015, summarized by member program, provider type, and Medicaid region
- **Costs per Episode:** The State of Arkansas SIM innovation plan and payment improvement initiative, which outlines 14 targeted episodes, including the estimated number of annual episodes and estimated costs per episode
- **Other EOC Initiative Savings Assumptions:** As outlined in the Savings Assumptions section below, to estimate the savings that could be achieved from the EOC initiative, emerging results from other EOC models and savings assumptions from similar state SIM innovation plan submissions were reviewed. Examples highlighted are in Arkansas, Ohio, and Tennessee

¹⁰ The EOC models in Tennessee and Ohio were also considered as models for this analysis, however actual results from these models are not yet available.

As outlined in Section 5.6, the EOC initiative will consist of two implementation waves that will occur in calendar years 2018 and 2019.

For “**wave one**”, it was assumed that five core episodes will be implemented similar to the Arkansas model: pregnancy, attention deficit hyperactivity disorder (ADHD), upper respiratory infections (URI), total hip and knee replacement, and congestive heart failure (CHF). While these are the episodes that Arkansas implemented during wave one of their EOC initiative, the EOC Steering Committee composed of broad stakeholders will be responsible for providing guidance on the episodes to be used in Kentucky.

After implementation of wave one, it was assumed that nine additional episodes will be launched in “**wave two**”, similar to the Arkansas model: colonoscopy, cholecystectomy, tonsillectomy, oppositional defiance disorder (ODD), coronary artery bypass graft (CABG), percutaneous coronary intervention (PCI), chronic obstructive pulmonary disease (COPD), neonatal, and ADHD/ODD comorbidity. The wave two episodes will also be developed with guidance from the EOC Steering Committee.

To develop the cost of care targets for each episode, the State of Arkansas’ research of its own EOC model experience was leveraged, where the cost data for each episode is collected at the service type level, then aggregated on a per-episode basis. It was assumed that the initial launch of the Commonwealth’s EOC initiative will yield similar results for costs on a per-episode basis, prior to trending the Arkansas data to the dates of the Commonwealth’s implementation period (State of Arkansas, 2015).

The per-episode costs in the Arkansas model were collected between calendar years 2009 and 2012. To trend the data forward to the Commonwealth’s implementation period, a four percent annual trend assumption was applied, consistent with the Commonwealth’s budget trend assumption and outlined in the ACO initiative above. This methodology was applied consistently to each episode, with the trending period varying based on the age of the Arkansas data, to arrive at the calendar year 2018 and 2019 estimated per-episode costs.

To estimate the number of episodes for each defined episode of care, the episode counts observed in the State of Arkansas’ EOC model were used. These episode counts were adjusted by a scaling factor of approximately 1.61, to account for the difference in total SFY2014 Medicaid expenditures between the Commonwealth (\$8.09B) and the State of Arkansas (\$4.90B) (Henry J. Kaiser Foundation, 2014).

Tables 29 – 32 highlight the observed results from the State of Arkansas’s EOC model, the estimated cost per episode, the estimated number of episodes, and the estimated total cost for each of the potential episodes of care under wave one and wave two of the EOC initiative.

Wave One Development

Episode	Observed Data Time Period	Observed Cost per Episode	Observed Annual Episodes
ADHD	7/08 – 6/10	\$3,820	12,135
Pregnancy	4/09 – 3/10	\$4,890	21,199
URI	7/09 – 6/10	\$70	123,330
Hip and Knee	7/08 – 6/10	\$20,780	1,198
CHF	7/08 – 6/09	\$11,210	11,434
Wave One Total		\$1,840	169,296

Table 29. Wave One Episodes Base Data – State of Arkansas Observed Results

Episode	Estimated Cost/Episode		Estimated Number of Episodes		Estimated Total Claims Costs	
	2018	2019	2018	2019	2018	2019
ADHD	\$5,440	\$5,660	19,600	19,600	\$106.6M	\$110.9M
Pregnancy	\$6,890	\$7,170	34,200	34,200	\$235.6M	\$245.2M
URI	\$100	\$100	199,200	199,200	\$19.9M	\$19.9M
Hip and Knee	\$29,580	\$30,760	1,900	1,900	\$56.2M	\$58.4M
CHF	\$16,270	\$16,920	18,500	18,500	\$301.0M	\$313.0M
Wave One Total	\$2,630	\$2,730	273,400	273,400	\$719.4M	\$747.5M

Table 30. Wave One Episodes – Estimated Utilization and Total Claims Costs (2018 – 2019)

Wave Two Development

Episode	Observed Data Time Period	Observed Cost per Episode	Observed Annual Episodes
Colonoscopy	1/10 – 12/10	\$1,250	1,247
Cholecystectomy	1/10 – 12/10	\$2,590	707
Tonsillectomy	1/10 – 12/10	\$1,140	4,561
Oppositional Defiance Disorder	1/10 – 12/10	\$1,770	9,418
Coronary Artery Bypass Graft (CABG)	1/10 – 12/10	\$11,280	81
Percutaneous Coronary Intervention (PCI)	1/10 – 12/10	\$5,380	481
Chronic Obstructive Pulmonary Disease (COPD)	1/10 – 12/10	\$2,320	972
Neonatal	1/10 – 12/10	\$7,140	8,186
ADHD/ODD Comorbidity	1/10 – 12/10	\$1,840	2,553
Wave Two Total		\$3,340	28,206

Table 31. Wave Two Episodes Base Data – State of Arkansas Observed Results

Episode	Estimated Cost/Episode		Estimated Number of Episodes		Estimated Total Claims Costs	
	2018	2019	2018	2019	2018	2019
Colonoscopy	\$1,700	\$1,770	2,000	2,000	\$3.4M	\$3.5M
Cholecystectomy	\$3,550	\$3,690	1,100	1,100	\$3.9M	\$4.1M
Tonsillectomy	\$1,560	\$1,620	7,400	7,400	\$11.5M	\$12.0M
Oppositional Defiance Disorder	\$2,420	\$2,520	15,200	15,200	\$36.8M	\$38.3M
Coronary Artery Bypass Graft (CABG)	\$15,430	\$16,050	100	100	\$1.5M	\$1.6M
Percutaneous Coronary Intervention (PCI)	\$7,360	\$7,650	800	800	\$5.9M	\$6.1M
Chronic Obstructive Pulmonary Disease (COPD)	\$3,180	\$3,310	1,600	1,600	\$5.1M	\$5.3M
Neonatal	\$9,770	\$10,160	13,200	13,200	\$129.0M	\$134.1M
ADHD/ODD Comorbidity	\$2,520	\$2,620	4,100	4,100	\$10.3M	\$10.7M
Wave Two Total	\$4,560	\$4,740	45,500	45,500	\$207.4M	\$215.8M

Table 32. Wave Two Episodes – Estimated Utilization and Total Claims Costs (2018 – 2019)

As outlined in the above tables, assuming similar episodes of care are implemented in the Commonwealth's EOC initiative as implemented in the State of Arkansas, it is estimated that the applicable Medicaid program expenditures could be between \$719.4 million and \$747.5 million annually for wave one episodes, and between \$207.4 million and \$215.8 million annually for wave two episodes. Total costs may vary depending on a number of variables including, but not limited to, the

selected episodes, the populations covered, the actual number of episodes observed in the Commonwealth for each wave, and the timeframe of the implementation.

Savings Assumptions

The Commonwealth anticipates the implementation of the EOC initiative in Medicaid will provide an incentive for providers to more effectively manage the selected episodes of care and ultimately reduce the growth of health system costs. To estimate the financial impact that could be achieved from the EOC initiative, emerging results from other EOC models and savings assumptions from similar state SIM innovation plan submissions were reviewed. Examples highlighted are in Arkansas, Ohio, and Tennessee:

Arkansas: Arkansas began implementing an episode-based payment initiative in 2012 and expected to save between 3 percent and 10 percent from a reduction in costs due to eliminating inefficiencies and also achieve a 1 percent to 2 percent reduction in the Medical inflation trend. Currently, Arkansas has seven episodes that have been in place through at least one demonstration year and have been analyzed for their impact on savings. For these episodes, Arkansas has experienced savings in the range of 10.4 percent to 18.3 percent in the first year based on the total affected spend, and expects to see savings in the range of 3.8 percent to 15.7 percent for all implemented episodes in the upcoming years. At the episode-specific level, Arkansas has experienced savings of 0 percent to 25 percent for different episodes in their first implementation year (State of Arkansas, 2015; The Stephen Group, 2015).

Ohio: Ohio expected to achieve savings resulting from their episode-based payment model of approximately 0.5 percent to 1.5 percent in the first two to four years of implementation due to reduced medical inflation and 6 percent to 12 percent savings due to reductions in medical waste. Ohio's savings estimates were based on an Agency for Healthcare Research and Quality (AHRQ) report, which stated that episode-based payment models could offer savings up to 10 percent, as well as projections from Arkansas' original episode based-payment model, which estimated savings ranging from 6.5 percent to 13.5 percent of total healthcare spending (Ohio Governor's Office of Health Transformation, 2013).

Tennessee: Tennessee began implementing their episode-based payment model in late 2014 to cover 75 episodes over the course of five years. In conjunction with a Primary Care Transformation System and a Long Term Services and support system, this is expected to lead to savings of \$2.23B during the first four years of implementation, or approximately 5.4 percent of Medicaid expenditures (Tennessee Division of Health Care Finance and Administration, 2014; Tennessee Division of Health Care Finance and Administration, 2015).

Table 33 summarizes the findings of the savings research results. Overall, estimated annual cost savings from an EOC model implementation varies between 0 percent and 25 percent. As noted in the comments, the savings assumptions can be driven by actual experience, state-specific projections, and/or calculated in conjunction with other payment model initiatives.

State	Low	High	Comments
Arkansas	0% - 3.8%	15.7% - 25%	Includes both the actual results observed in first implementation year and savings projections for subsequent years. Based on total affected spend of episodes implemented
Ohio	5.5% - 6.5%	12.5% - 13.5%	Savings projections based on total affected spend of episodes implemented
Tennessee	5.4%	5.4%	Savings projections assumed in conjunction with two additional payment models, based on total Medicaid spend

Table 33. Research Summary of Potential EOC Model Savings

For purposes of the financial analysis, the range of cost savings for the EOC initiative within the Medicaid population was assumed to be between 3 percent and 10 percent. In developing this range, state-specific assumptions highlighted above (with emphasis on the Arkansas observed results and projections), the impact on savings specific to the Kentucky Medicaid population, and the impact of implementing the EOC initiative concurrently with the ACO initiative were considered. Based on the limited data available on the impact of EOC initiatives, and given that the states above often

report savings in conjunction with other payment initiatives (which may inflate total savings), savings assumptions toward the lower end of the ranges were used.

Table 34 summarizes the estimated cost savings impact when the range of savings is applied to the estimated future Medicaid paid claims for the applicable wave one and wave two episodes. As outlined in Section 5.6.3, the Commonwealth anticipates implementing wave one of the EOC initiative during calendar years 2018 and 2019. The wave two implementation will begin in 2019, but will not be completed prior to the end of the four-year implementation period. As a result, for wave one, it was assumed that the 3 percent to 10 percent range of savings can be achieved in both calendar years 2018 and 2019. For wave two, it was assumed that only 50 percent of this range (1.5 percent to 5 percent) can be achieved since only calendar year 2019 is considered.

Wave	Estimated Total Claims Costs		Estimated Cost Savings (% Impact)		Estimated Cost Savings (\$ Impact)				Estimated Total Cost Savings (2018 + 2019)	
					2018		2019			
	2018	2019	2018	2019	Low	High	Low	High	Low	High
Wave One	\$719.4	\$747.5M	3% - 10%	3% - 10%	\$21.6M	\$71.9M	\$22.4M	\$74.8M	\$44.0M	\$146.7M
Wave Two	\$207.4M	\$215.8M	0%	1.5% - 5%	\$0.0M	\$0.0M	\$3.2M	\$10.8M	\$3.2M	\$10.8M
Total	\$926.8M	\$963.3M			\$21.6M	\$71.9M	\$25.7M	\$85.5M	\$47.2M	\$157.5M

Table 34. Estimated EOC Initiative Cost Savings (2018 and 2019)

Based on the estimated savings impact and future Medicaid paid claims for the applicable episodes of care, it was estimated that the implementation of the Medicaid EOC initiative could result in total savings between **\$47.2 million and \$157.5 million** by the end of calendar year 2019. Results may vary depending on a number of variables, including but not limited to, the impact of medical inflation and member utilization on future program expenditures, the timeframe of the initiative implementation, the populations covered, and the defined episodes of care.

Investments

Investment costs represent the initial funds required to implement the ACO and EOC initiatives for the Medicaid population during the four-year implementation period. To estimate the implementation costs for the ACO and EOC initiatives, implementation cost assumptions from similar state SIM innovation plan submissions were reviewed. The plan submissions for Arkansas, Idaho, Ohio, and Washington supported the observation that investment costs may vary significantly for several reasons, including but not limited to, the state's readiness for payment model reform (i.e., provider acceptance and technological capabilities, etc.), population size and demographics, and type of payment model(s). Based on this research, the total investment cost assumptions consistently fall within a range of \$35 million to \$70 million, with the cost of specific functions, such as technology systems and consulting services, fluctuating considerably.

For purposes of the financial analysis, a range of implementation costs within the four-year implementation period was assumed to be between \$35 million and \$70 million, consistent with the findings of the state research of similar SIM models. Table 35 summarizes the breakdown of investment cost estimates for various functions that may be necessary for the ACO and EOC initiative implementation within the Medicaid program. The investment costs assume both the ACO and EOC initiatives are implemented simultaneously within the Medicaid program during calendar years 2016 through 2019.

Investment Considerations	Potential Costs
Community Infrastructure Development <ul style="list-style-type: none"> Set-up ACO for FFS population Set-up Episodes of Care initiative Technology investment (e.g., updates for episode calculations, etc.) Consulting 	\$5M - \$15M
Delivery System Transformation <ul style="list-style-type: none"> Workforce Development (e.g., training employees on payment structure, etc.) Provider Assistance Technology Investment (e.g., reporting capabilities, etc.) Consulting (e.g., provider reporting support, etc.) 	\$15M - \$25M
Market Analytics and Capacity Evaluation <ul style="list-style-type: none"> Contracting Benefits Improvements Technology Investment (e.g., finalize model implementation, etc.) Consulting (e.g., analysis of results compared to market, etc.) 	\$15M - \$30M
Total Estimated Total Investment Costs	\$35M - \$70M

Table 35. Estimated Investment Costs

Summary of Results

Table 36 summarizes the results of the financial analysis for implementing the ACO and EOC initiatives within the Medicaid population. Overall, the Commonwealth estimates total savings between **\$104.1 million and \$270.5 million (All Funds)** could potentially be achieved by the completion of the four-year implementation period in calendar year 2019. These savings offset the assumed investment costs of \$35 million to \$70 million, for an approximate return on investment (ROI) ratio of **1.5:1 to 7.7:1**.

Year	ACO Initiative	EOC Initiative	Total
2016	\$0	\$0	\$0
2017	\$0	\$0	\$0
2018	\$13.8M - \$41.4M	\$21.6M - \$71.9M	\$35.4M - \$113.3M
2019	\$43.0M - \$71.7M	\$25.7M - \$85.5M	\$68.7M - \$157.2M
Four-Year Total Savings	\$56.8M - \$113.1M	\$47.2M - \$157.5M	\$104.1M - \$270.5M
Investment Costs			\$35M - \$70M
Net Savings			\$34.1M - \$235.5M
Return on Investment			1.5:1 – 7.7:1

Table 36. Summary of Costs Savings and Return on Investment for ACO and EOC Initiatives (2016 – 2019)

Actual results may vary due to a number of variables, including but not limited to, medical inflation, membership utilization, the selected attribution methodology for participating Medicaid eligible members, the number of participating ACOs, the populations covered, the defined episodes of care, the state's readiness for payment model reform, and timeframe of the payment model implementation.

13.0 Conclusion

Building upon Kentucky's notable progress to improve coverage and its vision for a healthier Kentucky, the Commonwealth is in a critical position to act upon the initiatives proposed in this plan. These payment and service delivery reforms and the tremendous work done over the course of the Model Design period are intended to build on current success by aligning economic incentives with improvements in population health.

CHFS would like to thank the broad group of Kentucky stakeholders from across the health care landscape who have been engaged in the Model Design process and have both directly and indirectly contributed to the contents of this plan. CHFS is grateful for the continued support and is proud of the establishment of the SIM Governing Body, whose guidance will be instrumental in driving these initiatives forward.

Amidst recent leadership changes, the goal of this plan has remained constant: to transform the Kentucky health care system to one that focuses on evidence-based, value-based purchasing strategies to drive population health improvements. As a result, is targeting to achieve an estimated two percent cost savings, or reduction in the growth of costs, on Kentucky's approximately \$28.4 billion in annual statewide health care expenditures when fully implemented over approximately four years. With this goal in mind, CHFS submits this plan to CMMI on behalf of the citizens of the Commonwealth of Kentucky and looks forward to continued collaboration, partnership, and success.

Appendix 1. Kentucky's Driver Diagram



Figure 73. Kentucky's Model Design Driver Diagram

Appendix 2. Stakeholder Representation

CHFS would like to thank the broad group of Kentucky stakeholders from across the health care landscape who have been engaged in the Model Design process and have both directly and indirectly contributed to the contents of this plan. This group of stakeholder organizations is represented in Table 26. CHFS looks forward to continuing its stakeholder engagement process beyond the Model Design period to advance the reforms outlined in this plan and transform the health care system in Kentucky.

Kentucky SIM Stakeholder Organizations				
AARP Kentucky	Commonwealth Council on Developmental Disabilities	Kentuckiana Regional Planning and Development Agency	Kentucky Youth Advocates	SAS Institute
Abbvie	Commonwealth Health Corporation	Kentuckians for Nursing Home Reform	KentuckyCare	Sayre Christian Village
ABI Case Management	Communicare, Inc.	Kentucky Academy of Family Physicians	KentuckyOne Health	Senior Helpers
Accenture	Community Action Kentucky	Kentucky Association of Counties	Kentucky Diabetes Network	Seven Counties
Access Community Assistance, Inc.	Community Allergy	Kentucky Association of Health Care Facilities	Key Assets Kentucky	Shawnee Christian Healthcare Center
Accessible Home Health Care	Community Farm Alliance	Kentucky Association of Health Plans	Kindred Healthcare	South Health Science
Achieving More, LLC	Community Health Centers of Western Kentucky	Kentucky Association of Health Underwriters	King's Daughters Medical Center	Southeast Kentucky Area Health Education Center
Adanta	Community Hospice	Kentucky Association of Hospice and Palliative Care	Kroger Pharmacy	Southern Kentucky Area Health Education Center
Aetna	Comprehend, Inc.	Kentucky Association of Nurse Anesthetists	Kynect	St. Claire Regional Medical Center
Alliance for a Healthier Generation	Corespring Healthcare Management	Kentucky Association of Private Providers	Lactation Improvement Network of Kentucky	St. Elizabeth Healthcare
Alliant Management Services	Council on Postsecondary Education	Kentucky Association of Regional Program	Leading Age Kentucky	St. Elizabeth Hospital
Almost Family, Inc.	CoventryCares of Kentucky	Kentucky Asthma Partnership	Legislative Research Commission	St. Elizabeth Physicians
American Academy of Pediatrics	Cull & Hayden, PSC	Kentucky Auditor of Public Accounts	Lexington Clinic	St. Mary Hospital
American Cancer Society	Cumberland Family Medical Center	Kentucky Board of Medical Licensure	Lexington VA Medical Center	Sterling Health Solutions
American Heart Association	Cumberland River Behavioral Health	Kentucky Board of Nursing	LifeSkills, Inc.	T.J. Samson Community Hospital
American Lung Association	Cumberland River Homes	Kentucky Cancer Consortium	Lindsey Wilson College	The Adanta Group
American Pharmacy Services Corporation	Dayspring Family Health Care	Kentucky Cancer Foundation	London Women's Care	The Arc of Kentucky
American Stroke Association	Department for Behavioral Health, Developmental and Intellectual Disabilities	Kentucky Cancer Program	Louisville Metro Department of Public Health & Wellness	The Ridge Behavioral Health System
Anthem Blue Cross Blue Shield	Department for Medicaid Services	Kentucky Career Center	Lung Cancer Alliance	Three Rivers District Health Department
Appalachian Regional Healthcare, Inc.	Department for Public Health	Kentucky Center for a Smoke-Free Policy	Manchester Memorial Hospital	Tobacco Control Program
Applied Behavioral Advancements, LLC	Department of Employee Insurance	Kentucky Center for Economic Policy	Marcum and Wallace Memorial Hospital	Top Shelf Lobby
ARCare	Department of Insurance	Kentucky Center for Education and Workforce Statistics	Marshall County Hospital	Triad Health Systems
Arch Care Consultants	Eastern Kentucky Health Care	Kentucky Chamber of Commerce	Masonic Homes of Kentucky	Trinity Rehab
Association of Independent Kentucky Colleges and Universities	Eastern Kentucky University - College of Health Sciences	Kentucky Coalition of Nurse Practitioners and Nurse Midwives	McCarthy Strategic Solutions	Twilights Regional

Auditor's Office	Eastern Kentucky University - Health Services	Kentucky Community and Technical College System	McNary and Associates	Twin Lakes Medical Foundation
Avesis	Eastern State Hospital	Kentucky Council of Churches	Medical Center at Bowling Green	Twin Lakes Regional Medical Center
Babbage CoFounder	Edj Analytics	Kentucky Council on Postsecondary Education	Mental Health America of Kentucky	University of Kentucky Pediatrics
Bailit Health	Ephraim McDowell Health	Kentucky Dental Association	Methodist Hospital	University of Kentucky - Area Health Education Center
Baptist Health	Epic Insurance Solutions	Kentucky Dental Hygienists' Association	Metro United Way	University of Kentucky - Center for Excellence in Rural Health
Baptist Health Medical Group	Fairview Community Health Center	Kentucky Department of Education	meVisit Technologies	University of Kentucky - Center for Health Services Research
Bart Baldwin Consulting	Family Health Centers	Kentucky Department of Health Services	Modern Care, LLC	University of Kentucky - College of Health Sciences
BB&T	Floyd County Health Department	Kentucky Department of Workforce Investment	Molina	University of Kentucky - College of Medicine
Bellarmino University	Foundation for a Healthy Kentucky	Kentucky Disabilities Coalition	Monticello Medical Associates	University of Kentucky - College of Pharmacy
Big Sandy Health	Fountain Avenue United Methodist Church	Kentucky Domestic Violence Association	Mountain Comprehensive Health Corporation	University of Kentucky - College of Public Health
Blessed Assurance Community Services	Four Rivers Behavioral Health	Kentucky Education Cabinet	National Alliance on Mental Illness - Kentucky	University of Kentucky - Department of Rehabilitation Services
Bluegrass Area Development District	Frankfort Regional Medical Center	Kentucky Employees' Health Plan	NeuroRestorative	University of Kentucky - Injury Prevention and Research Center
Bluegrass Case Management	Friedell Committee	Kentucky Equal Justice Center	Newcare of Louisville	University of Kentucky - Institute for Pharmaceutical Outcomes and Policy
Bluegrass Community Health Center	General Electric	Kentucky Health Center Network	Northeast Kentucky Regional Health Information Organization	University of Kentucky - Kentucky Injury Prevention and Research Center
Bluegrass Community Hospital	Grace Community Health Center	Kentucky Health Cooperative	Northern Kentucky University	University of Kentucky - Kentucky TeleCare
Bluegrass Regional	Greater Louisville Medical Society	Kentucky Health Department Association	NorthKey Community Care	University of Kentucky - North Fork Valley Community Health Center
Bluegrass.org	Greater Louisville Project	Kentucky Health Departments Association	Northwest Area Health Education Center	University of Kentucky - University Health Services
Board of Examiners of Psychology	Green River Area Development District	Kentucky Health Information Exchange	Norton Healthcare	University of Kentucky HealthCare
Board of Nursing	Green River District Home Health	Kentucky Heart Disease and Stroke Taskforce	Office of Administrative and Technology Services	University of Kentucky Medical Center
Bourbon Community Hospital	Harrison Memorial Hospital	Kentucky Home Health Association	Office of Health Equity	University of Kentucky Regional Extension Center
Boyle County Health Department	Hazard ARH Regional Medical Center	Kentucky Hospital Association	Office of Health Policy	University of Louisville - Department of Pediatrics
Brain Injury Alliance of Kentucky	Health Care Excel	Kentucky Housing Corporation	Office of Inspector General	University of Louisville - Health Affairs
Cabinet for Health and Family Services	Health Management Resources	Kentucky Medical Association	Operation UNITE	University of Louisville - Institute for Sustainable Health and Optimal Aging
Campaign for Tobacco Free Kids	Health South	Kentucky Mental Health Coalition	Our Lady of Bellefonte Hospital	University of Louisville - Kentucky Cancer Program

Cancer Action Network	Health South Lakeview Rehab Hospital	Kentucky Mountain Health Alliance	Owensboro Health	University of Louisville - School of Dentistry
Capacity Care, Inc.	HealthFirst Bluegrass Community Health Center	Kentucky Nurses Association	Park Duvalle Community Health Center	University of Louisville - School of Medicine
Cardinal Hill Rehabilitation Hospital	HealthFirst Bluegrass Inc.	Kentucky Office of Occupations & Professions	Participation Station	University of Louisville - School of Public Health and Information Sciences
Care at Hand	HealthPoint Family Care	Kentucky Office of Rural Health	Passport Health Plan	University of Louisville - School of Social Work
Care Guide Partners	Heritage Hospice, Inc.	Kentucky Oral Health Program	Path Forward	University of Louisville Physicians
Care Innovations	Highlands Regional	Kentucky Partnership for Families and Children	Pathways, Inc.	University of Pikeville - Kentucky College of Osteopathic Medicine
Carewise Health	Horn and Associates in Rehabilitation, PLLC	Kentucky Personnel Cabinet	Patient Navigation Education & Research Institute	Viable Synergy, LLC
Carroll County Memorial Hospital	Hosparus	Kentucky Pharmacists Association	Pediatric Behavioral and Mental Health Alliance of KY	Walgreens Pharmacy
Casey County Hospital	Hospice Care Plus Inc.	Kentucky Physical Therapy Association	Pennyroyal Healthcare Services	WATCH, Inc.
Catholic Health	Hospice of Hope	Kentucky Primary Care Association	People Plus, Inc.	Wayne County Hospital
Caverna Memorial Hospital	Hospice of Lake Cumberland	Kentucky Protection and Advocacy	Personal Medicine	Wayne's Pharmacy
Center for Accessible Living	Hospice of the Bluegrass	Kentucky Psychiatric Medical Association	Pharmacists Association	WellCare
Center of Excellence in Rural Health	Humana	Kentucky Psychological Association	Planned Parenthood of Kentucky	Wells Fargo
Centers for Disease Control and Prevention	Humana CareSource	Kentucky Public Health Association	Precision Healthcare Delivery	Wendell Foster
Centers for Medicare and Medicaid Services	Independent Opportunities - Lake Cumberland	Kentucky Retirement Board	Prichard Committee	West Kentucky Workforce Board
Central Baptist Hospital Home Health	Industry Partnership Project	Kentucky River Community Care	Primary Care Office	Western Kentucky University
Child Advocacy Today - Legal Clinic	InnovateLTC	Kentucky River Foothills Development Council	PrimaryPlus	Western Kentucky University - Area Health Education Center
Children, Inc.	Inspired Living, LLC	Kentucky Rural Health Association	Public Life Foundation of Owensboro	Westlake Regional Hospital
Christian Care at Home	IntegrityIT	Kentucky Safe Aging Coalition	Purchase Area Development District	Westport Medical
Christian Care Communities	Intel-GE Care Innovations	Kentucky Safety & Health Network	Purchase Area Health Education Center	White House Clinics
Chronic Obstructive Pulmonary Disease (COPD) Coalition	Interdisciplinary Human Development Institute	Kentucky Safety and Prevention Alignment Network	Qsource	Women's Crisis Center
Clover Fork Clinic	James B. Haggin Memorial Hospital	Kentucky School Board Association	Rivendell Behavioral Health Hospital	Workforce Investment
Coalition for the Homeless	Jane Todd Crawford Hospital	Kentucky Self Advocates for Freedom	River Valley Behavioral Health	YMCA of Central Kentucky
Commission for Children with Special Health Care Needs	Juniper Health Inc.	Kentucky Task Force on Hunger and Covering Kentucky Kids and Families Coalition	River Valley Nursing Home	YMCA of Greater Louisville
Commonwealth Alliances	Kaleidoscope, Inc.	Kentucky Tobacco Prevention and Cessation Program	Russell County Hospital	ZirMed
Commonwealth Case Management	Kentuckiana Health Collaborative	Kentucky Voices for Health	Saint Joseph Martin	Zoom Group

Table 37. Kentucky SIM Stakeholders

Appendix 3. Population Health Driver Diagrams

During the SIM workgroup kickoff meetings held in March 2015, Kentucky SIM stakeholders participated in a driver diagram exercise to identify barriers to and drivers of three specific population health goals, including reducing the rate of tobacco use, the incidence of obesity, and the incidence of diabetes. While this activity was only conducted for three of the key population health focus areas outlined in this plan, this initial process helped to develop a “cause-and-effect” way of thinking amongst stakeholders for the Kentucky SIM Model Design.

The goal of this exercise was to brainstorm and discuss potential population health-driven initiatives and to set the stage for defining the “how” elements of the SIM project, or the specific changes or interventions that could lead to the desired population health and delivery system reform outcomes. These driver diagrams can serve as continuous reference points for the Steering Committees as they help develop the implementation details in their respective areas. Specifically, the ideas contained within these driver diagrams can assist the Community Innovation Consortium Steering Committee with developing projects and/or criteria for project selection. The driver diagrams below represent a reporting of facilitated workgroup activities only and do not reflect CHFS-endorsed proposals or policy prescriptions.

A complete listing of the driver diagrams developed by each of the five SIM workgroups can be found on Kentucky’s SIM website at: <http://chfs.ky.gov/NR/ronlyres/0FBDFC8C-5C9F-4692-987E-3AB5D4335E70/0/MarchWGOutput.pdf>.

Appendix 4. Works Cited

- 2010 Census Urban and Rural Classification and Urban Area Criteria. U.S. Census Bureau, 2010. Web. 19 Aug. 2015. <<https://www.census.gov/geo/reference/ua/urban-rural-2010.html>>.
- "2014 Actuarial Report on the Financial Outlook of Medicaid." Office of the Actuary, CMS. Web. <<http://medicaid.gov/medicaid-chip-program-information/by-topics/financing-and-reimbursement/downloads/medicaid-actuarial-report-2014.pdf>>
- "2014 BRFSS Survey Data and Documentation." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, 11 Sept. 2015. Web. 24 Nov. 2015. <http://www.cdc.gov/brfss/annual_data/annual_2014.html>.
- "2014 Performance Report." State of Oregon. Oregon Health Authority. 24 June 2015. <<http://www.oregon.gov/oha/Metrics/Documents/2014%20Performance%20Report%20Executive%20Summary.pdf>>
- 2015 Kentucky Diabetes Report. Rep. Kentucky Cabinet for Health and Family Services, 10 Jan. 2015. Web. 24 Nov. 2015. <<http://chfs.ky.gov/NR/rdonlyres/7D367886-671C-435E-BCF4-B2A740438699/0/2015DiabetesReportFinal.pdf>>.
- "ACO Results: What We Know So Far." Health Affairs. 30 May 2014. Web. <<http://healthaffairs.org/blog/2014/05/30/aco-results-what-we-know-so-far/>>
- "Adult Obesity Rate in Kentucky." F as in Fat 2011 Kentucky Press Release. Trust for America's Health, 18 Sept. 2012. Web. 24 Nov. 2015. <<http://healthyamericans.org/reports/obesity2012/?stateid=KY>>.
- "A Health IT Framework for Accountable Care." HealthIT.gov. Certification Commission for Health Information Technology, 6 June 2013. Web. 17 Nov. 2015. https://www.healthit.gov/FACAS/sites/faca/files/a_health_it_framework_for_accountable_care_0.pdf.
- "Advance Payment ACO Model." CMS. Web. 19 Aug. 2015. <<http://innovation.cms.gov/initiatives/Advance-Payment-ACO-Model/>>.
- Advanced Technology. KentuckyOne Health Partners, 2015. Web. 17 Nov. 2015. <http://kentuckyonehealthpartners.org/who-we-are/advanced-technology/>.
- "Age and Sex Composition: 2010." 2010 Census Brief. U.S. Census Bureau, 1 May 2011. Web. 19 Aug. 2015. <<http://www.census.gov/prod/cen2010/briefs/c2010br-03.pdf>>.
- American Diabetes Association. "Economic Costs of Diabetes in the U.S. in 2012." (2013): n. pag. 6 Mar. 2013. Web. 24 Nov. 2015. <<http://care.diabetesjournals.org/content/early/2013/03/05/dc12-2625>>.
- Anderson, Carla. "Kentucky Medicaid: Eligibility, Enrollment and Benefits." Health Insurance Resource Center. HealthInsurance.org, 1 Feb. 2015. Web. 17 Aug. 2015. <<http://www.healthinsurance.org/kentucky-medicaid/>>.
- "Anthem." Anthem. Anthem Insurance Companies, Inc., 2015. Web. 19 Aug. 2015. <[https://www.anthem.com/wps/portal/ahprovider?content_path=provider/oh/f1/s0/t0/pw_e185951.htm&label=Enhanced Personal Health Care Program](https://www.anthem.com/wps/portal/ahprovider?content_path=provider/oh/f1/s0/t0/pw_e185951.htm&label=Enhanced+Personal+Health+Care+Program)>.
- "Arkansas, Kentucky See Most Improvement in Uninsured Rates." Well-being. Gallup, 24 Feb. 2015. Web. 19 Aug. 2015. <<http://www.gallup.com/poll/181664/arkansas-kentucky-improvement-uninsured-rates.aspx>>.
- "Arkansas Health Care Reform." The Stephen Group. 16 July 2015. <http://ee-governor-2015.ark.org/images/uploads/TSG_-Palmer-Chin_PPT-7-16_-Revised.pdf>
- "Better Care. Smarter Spending. Healthier People: Paying Providers for Value, Not Volume." CMS Fact Sheets. Centers for Medicare & Medicaid Services (CMS), 26 Jan. 2015. Web. 17 Nov. 2015. <https://www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2015-Fact-sheets-items/2015-01-26-3.html>.

- "BRFSS 2012 Survey Data and Documentation." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, 04 Dec. 2014. Web. 24 Nov. 2015. <http://www.cdc.gov/brfss/annual_data/annual_2012.html>.
- "BRFSS 2013 Survey Data and Documentation." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, 23 June 2014. Web. 24 Nov. 2015. <http://www.cdc.gov/brfss/annual_data/annual_2013.html>.
- "Bundled Payments for Care Improvement (BPCI) Initiative: General Information." Bundled Payments for Care Improvement (BPCI) Initiative. CMS. Web. 19 Aug. 2015. <<http://innovation.cms.gov/initiatives/bundled-payments/index.html>>.
- "Cancer Incidence Rates in Kentucky." Kentucky Cancer Registry. University of Kentucky, n.d. Web. 24 Nov. 2015. <<http://www.kcr.uky.edu/>>.
- CDC WONDER. Centers for Disease Control and Prevention, n.d. Web. 24 Nov. 2015. <<http://wonder.cdc.gov/>>.
- Chaudhry, B., Wang, J., Wu, S., Maglione, M., Mojica, W., Roth, E., Shekelle, P. G. (2006). Systematic review: impact of health information technology on quality, efficiency, and costs of medical care. *Ann Intern Med*, 144(10), 742-752.
- "Commonwealth of Kentucky Request for Proposal (RFP) For Medicaid Enterprise Management System and Fiscal Agent Replacement." (n.d.): n. pag. Kentucky Finance and Administration Cabinet. The Finance and Administration Cabinet on Behalf of CHFS, 8 Jan. 2015. Web. 17 Nov. 2015. <http://finance.ky.gov/services/eprocurement/Documents/Medicaid%20Enterprise%20Management%20System%20>
- "Comprehensive Primary Care Initiative." Comprehensive Primary Care Initiative. CMS. Web. 19 Aug. 2015. <<http://innovation.cms.gov/initiatives/comprehensive-primary-care-initiative/>>.
- Consolidated Measurement Report Summary for 2013 Data. Rep. Kentuckiana Health Collaborative, 17 Apr. 2015. Web. 17 Nov. 2015. <http://www.khcollaborative.org/wpcontent/uploads/2013/11/KHCRReportSummary2014.pdf>.
- "Contracting for Bundled Payment." MITRE, 16 Dec. 2011. Web. 17 Nov. 2015. http://www.mitre.org/sites/default/files/pdf/Contracting_Bundled_Payment.pdf.
- "Enhanced Personal Health Care Program." Anthem. Anthem Insurance Companies, Inc., 2015. Web. 19 Aug. 2015. <[https://www.anthem.com/wps/portal/ahpprovider?content_path=provider/oh/f1/s0/t0/pw_e185951.htm&label=Enhanced Personal Health Care Program](https://www.anthem.com/wps/portal/ahpprovider?content_path=provider/oh/f1/s0/t0/pw_e185951.htm&label=Enhanced+Personal+Health+Care+Program)>.
- "Enhanced Personal Health Care Reducing Costs in Kentucky." Anthem. Anthem Insurance Companies, Inc., 7 May 2015. Web. 19 Aug. 2015. <<https://www.anthem.com/health-insurance/about-us/pressreleasedetails/KY/2015/1910/enhanced-personal-health-care-reducing-costs-in-kentucky>>.
- "Executive Summary – The Minnesota Accountable Health Model." Minnesota's State Innovation Model Testing Grant. February 2013. < <http://mn.gov/health-reform/images/SIM%2520Executive%2520Summary%252020130311.pdf>>
- "FQHC Advanced Primary Care Practice Demonstration." FQHC Advanced Primary Care Practice Demonstration. CMS. Web. 19 Aug. 2015. <<http://innovation.cms.gov/initiatives/fqhcs/>>.
- "Fast Facts." All Medicare Shared Savings Program ACOs. CMS, 1 Apr. 2015. Web. 19 Aug. 2015. <<https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/Downloads/All-Starts-MSSP-ACO.pdf>>.
- "Fast Facts." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, 15 Apr. 2015. Web. 24 Nov. 2015. <http://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/>.
- Freedman Healthcare. Introduction to Kentucky's Health Data Trust. 2015.

- Getting Involved in the Research Process. February 2014. Agency for Healthcare Research and Quality, Rockville, MD. <http://www.ahrq.gov/research/findings/evidence-based-reports/stakeholderguide/chapter3.html>.
- "Health Care Expenditures per Capita by State Of Residence." State Health Facts. Kaiser Family Foundation, 2009. Web. 19 Aug. 2015. <<http://kff.org/other/state-indicator/health-spending-per-capita/>>.
- "Health Care Finance and Administration FY 2015 Budget Presentation." State of Tennessee. <<http://www.tn.gov/assets/entities/hcfa/attachments/HCFABudgetFY15.pdf>>
- "Health Care Innovation Awards." Health Care Innovation Awards. CMS. Web. 19 Aug. 2015. <<http://innovation.cms.gov/initiatives/Health-Care-Innovation-Awards/>>.
- "Health Care Payment Improvement Initiative." State of Arkansas. Web. <<http://www.paymentinitiative.org/Pages/default.aspx>>
- "Healthcare Workforce Capacity Report." Deloitte Consulting, 1 May 2013. Web. 19 Aug. 2015. <http://healthbenefitexchange.ky.gov/Documents/KY_Healthcare_Workforce_Capacity_Report_FINAL_5_28_13.pdf>.
- "Health Home State Plan Option." State Health Facts. Kaiser Family Foundation, 2015. Web. 19 Aug. 2015. <<http://kff.org/medicaid/state-indicator/health-home-state-plan-option/>>
- "Health Homes." Medicaid. CMS. Web. 19 Aug. 2015. <<http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Long-Term-Services-and-Supports/Integrating-Care/Health-Homes/Health-Homes.html>>.
- "Higher Education and Income Levels Keys to Better Health, According to Annual Report on Nation's Health." Centers for Disease Control and Prevention. 16 May 2012. <http://www.cdc.gov/media/releases/2012/p0516_higher_education.html>.
- Idaho State Healthcare Innovation Plan. Rep. Idaho Department of Health and Welfare, Dec. 2013. Web. 1 Dec. 2015. <<http://healthandwelfare.idaho.gov/Portals/0/Medical/SHIP/IdahoSHIP.pdf>>.
- "Innovation Models." Center for Medicare & Medicaid Innovation (CMMI). Centers for Medicare & Medicaid Services (CMS), n.d. Web. 17 Nov. 2015. <https://innovation.cms.gov/initiatives/#views=models>.
- KY Homeplace Quarterly Reports. Rep. UK Center of Excellence in Rural Health, n.d. Web. 17 Nov. 2015. <http://ruralhealth.med.uky.edu/homeplace-quarterly-reports>.
- "KY SIM July Combined Workgroup." Kentucky State Innovation Model (SIM). CHFS, 22 July 2015. Web. 19 Aug. 2015. <http://chfs.ky.gov/NR/rdonlyres/F99DEF5D-7A3B-4E88-8394-FF50454CE9B3/0/KYSIM_July_CombinedWG.pdf>.
- Kentucky Cabinet for Health and Family Services (CHFS). Department for Medicaid Services (DMS). SMHP HIT Implementation Advance Planning Document (IADP) Update #4. 16 July 2015.
- Kentucky Cabinet for Health and Family Services (CHFS). Office of Health Policy (OHP). Building a Transformed Health Care Workforce: Moving from Planning to Implementation. 16 November 2015.
- "Kentucky Emergency Room SMART (Supportive Multidisciplinary Alternatives & Responsible." Primary Care & Public Health Integration Successes. ASTHO, 3 Sept. 2013. Web. 19 Aug. 2015. <<http://www.astho.org/Presidents-Challenge-2013/Kentucky/>>.
- "KentuckyWired Middle Mile Architectural Plan." (n.d.): n. pag. KentuckyWired. Kentucky Finance and Administration Cabinet, 1 May 2015. Web. 17 Nov. 2015. http://finance.ky.gov/initiatives/nextgenkih/Documents/MMKYWired_May12015_I75SpineRed.pdf.
- "Kyhealthnow." Governor of Kentucky Steve Beshear. Commonwealth of Kentucky, 2015. Web. 19 Aug. 2015. <<http://governor.ky.gov/healthierky/kyhealthnow/pages/default.aspx>>.
- Kyhealthnow: Final Progress Report of the Beshear Administration. Rep. Office of Kentucky Governor Steve Beshear, Nov. 2015. Web. 23 Nov. 2015. <<http://governor.ky.gov/healthierky/kyhealthnow/Documents/kyhealthnowFinalProgressReport.pdf>>.

- "Medicaid Expansion Report 2014." Commonwealth of Kentucky, 1 Feb. 2015. Web. 17 Aug. 2015. <http://governor.ky.gov/healthierky/Documents/medicaid/Kentucky_Medicaid_Expansion_One-Year_Study_FINAL.pdf>.
- "Medicare Care Choices Model." CMS. Web. 19 Aug. 2015. <<http://innovation.cms.gov/initiatives/Medicare-Care-Choices/>>.
- Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). Qualitative data analysis: A methods sourcebook (Third edition.). Thousand Oaks, California: SAGE Publications, Inc.
- "Minnesota's Medicaid Reform Initiative Saves \$61.5 Million in 2nd Year." Minnesota Department of Human Services. 19 June 2015. Web. < <http://mn.gov/dhs/media/news/news-detail.jsp?id=252-166076>>
- Minnesota State Health Care Innovation Plan. Rep. Health Reform Minnesota, State of Minnesota, Sept. 2012. Web. 1 Dec. 2015. <<http://mn.gov/health-reform/images/SIM%20Grant%20-%20State%20Innovation%20Plan%20and%20Appendices.pdf>>.
- "Mortality Data." National Vital Statistics System. Centers for Disease Control and Prevention, 20 Nov. 2015. Web. 24 Nov. 2015. <<http://www.cdc.gov/nchs/deaths.htm>>.
- "National Health Expenditure Data." Office of the Actuary, CMS. Web. <<https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/Downloads/prov-tables.pdf>>
- "NAACCR." North American Association of Central Cancer Registries, n.d. Web. 24 Nov. 2015. <<http://www.naacr.org/>>.
- "NeKY RHIO Story." NeKY RHIO. Northeast Kentucky Regional Health Information Organization, n.d. Web. 17 Nov. 2015. <http://nekyrhio.org/nekyrhio/story.html>.
- Ohio's State Health Care Innovation Plan. Rep. Ohio Governor's Office of Health Transformation, 30 Oct. 2013. Web. 1 Dec. 2015. <<http://www.healthtransformation.ohio.gov/LinkClick.aspx?fileticket=WsSIPFiy5GI%3D&tabid=138>>.
- "Operating Budget - Volume I (Part B)." 2014-2016 Budget of the Commonwealth (n.d.): n. pag. Office of State Budget Director. Commonwealth of Kentucky. Web. 1 Dec. 2015. <[http://osbd.ky.gov/Publications/Documents/Budget%20Documents/2014-2016%20Budget%20of%20the%20Commonwealth/Operating%20Budget%20-%20Volume%20I%20\(Part%20B\).pdf](http://osbd.ky.gov/Publications/Documents/Budget%20Documents/2014-2016%20Budget%20of%20the%20Commonwealth/Operating%20Budget%20-%20Volume%20I%20(Part%20B).pdf)>.
- Oregon Health Care Innovation Plan. Rep. Oregon Health Authority, 21 Sept. 2012. Web. 1 Dec. 2015. <<http://www.oregon.gov/oha/OHPR/SIM/docs/Grant%20Document.pdf>>.
- "Passport Health Plan to Continue Providing Enhanced Payments to Primary Care Providers after January 1, 2015." Passport Health Plan, 14 Nov. 2014. Web. 19 Aug. 2015. <<http://passporthealthplan.com/passport-health-plan-to-continue-providing-enhanced-payments-to-primary-care-providers-after-january-1-2015/>>.
- "PCMH Foundations: Health IT." PCMH Resource Center. Agency for Healthcare Research and Quality, Mar. 2015. Web. 17 Nov. 2015. <https://www.pcmh.ahrq.gov/page/pcmh-foundations-health-it>.
- Qualis Health. Oral Health: An Essential Component of Primary Care. Publication. Qualis Health, June 2015. Web. 20 Oct. 2015. <http://www.safetynetmedicalhome.org/sites/default/files/White-Paper-Oral-Health-Primary-Care.pdf>
- "Recognition" NCQA Programs Recognition. Web. 19 Aug. 2015. <<http://www.ncqa.org/Programs/Recognition.aspx>>.
- Resource Plan. Rep. Kentucky Cancer Consortium, July 2013. Web. 24 Nov. 2015. <<http://www.kycancer.org/canceractionplan/KCC%20Resource%20Plan%20July%202013.pdf>>.

- Rhode Island SIM Grant Model Test Proposal. Rep. Rhode Island Executive Office of Health & Human Services, 3 Dec. 2014. Web. 1 Dec. 2015. <http://www.eohhs.ri.gov/Portals/0/Uploads/Documents/Revised%20Project%20Narrative3_2.pdf>.
- "Shared Savings Program." Centers for Medicare & Medicaid Services. CMS. Web. 19 Aug. 2015. <<https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharesavingsprogram/index.html?redirect=/sharesavingsprogram>>
- SIM Model Test Project Narrative. Rep. Tennessee Division of Health Care Finance & Administration, Oct. 2014. Web. 1 Dec. 2015. <<http://www.tn.gov/assets/entities/hcfa/attachments/ProjectNarrativeTNSIMgrant.pdf>>.
- "Support for Community Health Workers to Increase Health Access and to Reduce Health Inequities." American Public Health Association (2009): Web. 17 Nov. 2015. <https://www.apha.org/policies-and-advocacy/public-health-policy-statements/policy-database/2014/07/09/14/19/support-for-community-health-workers-to-increase-health-access-and-to-reduce-health-inequities>.
- "The Toll of Tobacco in Kentucky." The Toll of Tobacco in the United States. Campaign for Tobacco-Free Kids, 25 Sept. 2015. Web. 24 Nov. 2015. <https://www.tobaccofreekids.org/facts_issues/toll_us/kentucky>.
- Thomas, E. J., & Petersen, L. A. (2003). Measuring Errors and Adverse Events in Health Care. *Journal of General Internal Medicine*, 18(1), 61–67. <http://doi.org/10.1046/j.1525-1497.2003.20147>.
- "Total Medicaid Spending." The Henry J. Kaiser Family Foundation. FY2014. Web. < <http://kff.org/medicaid/state-indicator/total-medicaid-spending/>>
- "Total Number of Medicare Beneficiaries." Total Number of Medicare Beneficiaries. Kaiser Family Foundation, 2012. Web. 17 Aug. 2015. <<http://kff.org/medicare/state-indicator/total-medicare-beneficiaries/>>.
- "Transitional Policy Data Request." Kentucky Department of Insurance. 1 Mar. 2015.
- "Unbridled Health: A Plan for Coordinated Chronic Disease Prevention and Health Promotion." Kentucky Cabinet for Health and Family Services, Department of Public Health. Commonwealth of Kentucky, 18 Dec. 2013. Web. 19 Aug. 2015. <<http://chfs.ky.gov/dph/info/dpqi/cd/UnbridledHealth.htm>>.
- United Health Foundation, American Public Health Association, Partnership for Prevention, and Kenneth E. Thorpe. "The Future Costs of Obesity: National and State Estimates of the Impact of Obesity on Direct Health Care Expenses." N.p., Nov. 2009. Web. 24 Nov. 2015. <<http://www.nccor.org/downloads/CostofObesityReport-FINAL.pdf>>.
- United States. Census Bureau. *Health Insurance Coverage in the United States: 2014*. By Jessica C. Smith and Carla Medalia. N.p.: n.p., n.d. Print.
- "United States Census Bureau." Kentucky QuickFacts from the U.S. Census Bureau. 2015. Web. 18 Aug. 2015. <<http://quickfacts.census.gov/qfd/states/21000.html>>.
- University of Louisville, 2015. Web. 19 Aug. 2015. <<http://www.ksdc.louisville.edu/data-downloads/projections/>>.
- Vital Signs: Core Metrics for Health and Health Care Progress. Rep. Institute of Medicine (IOM), 28 Apr. 2015. Web. 17 Nov. 2015. <http://iom.nationalacademies.org/Reports/2015/Vital-Signs-Core-Metrics.aspx>.
- Washington State Health Care Innovation Plan. Rep. Washington State Health Care Authority, 1 Jan. 2014. Web. 1 Dec. 2015. <http://www.hca.wa.gov/hw/documents/shcip_innovationplan.pdf>.
- "Youth Risk Behavior Surveillance System (YRBSS)." Centers for Disease Control and Prevention. Centers for Disease Control and Prevention, 15 May 2015. Web. 24 Nov. 2015. <<http://www.cdc.gov/healthyyouth/data/yrbs/index.htm>>.