
# State of Oklahoma

## State Innovation Model Design Grant

### Oklahoma State Health System Innovation Plan

### Draft: Version 2

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(This section of the SHSIP will be updated at a future date.)


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# A. Introduction

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# B. Description of State Healthcare Environment

## INTRODUCTION

The Oklahoma healthcare environment is complex. Major gains in critical health outcomes have been achieved in recent years. Yet, ongoing health issues exist, the impetus for the proposed new healthcare payment and service delivery model. Oklahoma has consistently ranked low in population health and health system performance when compared to other states. In 2009, Oklahoma ranked 49th in the nation on the America's Health Rankings®, a report issued by United Health Foundation. In 2015, Oklahoma's ranking improved to 45th in the nation.[1] The 2015 report showed that the state made several notable improvements, including a high immunization rate among children, a reduction in the infant mortality rate, a low prevalence of excessive drinking, and a historically low smoking rate of 21.1 percent. However, challenges remain in the high rate of cardiovascular deaths and limited availability of primary care physicians. Additionally, the rate of obesity, diabetes, and deaths due to substance abuse rose in the state, though this followed trends at the national level.

Many efforts and initiatives are underway across the state to deliver care that is more preventive and patient-centered. Numerous state agencies and healthcare stakeholders have mobilized and organized around targeted prevention efforts to improve population health, particularly regarding the reduction of chronic disease, tobacco use, and the rate of behavioral health disorders. Healthcare delivery and public health systems are undergoing significant transformation to meet the goals of the Triple Aim.

Oklahoma is positioning itself to place greater emphasis on quality care and healthier people at a lower cost. To accomplish this, the proposed Oklahoma State Innovation Model aims to confront the negative impacts of the social determinants of health that are the underlying causes of persistent inequalities, and in doing so, catalyze health system transformation.

This section will cover the following topics:

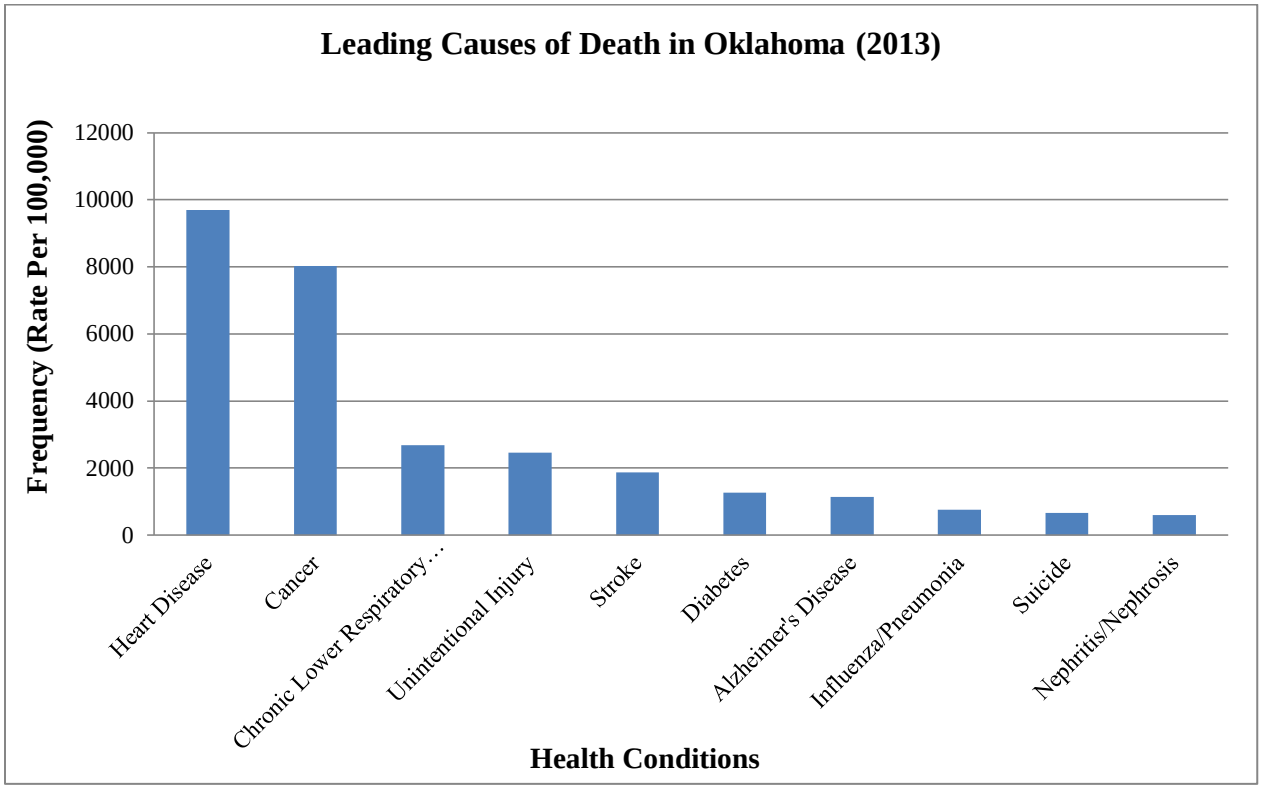
- Population Demographics
- Profiles of Major Payers in the State
- High-Cost Services
- Health System Performance Trends
- Statewide Goals for Health Information Technology
- Current Initiatives for Health Improvement
- Current Demonstrations and Waiver Efforts
- Oklahoma State Innovation Model (SIM) Efforts

## OKLAHOMA POPULATION HEALTH OUTCOMES

Oklahomans are more likely to be afflicted with chronic diseases and die at higher rates than the national average. Oklahoma had the fourth highest mortality rate in the nation in 2014, a rate 23 percent higher than the national average.[2] In 2013, the leading cause of death in Oklahoma was heart disease, followed

by cancer, chronic lower respiratory disease, and unintentional injury. The leading causes of death and frequencies are outlined in the Figure 1.

**Figure 1: Leading Causes of Death in Oklahoma (2013)**




Oklahomans fare poorly when compared to residents of other states in terms of physical, dental, and mental health outcomes. Oklahomans experience high rates of chronic disease, such as diabetes, heart disease, and lower respiratory disease. Mental illness and substance abuse are also more prominent in Oklahoma than in most other states. These facets are not mutually exclusive, but reinforce one another in that poor health in one aspect often leads to poor health in another. The integration of behavioral health into primary care settings will be a critical piece of improving population health.

## Chronic Disease in Oklahoma

### *Diabetes*

In Oklahoma, 12 percent of the population has diabetes, giving the state the eighth highest rate in the nation.[3] Risk of heart disease and stroke increase for individuals with diabetes, and lifestyle factors such as physical inactivity, poor diet, obesity, and tobacco use can exacerbate both the symptoms of diabetes as well as the risk of acquiring another chronic condition. It is projected that almost 37% of the adult population in Oklahoma have prediabetes with blood glucose levels higher than normal, and 100,000 have undiagnosed diabetes.[4] Many complications from diabetes can be reduced through proper prevention, timely diagnosis, and disease management programs.

Between 90 to 95 percent of all diabetes cases in the state are type II diabetes, which can be prevented through weight loss, diet, and exercise.[5] Diabetes increases the risk of heart attack and stroke by two to four-fold. Heart attacks and strokes are serious health complications and the leading causes of premature

death for individuals who have diabetes.[6] There are currently 313,800 adults in the state that have diabetes, a rate which has continued to increase for the past 10 years.

Over 78 percent of Oklahomans with diabetes also reported having high blood pressure.[7] Oklahomans with diabetes were also much more likely to report having high cholesterol levels and a higher prevalence of kidney disease than Oklahomans without diabetes. Future health system plans need to address Oklahoma's high diabetes rate and work to reduce the number of Oklahomans with diabetes or those with prediabetes from progressing to type II diabetes. Special populations to target would be Native American and African-American Oklahomans, who have shown to be more likely to experience diabetes than Oklahomans of other races.

***Heart Disease***

In 2013, one of every three deaths in the nation was attributed to some form of cardiovascular disease. Oklahoma has the third highest death rate in the nation from heart disease (289.1:100,000)[8], which is the leading cause of death in Oklahoma and accounts for one in four deaths.

It is important to note that many of the prevalent health conditions (diabetes, high cholesterol, and hypertension) and lifestyle factors (smoking, physical inactivity, and poor diet) affecting the state's population are the leading causes of heart disease.1 More than 25 percent of Oklahomans are physically inactive and 21.1 percent use tobacco, both of which play a significant role in premature death and health complications related to heart disease.[9] Changing the behavior of Oklahomans to improve health requires an understanding of the causal underpinnings of poor health behaviors, which are often related to a lack of resources that would allow individuals to live a healthy lifestyle. Many Oklahomans, particularly in the poorer areas of southeast Oklahoma, not only lack money to buy nutritious food, but also lack access to nutritious food as many live in food deserts.

***Hypertension***

Hypertension, or high blood pressure, increases the risk for heart disease and stroke and can typically be controlled through medications, medical care, and lifestyle management. In 2013, 37.5 percent of adults in Oklahoma had a diagnosis of hypertension, compared to the national rate of 31.4 percent.[12] More than half of this population with hypertension is concentrated in six counties: Bryan, Marshall, Greer, Jefferson, McIntosh, and Pushmataha counties. Uncontrolled hypertension can result in serious health consequences and preventable hospitalizations. In 2013, there were an estimated 1,275 blood-pressure related preventable hospitalizations in the state.[12]

***Tobacco Use***

Smoking and tobacco use increases one's risk for developing diabetes, hypertension, and cancer. Tobacco use alone is responsible for the death of 7,500 Oklahomans each year.[10] Oklahoma is consistently among the highest states for tobacco usage, but focused efforts to reduce and prevent tobacco use have resulted in a 19 percent decrease in the past four years and an all-time low of adult smokers of 21.1 percent.[11] This decrease has moved Oklahoma's ranking to 40th in the nation, up from 47th at the start of this decade. Tobacco use among school-age children is also a major issue. Fifteen percent of high school students in Oklahoma and 4.8 percent of middle school students use tobacco. Nationally, these rates are significantly lower, at 12.7 percent and 2.9 percent, respectively.[12]

Tobacco cessation services offer Oklahomans resources such as the Oklahoma Tobacco Helpline and free nicotine-replacement therapies to quit tobacco. While the program has yielded some success, it also experienced a 29 percent decline in services in 2013, suggesting fewer individuals are seeking the program in an attempt to become tobacco free.[13]

### *Obesity*

Similar to the state's smoking rate, Oklahoma also has one of the top ten highest rates of adult obesity in the nation, with 33 percent[12] of the adult population being obese in 2014.[14] Along with adults, children in Oklahoma also have high rates of obesity, with 11.8 percent of high school students being obese.[12] Poor nutrition and physical inactivity can be contributing factors to obesity, which can lead to many chronic conditions like hypertension, heart disease, and diabetes. The State of the State Health Report ranked Oklahoma 44th in the nation for leisure time physical activity, 50th for fruit consumption, and 44th for vegetable consumption.[1] Many factors can contribute to lack of physical activity and low consumption of healthy foods. Many of them are related to the social determinants of health, such as access to healthy foods and safe places to exercise, transportation, and health literacy and education about proper nutrition and exercise.

### *Cancer*

Oklahoma faces poorer health outcomes related to cancer compared to most other states. Overall, Oklahoma has the 6th[15] highest rate of death due to cancer and the 5th highest cancer incidence rate[16] in the nation. The burden of cancer in the state is significant: one in three women and one in two men in Oklahoma will be diagnosed with cancer at some point in their lifetime.[17] Annually, there are 8,100 cancer-related deaths and 19,280 new diagnoses of cancer. The rate of cancer deaths is strongly influenced by the progression of the disease at the time of diagnosis. Having access to care and participating in routine preventive care and screenings increases one's ability to treat and survive the disease.[18] It is also necessary to include tobacco cessation measures as a way to reduce the burden of cancer in the state. In Oklahoma, the leading cause of cancer deaths (30 percent of deaths) is from lung and bronchus cancers.1 For most cancers, later stage diagnosis lowers the probability of survival[11], so it is critical to include population health measures related to utilization of preventive cancer screenings in order to detect cancers in earlier stages to improve survival rates and subsequently lower disease burden and cost on patients and the state as a whole.

### *Chronic Lower Respiratory Disease*

Chronic Lower Respiratory Disease includes both chronic obstructive pulmonary disorder (COPD) and asthma. In 2013 this disease was the third leading cause of death in Oklahoma with a COPD prevalence of 8 percent among adults.[19] Oklahoma tied with West Virginia for the 4th highest COPD prevalence in the nation.[20] Like heart disease, smoking is strongly correlated with respiratory disease; smokers are more likely to have asthma and smoking is the leading cause of COPD.1 An estimated 85 to 90 percent of COPD deaths can be attributed to smoking.1

### *Other Chronic Conditions*

In 2013, Oklahoma had the sixth highest rate of stroke deaths in the nation[21], and strokes were the fifth most common cause of death in the state. Much like heart disease, stroke – or cerebrovascular disease – is a prevalent condition among Oklahomans that is impacted by other chronic conditions and factors, some of which one cannot control, like heredity, age, gender, and ethnicity. Some medical conditions—including high blood pressure, high cholesterol, heart disease, diabetes, overweight or obesity, and previous stroke or transient ischemic attack can also raise one's stroke risk. Avoiding smoking and drinking too much alcohol, eating a balanced diet, and getting exercise are all choices you can make to reduce your risk. Stroke deaths, the fifth most common cause of death in Oklahoma, are most often caused by high blood pressure, high cholesterol, smoking, and physical inactivity.

### *Mental Health and Substance Abuse*

Mental health and substance abuse are a growing health concern for Oklahomans. Oklahoma is ranked 49th nationally for mental illness prevalence among adults.[22] Additionally, data from the 2014 State of the State Health Report ranked Oklahoma 42nd in the average number of poor mental health days each month reported by adults.1 In 2014, 21.9 percent of adults in the state reported having a mental health issue and 12 percent reported having a substance abuse issue.[12] Approximately 700,000 to 950,000 residents experience mental or substance abuse issues. Recent trends suggest mental health outcomes in Oklahoma are not improving. Mental illness and substance abuse has skyrocketed in the state, with an estimated 985,000 Oklahomans in need of either mental health or substance abuse treatment services. Still, six of 10 Oklahoma adults and four of 10 youth are not receiving needed treatment.[23]

Approximately 12 percent of Oklahomans reported having a substance abuse problem in 2014. Unintentional poisoning (UP) deaths have risen dramatically over the past decade, and Oklahoma now ranks eighth in the nation for drug overdose death rates, 49 percent higher than the national rate.[24] UP mortality increased more than 500 percent from 1999 to 2013, with 127 deaths in 1999 and 730 deaths in 2013. Of the more than 4,600 UP deaths from 2007 to 2013, 78 percent involved prescription drugs and 87 percent of those deaths involved opioid analgesics.

Suicide is the ninth leading cause of death in Oklahoma.[1] The rate of suicide in Oklahoma is the 13th highest among states and the District of Columbia. [25]1 Suicides have increased from 13.63 deaths per 100,000 persons in 2003 to 17.28 deaths per 100,000 persons in 2013.[26] Individuals with mental illness are much more likely to have chronic health conditions and less likely to be physically active.[27] When mental illnesses are left untreated, affected individuals live on average 25 to 30 fewer years than non-affected individuals.[28] By 2023, there will be a projected 53 percent increase in the number of people in Oklahoma with a mental illness, higher than the projected growth percentage in heart disease (41 percent) and stroke (29 percent).

The need for accessible, affordable behavioral health services in Oklahoma is imperative, especially in the southeastern and northeastern portions of the state. Not only do these areas have a higher incidence of mental health issues and substance abuse, but they are also areas where there are too few behavioral health providers. Behavioral health issues can be addressed from both a treatment and prevention standpoint. Healthcare providers can utilize the same mental health risk screening to ensure that the majority of the population is receiving evidence-based screening to identify mental health or substance abuse issues. The co-location of behavioral health and primary care providers will be essential in addressing the extent of mental health issues in Oklahoma.

### *Dental Health*

Oral health is a key component to overall health and improved quality of life, yet many Oklahomans do not receive consistent, adequate dental care. In 2014, Oklahoma ranked 45th in the nation for the number of adults with a recent dental visit.[29] In 2012, merely 58.9 percent of Oklahomans received some form of dental care, a proportion lower than the national rate of 67.2 percent. Rural, low-income Oklahomans were less likely to receive dental care than Oklahomans living in urban areas that had a higher income. Currently 43 counties in Oklahoma have a critical shortage of dentists and are federally designated as dental health professional shortage areas.[30] Approximately 66 percent of Oklahomans that reside in these dental HPSAs have an unmet need, and in order to meet 100 percent of needs, an additional 88 dentists would need to enter the workforce and practice across these underserved counties.

### *Maternal and Child Health*

Oklahoma continues to improve in its maternal and child health outcomes but ranks in the lower 50 percent among other states. Although the state infant mortality rate has decreased by more than seven percent in the past three years, Oklahoma's 2015 ranking for the severity of infant mortality was the 41st

worst in the nation, with 6.8 infant deaths per 1,000 live births.[31] The infant mortality rate in Oklahoma is higher for infants of teenage mothers than infants of mothers between the ages of 25 to 34. While close to three-quarters (73.1 percent) of expecting mothers in the United States received prenatal care in the first trimester of their pregnancies in 2010, only 65.5 percent of expecting mothers in Oklahoma received such care in that period.[32] In 2012, the proportion improved; 68.2 percent of expecting women in Oklahoma received prenatal care in their first trimester.

**Table 1: Infant Mortality Rate**

| Metric | Oklahoma | United States | 2020 State Target |
|---|---|---|---|
| **Children's Health** | | | |
| **Infant Mortality** | 6.8 per 1,000 live births (2013) | 6.0 per 1000 live births (2013) | 6.4 per 1,000 live births |
| **Maternal Mortality** | 29.9 per 100,000 live births (2013) | 17.8 per 100,000 live births (2011) | 26.2 per 100,000 live births |
| **Injury Deaths Among 0-17 years** | 14.4 per 100,000 (2013) | 7.4 per 100,000 (2013) | 13.9 per 100,000 |

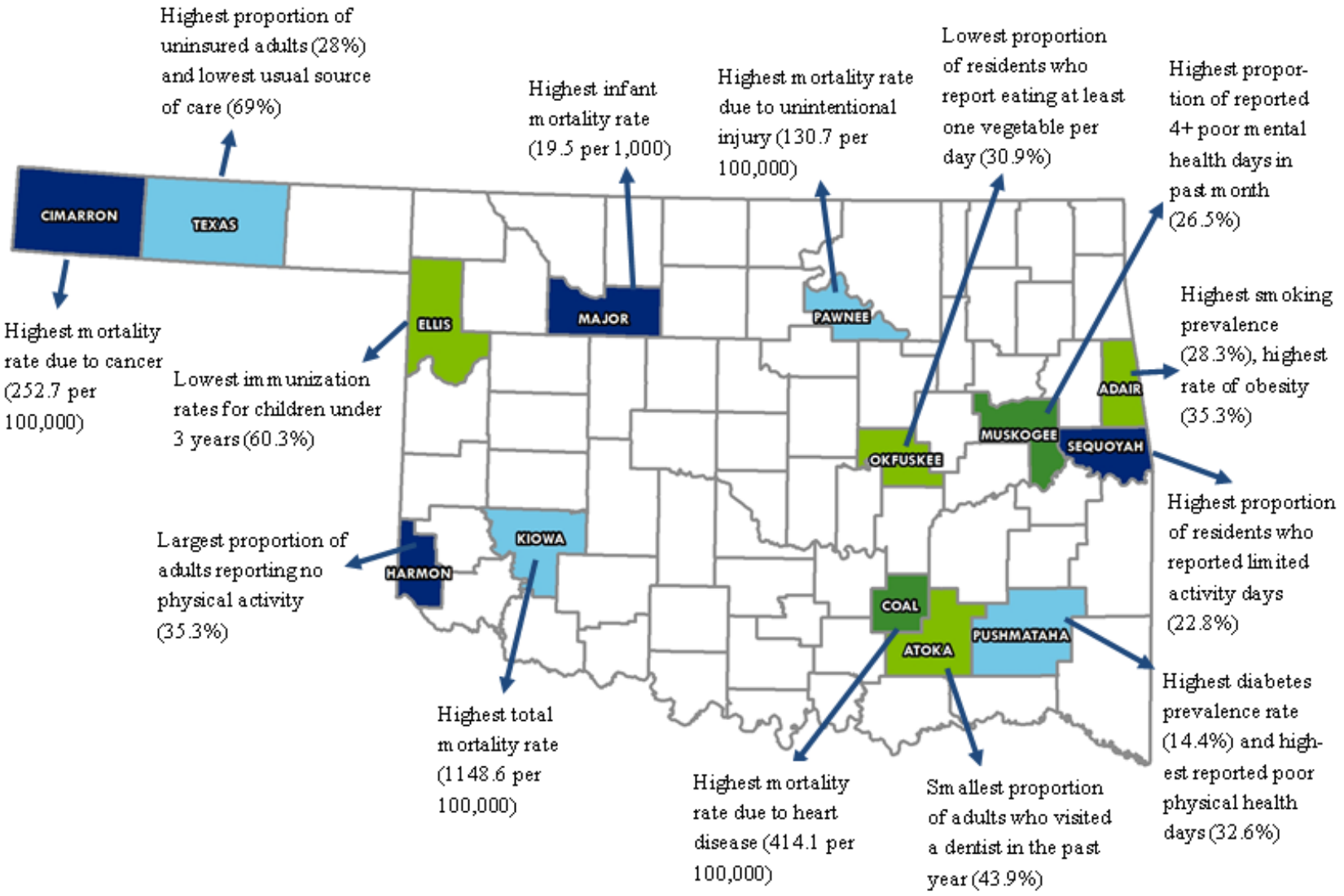
**Health System Performance Trends – The Burden of Disease**

Oklahoma's current health system performance is evident in poor health outcomes, which have been driven by reactive care that lacks emphasis on prevention and control. These problems are exacerbated by a complex health system that is difficult for patients to navigate due to the fragmentation between providers and care settings. According to the 2015 Scorecard on State Health System Performance released by the Commonwealth Fund, Oklahoma dropped from 49$^{th}$ to 50$^{th}$ (out of 51 states and the District of Columbia) from 2014 to 2015, trailed only by Mississippi. The states were measured against five dimensions of performance:

- Access and affordability;
- Prevention and treatment;
- Avoidable hospital use and cost;
- Healthy lives; and
- Equity.

Though Oklahoma was among several states that improved on the greatest number of indicators – the state improved in 14 indicators and worsened in only two indicators – it remained in the bottom quartile for all five dimensions of health system performance. Figure 2 shows some of Oklahoma's health outcomes and challenges by county location.

**Figure 2: Oklahoma's Worst Health Outcomes by County Location**



## Quality Performance Indicators

Reducing preventable hospitalizations, non-emergent emergency department (ED) utilization, and hospital readmissions are key components to improving the state's health system performance. These three metrics – hospitalizations, ED utilization, and readmissions – may be addressed through cultural and behavioral modifications by both providers and patients by treating illnesses more efficiently before they become severe and treating events in the proper care setting. Treating patients in the proper care environment, such as primary care provider offices and urgent care centers for non-emergent acute care, improve access and affordability of care. Urgent care settings not only have extended hours and a walk-in policy, but also have lower treatment costs. Nationally, it is estimated that between 13.7 percent and 27.1 percent of emergency admissions could be managed in a lower acuity setting. [33]

### *Preventable Hospitalizations*

Preventable hospitalizations are defined as stays that might have been avoided with timely and effective outpatient care and appropriate self-management. In 2015, there were 1836.2 per 100,000 population preventable hospitalizations in Oklahoma.[34] The southeast region of the state had the highest rate of preventable hospitalizations at 2,145.1 per 100,000 compared to the national rate of 1,562.1 per 100,000. The most common diseases that were associated with preventable hospitalizations included both chronic and acute diseases, such as heart failure, angina, asthma, dehydration, diabetes, hypertension, and urinary infections. [35] It is estimated that there were 52,000 potentially preventable hospitalizations annually that cost over $1 billion in unnecessary annual charges. These preventable diseases and unmanaged chronic illnesses stress the healthcare system, treats patients at a higher acuity level than necessary, and wastes resources. Research indicates that, with minimal reductions in preventable hospitalizations, significant avoidable costs are mitigated. For example, with only a 10 percent decrease in hospital stays for acute and chronic-related preventable hospitalizations, nearly $43 million could be saved in Oklahoma.[36]

### *Non-Emergent Emergency Department Utilization*

Emergency care is appropriate for health problems that pose an immediate danger to one's life, have a high risk of a grave disability, or for the purposes of childbirth. Non-emergent care can be classified as all other medical care and is generally not considered appropriate to be provided in an emergency setting. The Oklahoma Health Care Authority (OHCA) indicates that one percent of their total annual budget pays for non-emergent ED utilizations.[37] ED usage is higher for individuals with serious chronic diseases, like diabetes, hypertension, or COPD, and for those that lack access to primary care. According to OHCA's ER Utilization Study, the most common diagnoses for adult utilizers are abdominal pain, headaches, and urinary infections. For children, the most common complaints are ear infections, fever, and upper respiratory infections.[38] These diagnoses demonstrate that EDs are being used for health problems that could be treated in a lower acuity setting.

Currently, OHCA has initiatives in place to discourage non-emergent ED utilization from Medicaid members as well as incentives in place for providers that reward alternative modalities of care. For example, patient-centered medical homes (PCMH), known as SoonerCare Choice in Oklahoma, have been used to extend access hours, The health management program (HMP) and health access networks (HAN) also work to better manage care to avoid inappropriate use of healthcare services. Members identified for the HMP receive advanced program access, enhanced care coordination, and planning for quality and effectiveness goals. In 2014, the total ED cost for the Medicaid population in Oklahoma enrolled in the SoonerCare Choice was over $151 million, with an average cost of $264 per visit and each member averaging two ED visits per year.[39] Behavioral health conditions are the number one reason for visits to the ED among all but the youngest adults enrolled in SoonerCare Choice. Hypertension and COPD are significant contributors of UD use by the older adult population.[40]

ED utilization is often used as a way to measure a lack of access to primary care. It can be reduced through improved care coordination and medication management. Social determinants of health also play a large role in ED utilization. People that work non-traditional hours or those that cannot receive time off from work often find themselves resorting to EDs due to a lack of alternative options. For the Medicaid population, improving the integration of physical and mental conditions is an important strategy for addressing ED utilization as well as leveraging care coordination efforts.

**Figure 3: SoonerCare Emergency Department Utilization Per 1,000 Persons**

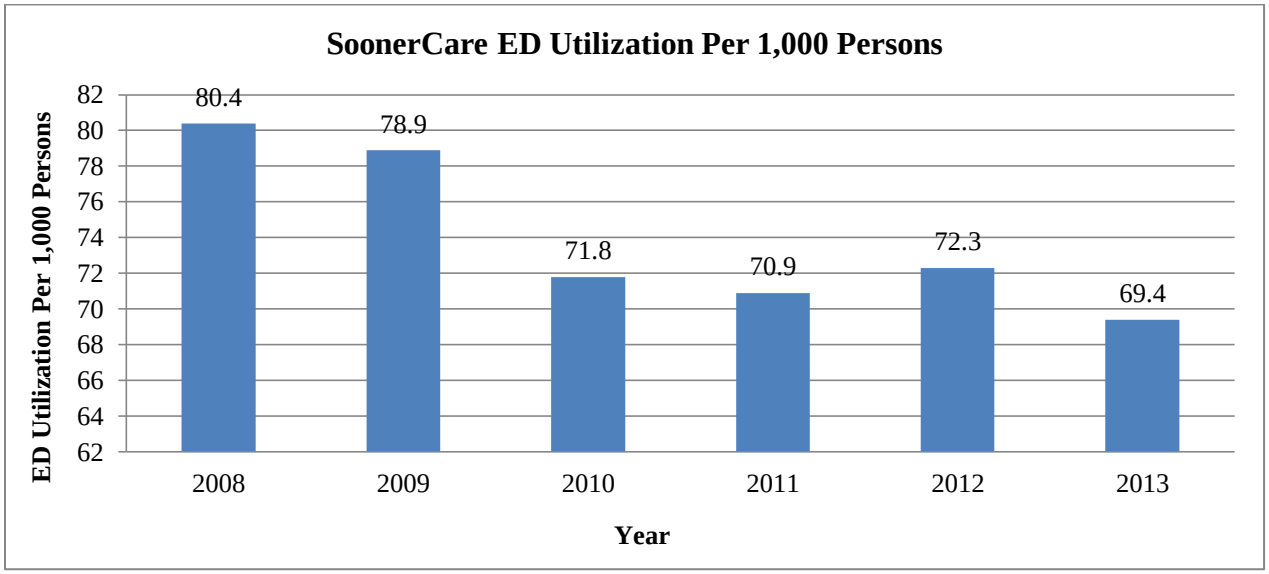
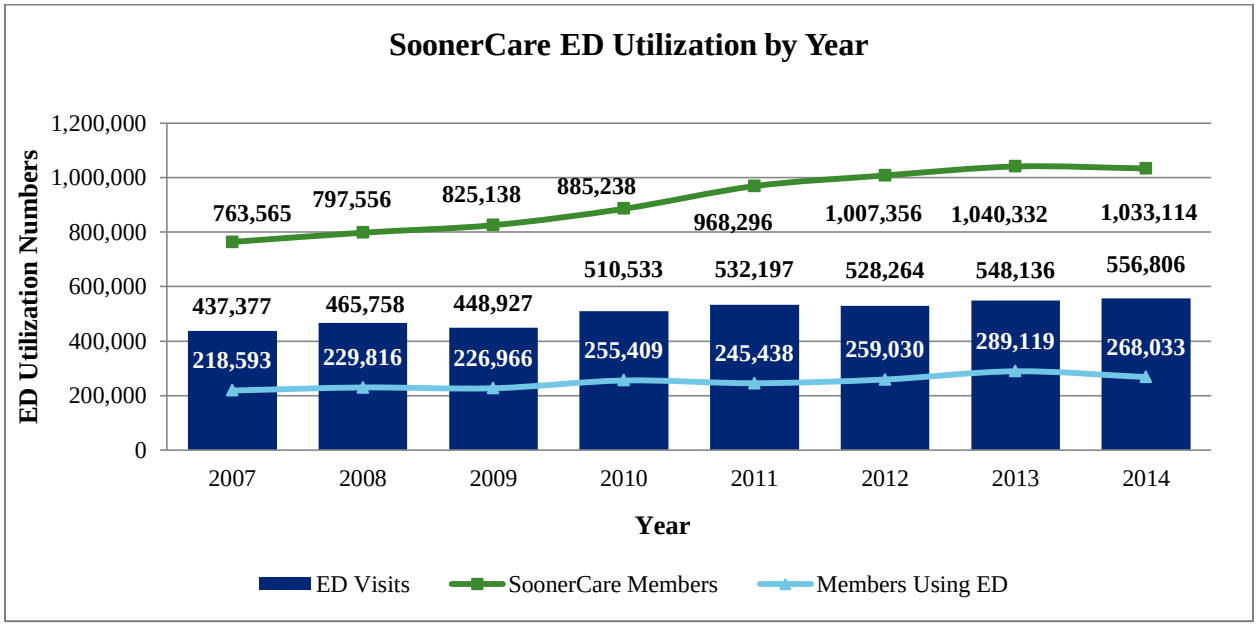



**Figure 4: SoonerCare Emergency Department Utilization by Year**

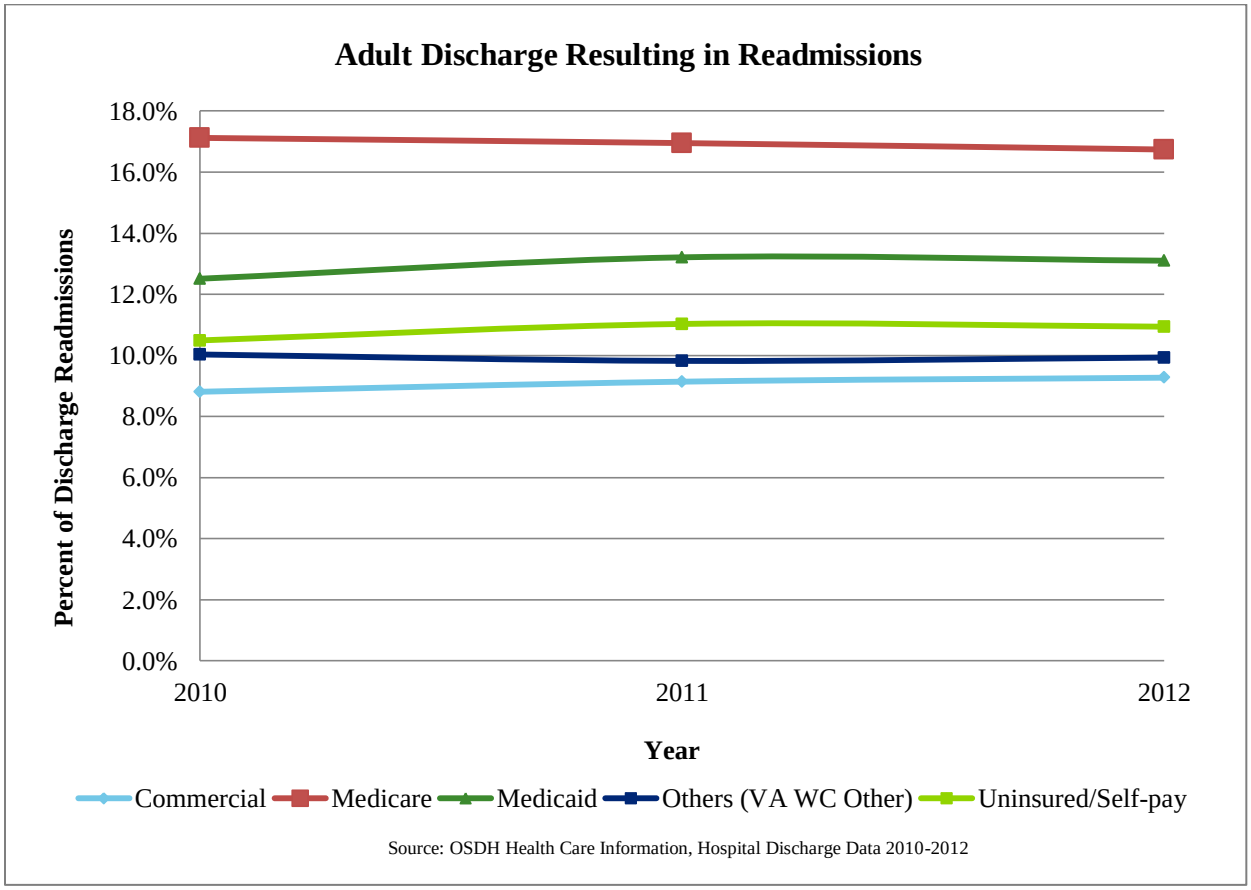


***Readmissions***

A readmission is defined as a subsequent admission to a hospital within 30 days of discharge. Readmissions potentially indicate poor care, poor care coordination, and/or incomplete treatment. The percent of discharges that resulted in readmissions had mixed results between 2010 and 2012, depending on the payer and age group. Overall, the percent of discharges that resulted in readmissions from 2010 to 2012 for adults remained the same, at 13.6 percent. Figure 12 illustrates the percent of readmissions by payer over a three year period in Oklahoma. Medicare had the highest readmission rate, but has a decreasing trend, whereas Commercial payers had the lowest rate, but with an increasing trend. Nationally, it is estimated that readmissions for Medicare patients alone cost $26 billion.[41]

An important driver of readmissions that often presents itself as co-morbidity is mental illness. Mental health issues can have a substantial effect on the efficacy of treatment for physical health problems. For example, chronic conditions may be exceptionally susceptible to readmissions due to the need for continued care that may be more difficult to coordinate when mental illness is present. Although only accounting for between two percent to eight percent of adult readmissions, the proper treatment of mental health co-morbidities could be a focus area that would reap quick dividends.[42]

**Figure 5: Percent of Adult Discharges Resulting in Readmissions**




**Healthcare Cost Trends**

Oklahoma payer data indicates that in 2010 and 2012, the top 25 principal diagnoses had total costs of $12.9 billion and $14.2 billion (increase of 10.1 percent), respectively.[43] Total personal healthcare

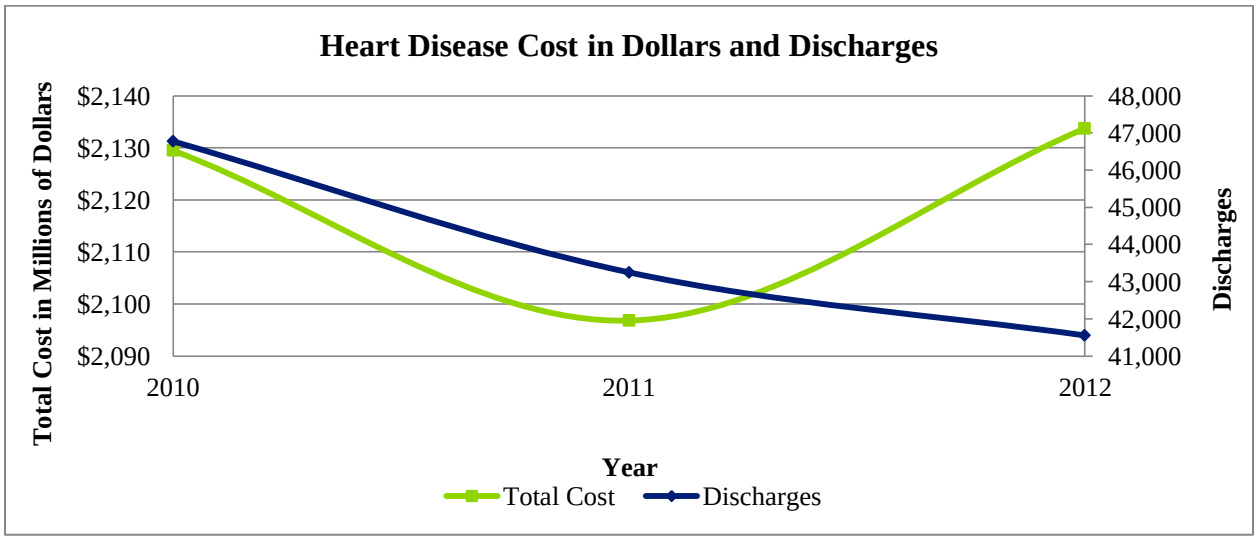
expenditures topped $24 billion in Oklahoma in 2009 and have continued to increase steadily since 1991, when expenditures were $7.5 billion.[44]

In 2009, the nation spent over $2 trillion annually on personal healthcare expenditures, compared to $677 billion in 1991. The average annual percent growth of total personal healthcare expenditures in Oklahoma was 6.70 percent, slightly above the national average of 6.50 percent.[45]

Oklahoma ranks 3rd highest in the nation for its mortality rates related to heart disease, which was consistently the most costly diagnosis to treat in the state. The cost to treat heart disease has resulted in over $2 billion in total costs statewide every year between 2010 and 2012. The average cost per discharge increased annually from $45,526 in 2010 to $51,348 in 2012, a 12.8 percent increase.[46]

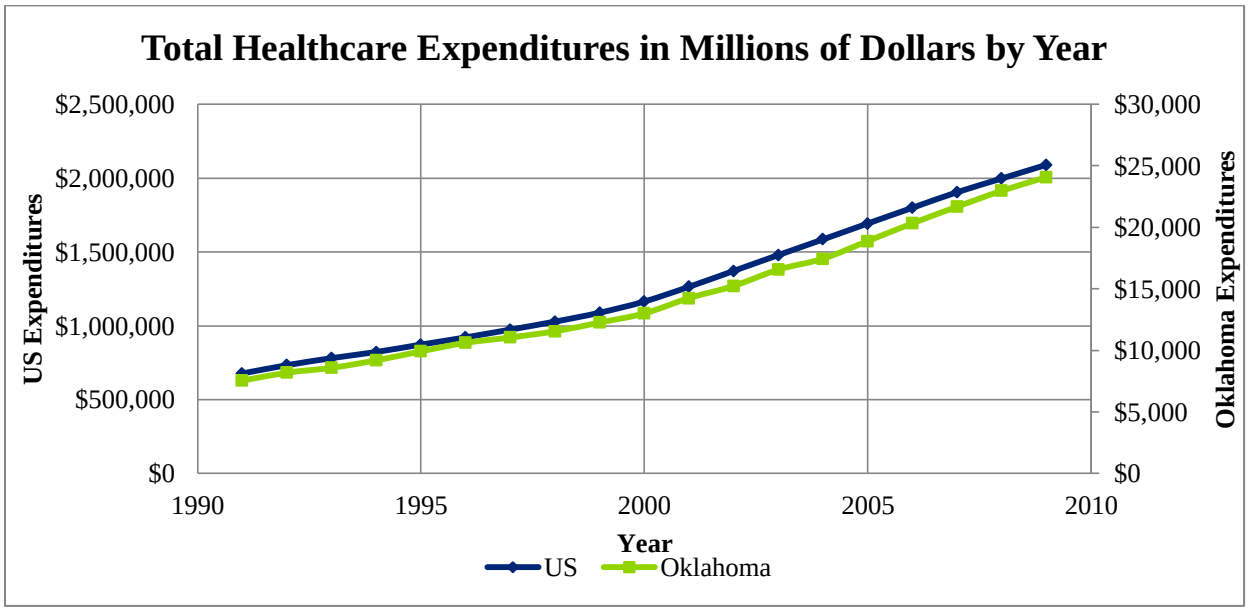
Heart disease, Oklahoma's leading cause of death, attributed to one in four deaths that occurred in the state in 2013.[47] It should be noted, however, that the driver of marked increases in both the total and average costs per hospital inpatient discharge is not necessarily due to increased patient utilization. Rather, there are a declining number of discharges per year and increasing average costs, which appears to be related to the increased cost of services that are rendered from year to year. For example, the average cost of heart disease at discharge increased 12.8 percent between 2010 and 2012 but discharges decreased 11.2 percent from 46,774 in 2010 to 41,554 in 2012, as seen in the figure below.[48] These types of healthcare trends are present in other diseases as well and can be attributed to many different causes from the delivery side with new procedures, pharmaceuticals, or intensity of services and from the payment side with methodologies potentially changing over time to include more services and increases in the total cost of care.

**Figure 6: Heart Disease Total Cost in Millions of Dollars and Number of Discharges by Year**



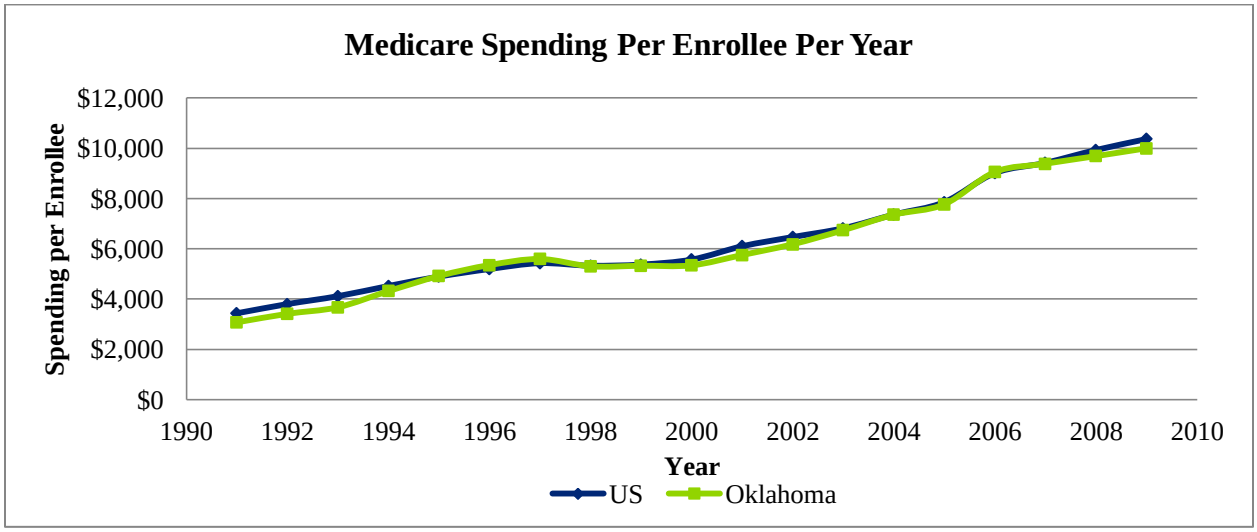

The most common principal diagnosis for all payers was complications from pregnancy, childbirth, and puerperium residual, which had a total of 52,582 discharges in 2012. Medicaid was the most common payer, accounting for 58.03 percent in 2010, 56.77 percent in 2011, and 55.97 percent of all discharges in 2012, indicating a decreasing proportion over a three-year period. Although average costs at discharge were relatively low at $13,178, the volume of patients brought the Medicaid total annual charges to just under $388 million or 57.7 percent of the total annual costs for complications from pregnancy, childbirth, and puerperium residual. The number of discharges has been decreasing, while average and total costs have been increasing between 2010 and 2012.

**Figure 7: Total Healthcare Expenditures in Millions of Dollars by Year**




The Medicare population represents a large portion of the US healthcare expenditures and is unique in that it is an overall unhealthier population compared to other payers, as it caters specifically to older Americans, individuals with particular diseases, and people with a disability. Heart disease was the most costly diagnosis for the Medicare population accounting for over $1.3 billion in total charges or 62 percent of the total heart disease charges for all payers in 2012. The second most costly diagnosis (obstructive lung disease) for the Medicare population had less than half the total charges for heart disease ($1.3 billion compared to $620 million respectively). Additionally, Medicare spending per enrollee has been steadily increasing. Oklahoma's expenditures tend to be slightly lower than the national average. Average Medicare expenditures per enrollee are currently only 3.65 percent higher for the nation than the state.[49]

**Figure 8: Medicare Spending Per Enrollee by Year**



Per capita health spending is an important metric to determine the overall population health expenditure burden and general cost trends. The total aggregate health spending costs of public, private, net hospital revenues, and product costs are divided by the total state population to determine per capita health spending. Per capita spending on healthcare services in Oklahoma has steadily risen from $2,375 in 1991 to $6,531 as of 2009. The state's per capita spending has historically been slightly lower than the national average and maintained a similar gap over time. Current per capita spending is 4.3 percent higher for the nation when compared to the state's spending.[50]

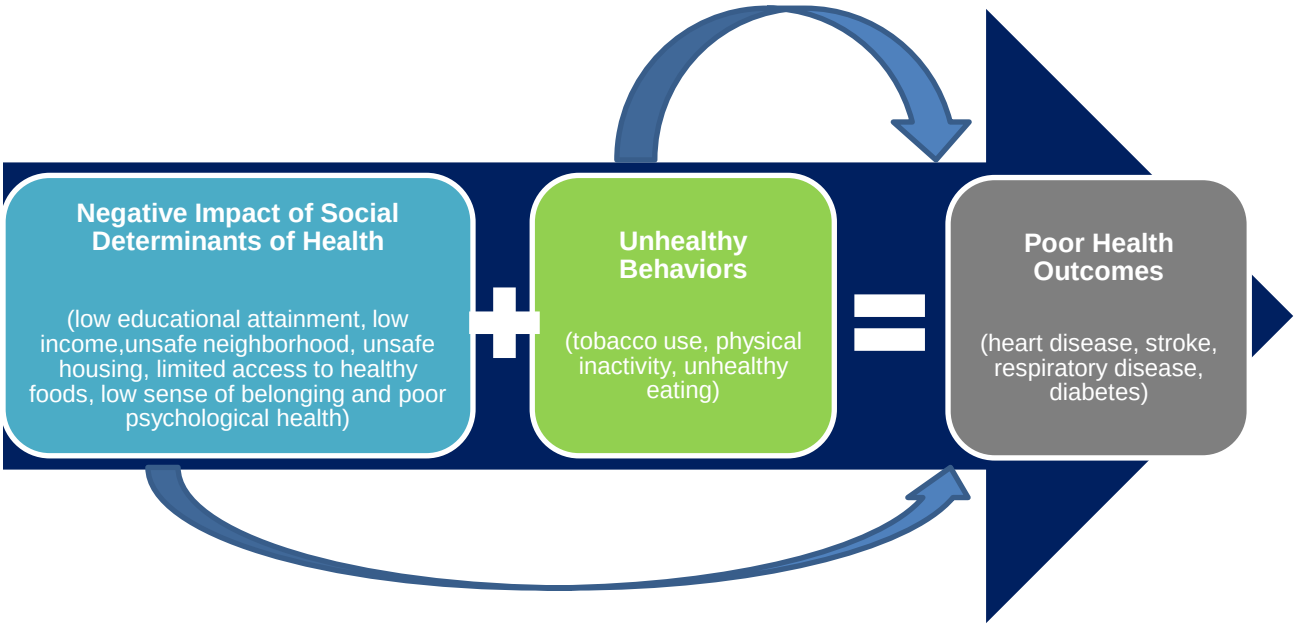
## CURRENT ENVIRONMENT FOR HEALTH

To better understand the reason for the poor outcomes mentioned above it is necessary to look at the current environment for health. This section describes some characteristics of the environment to enable a better understanding of what is driving health outcomes beyond the disease state.

### Social and Economic Determinants of Health

Social circumstances alone account for 15 percent of premature deaths and significantly influence health behaviors.[51] Many Oklahomans lack basic needs such as an adequate income, housing, and nutrition, which not only affect overall health but health behaviors as well. The figure below details the relationship between social determinants, personal behaviors, and health outcomes. Individuals who are negatively impacted by social determinants of health such as a lack of food, housing, and economic constraints are more likely to engage in unhealthy behaviors, such as the use of tobacco, alcohol, and other drugs.[52]

**Figure 9: Relationship between Social Determinants, Health Behaviors, and Health Outcomes**



### *Population Demographics*

The current demographics in Oklahoma illustrate the need for a health system that is culturally sensitive to all Oklahomans. More than 3.8 million individuals reside within the 68,595 square miles of the state.[53] Over 80 percent of Oklahomans self-identity as white, 13.3 percent identify as Native American, and 8.9 percent identify as African-American. Approximately 9.4 percent of residents identify as ethnically Hispanic.[54]

Oklahoma is home to the second highest number of Native American people, second only to California.[55] Native Americans in the state on average are less healthy and more socially and economically disadvantaged than other Oklahomans. Over one-fourth of Native Americans lack health insurance.[56] With this population and the growing number of non-native English speaking Latino residents, (currently 6.37 percent of the state's population[57]), cultural competency training as well as the availability of bilingual services is a crucial component in communicating health needs and resources.

### *Rural and Urban Distribution*

Almost 36 percent of Oklahomans live in the 59 counties that are federally-defined as "rural."[58] Of the state's 77 counties, 40 counties have a population of less than 25,000 residents. The geographic distribution averages 54.7 people per square mile in Oklahoma, but the population density fluctuates significantly by county, with an average of 1.3 residents per square mile in Cimarron County to an average of 1,058 residents per square mile in Tulsa County.[59]

Oklahoma continues to witness the movement of people from rural and small towns to more urban areas. From 2010 to 2014, the rural population of Oklahoma declined with 37 counties losing population, primarily from the rural and frontier areas of southwestern and southeastern Oklahoma.[60] Rural Oklahomans demonstrate increased levels of health risk factors when compared to their urban counterparts.

### *Income and Employment*

Oklahoma's median annual household income is $45,339, which is 14.5 percent lower than the national average of $53,046.[61] Seventeen percent of Oklahomans earned wages below the federal poverty level (FPL), slightly worse than the national average of 16 percent. Almost one-quarter of the children of Oklahoma live in poverty; the state's ranking in terms of childhood poverty from 2014 to 2015 regressed from 26$^{th}$ to 40$^{th}$ highest in the nation.[62] Overall, poverty-stricken individuals in Oklahoma are significantly less likely to have health insurance. An estimated 23 percent of the 918,400 Oklahomans living below the FPL in 2015 were uninsured.[63]

Although the poverty rate in Oklahoma is higher than the national average, Oklahoma's unemployment rate of 4.3 percent is lower than the national average of 5.0 percent.[64]

The current state of Oklahoma's energy sector creates rippling effects across other sectors of the economy. One of the most influential sectors of Oklahoma's economy, energy, has experienced declines in revenue due to decreases in the price of oil. Many companies have had to downsize their workforce, which directly affected close to 12,000 oil and gas employees in 2015, while the number of indirect job losses in the state is as of yet unknown.[65] The State faces up to a $1 billion dollar budget shortfall in 2016, a deficit largely attributed to low oil prices.[66]

### *Education*

Oklahomans receive fewer years of education on average compared to the rest of the United States. Fifteen percent of Oklahomans over the age of 25 have less than a high school education. Of the 85

percent of Oklahomans with a high school diploma, 36.5 percent never attended college. For those that attended post-secondary education institutions 32.5 percent did not earn a degree,[67] seven percent of Oklahomans earned an associate's degree, 16 percent earned a bachelor's degree, and 8 percent earned a graduate or professional degree. One in four Oklahomans without a high school education lived in poverty, compared to one in 20 with a college degree.

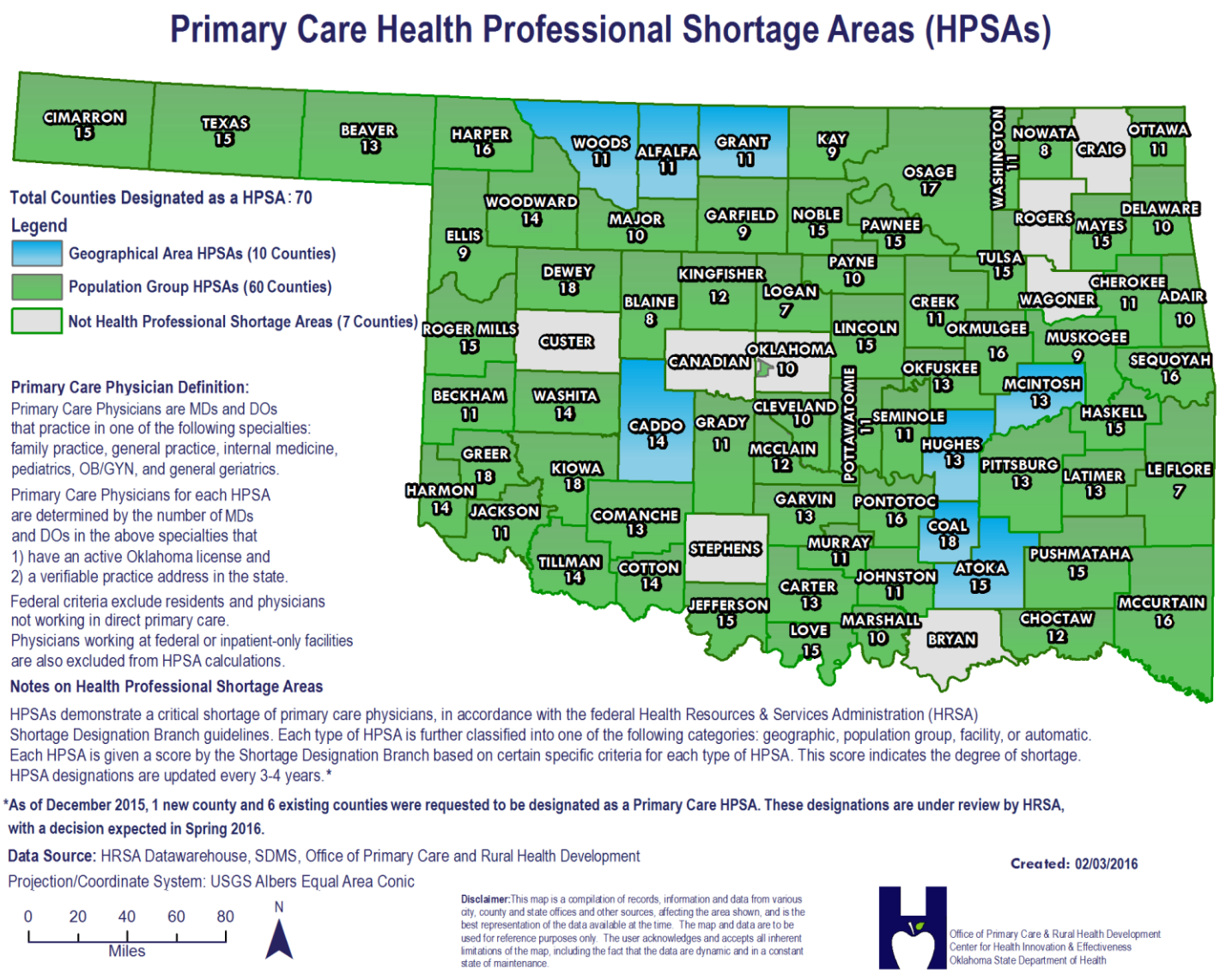
Oklahoma is one of the most affordable states for public higher education. However, retention rates continue to decrease for freshmen enrolled in research, regional, and community colleges and universities.[68] Though Oklahomans are employed at higher rates than residents of other states, it is projected that 500,000 high-skilled jobs in Oklahoma will remain unoccupied due to a lack of highly trained workers.[69] Addressing Oklahoma's health issues by confronting social determinants of health, such as education, including alignment with state job needs, could be expected to improve both health and educational outcomes, two forces that are closely intertwined.

***Access to Care***

Inadequate access to healthcare and furthermore quality healthcare contributes to 10 percent of premature deaths in the United States. In turn, this increases cost due to preventable hospitalizations and/or non-emergent emergency room utilization.[70] In Oklahoma, shortages of primary care physicians, dentists, and psychiatrists are widespread. The majority of the state's 77 counties are classified by the Health Resources and Services Administration as Health Professional Shortage Areas (HPSAs). Geographic HPSAs are classified when an area has too few providers per population (shown in blue on the map below). Population Group HPSAs have too few providers who serve a specific population in the area, most commonly low-income individuals (shown in green on the map below).

Seventy counties in Oklahoma are classified as Primary Care HPSAs, 44 counties are classified as Dental HPSAs (22 are still pending approval), and 69 counties are classified as Mental HPSAs.[71] Oklahoma ranks 44$^{th}$ in the nation for the number of primary care physicians per population.[72] The distribution of primary care physicians is also of concern. The United Health Foundation Health Care Rankings lists Oklahoma as third worst among rural states in the misdistribution of doctors among the population.[73] Additionally, almost 30 percent of the physician workforce is age 60 or older and on average, rural physicians are older than urban physicians, potentially exacerbating the lack of primary care physicians in rural areas in the future. Ensuring that Oklahoma has an adequate workforce is a priority of the Governor of Oklahoma. Pipeline, recruitment, and retention efforts are being elevated in order to reverse the growth of HPSAs in the state.

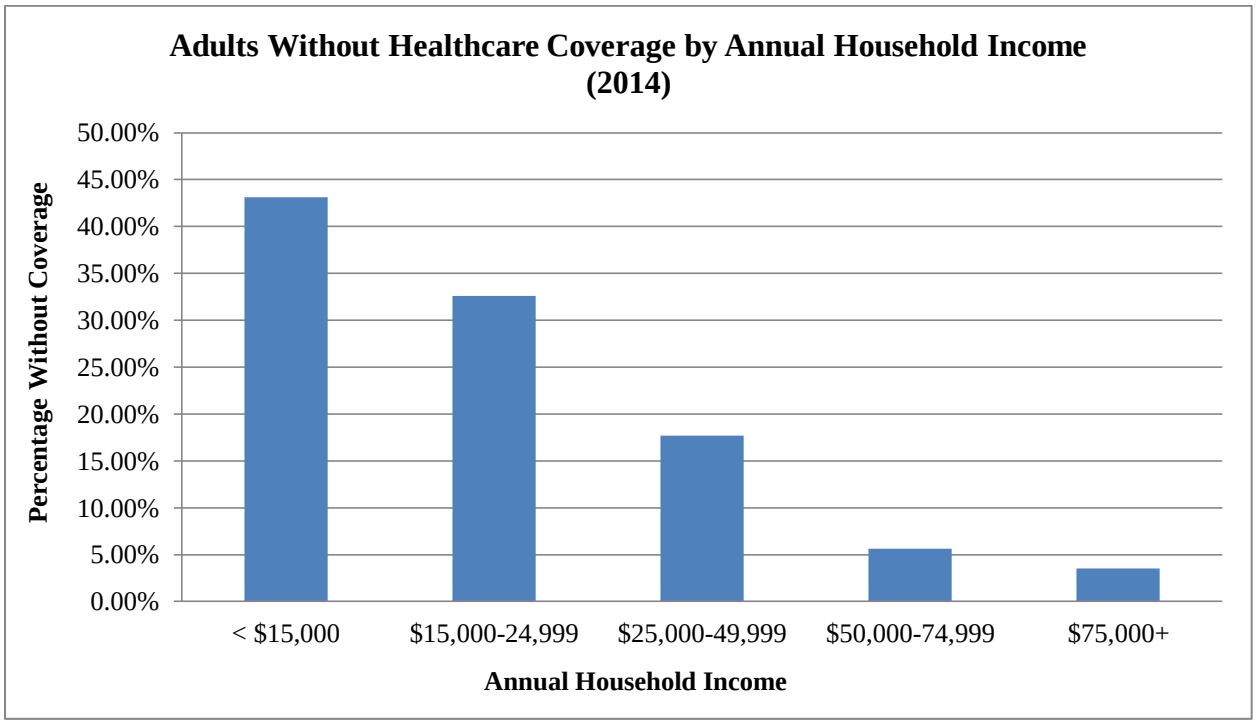
**Figure 10: Oklahoma Primary Care Health Professional Shortage Areas (2015)**



### *Uninsured Population*

The uninsured population experiences significant barriers to care which negatively affect overall health. The primary reason individuals reported being uninsured was due to the high cost of coverage and/or being unemployed.[74] A strong correlation exists between household income and the uninsured rate; higher uninsured rates were associated with lower household incomes. As of 2015, it is estimated that 15.6 percent (543,800) of the state's population remains without health insurance, including 21.4 percent of non-elderly adults. The southeast region of the state has the highest uninsured rate (19.9 percent), while Tulsa has the lowest uninsured rate (15.1 percent).[75] The uninsured rate is disproportionately higher for individuals between the ages of 19 and 34, accounting for 44 percent (241,100) of the total uninsured population.

**Figure 11: Percentage of Nonelderly without Healthcare Coverage by Annual Household Income, Oklahoma, 2014**




### *Health Behaviors*

In the United States, poor health behavioral patterns account for 40 percent of illnesses and premature deaths. Health behavioral patterns are the largest determinant impacting health, more than genetic predisposition, healthcare access, social circumstances, and environmental exposure.[76]

Overall, Oklahomans eat fewer fruits and vegetables, exercise less often, use tobacco more often, and are more obese than average Americans.[77] Oklahoma is ranked the 44th least active state; 28 percent of Oklahomans were not physically active in 2012.[78] Oklahoma is also 50th and 39th in the nation in fruit and vegetable consumption, respectively.[79] Oklahomans engage in unhealthy behaviors at high rates, which contribute to development or exacerbation of chronic disease and the higher rates of chronic diseases and mortality than the national average. Data from the State of the State Health's Report shows that tobacco use, obesity, physical inactivity, and poor diet are some of the most common behavioral and lifestyle factors driving poor health outcomes in the state.

Tobacco use among school-age children is also a major issue. Fifteen percent of high school students in Oklahoma and 4.8 percent of middle school students use tobacco. Nationally, these rates are significantly lower, at 12.7 percent and 2.9 percent, respectively.[80]

Tobacco cessation services offer Oklahomans resources such as the Oklahoma Tobacco Helpline and free nicotine-replacement therapies to quit tobacco. While the program has yielded some success, it also experienced a 29 percent decline in services in 2013, suggesting fewer individuals are seeking the program in an attempt to become tobacco free.[81]

### *Housing*

Many Oklahomans experience barriers to affordable and adequate housing. Generally, housing is considered affordable when individuals pay less than 30 percent of their monthly income on housing costs.[82] Nearly one-quarter (24.4 percent) of Oklahomans pay home mortgages that are more than 30 percent of their income, and an estimated 45 percent of Oklahomans pay rents that are at or above 30 percent of their income. Thus, a significant proportion of Oklahomans have less disposable income for other necessities, such as healthcare. In addition, individuals with housing insecurity are more likely to use tobacco, less likely to visit a doctor, more likely to be in fair or poor physical health, more likely to have more poor mental health days, and are less physically active.[83]

### *Access to Food*

Nutrition serves as the foundational basis for health and quality of life, yet many Oklahomans encounter barriers to obtaining a healthy diet. In 2013, an estimated 17 percent of adults and 26 percent of children in Oklahoma experienced a lack of access to food and uncertain availability of nutritious foods.[84] More than one in five (21.1 percent) of Oklahomans across 43 counties, compared to 13 percent of Americans overall, lived in a food desert, meaning they lived more than 10 miles from a grocery store that sold produce, or more than a mile from such a store in urban areas.[85] According to a 2014 study by Feeding America, 16.5 percent of Oklahoma households were food insecure in 2014 compared to average of 14 percent of households in the country.[86]

### *High-Risk Communities*

High-risk communities are found in all regions of the state. High-risk communities are plagued with combinations of poor social and health outcomes. Southeastern counties in Oklahoma, in particular, have high concentrations of chronic disease, poverty, and a lack of access to primary care, dental care, and mental healthcare services due to their high uninsured rate and low proportion of providers to population.[87,88] In addition, Southwest Oklahoma ranks at the bottom on several health outcomes compared to other regions of the state. Oklahomans living in these areas fare consistently worse on several key health indicators, including chronic disease and mortality.

## The Oklahoma Health Insurance Environment

### *Estimated Healthcare Enrollment by Insurance Source*

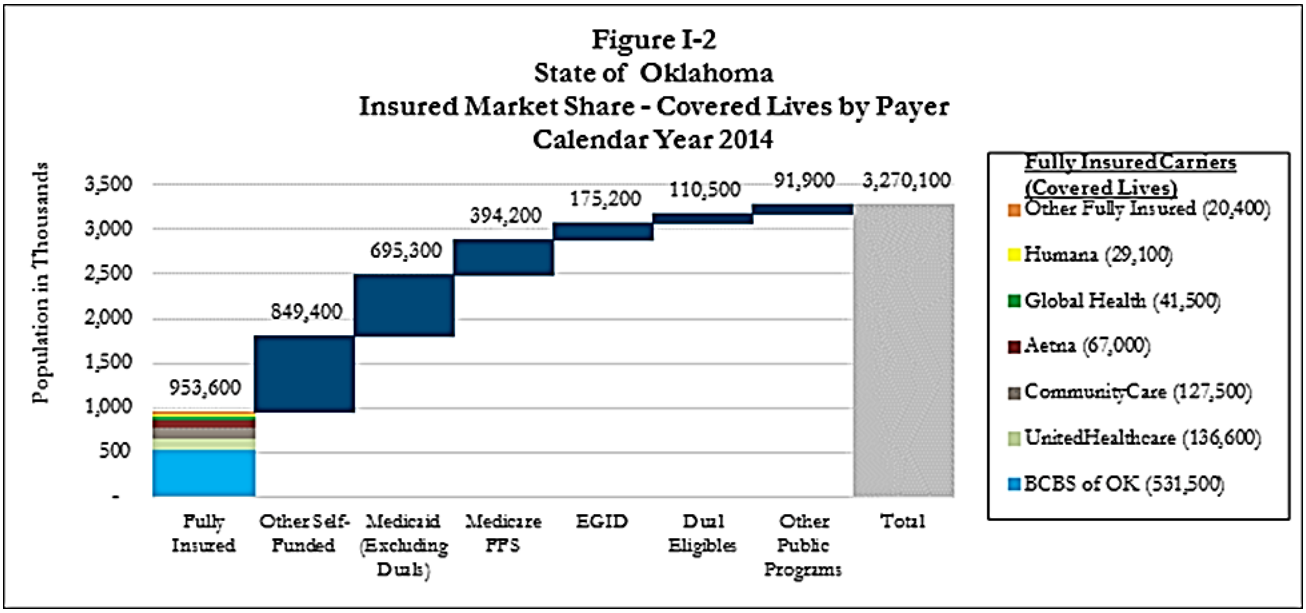
In 2015, 43 percent of Oklahomans were insured through employer-sponsored insurance plans, 36 percent through governmental plans (Medicaid, Children's Health Insurance Program, Medicare), and six percent through individual insurance. The remaining 14 percent of Oklahomans were uninsured.[89]

More Oklahomans had individual health insurance plans in 2015 than in prior years (223,500 Oklahomans as compared to 2013, when only 122,100 Oklahomans had individual insurance).[90] Both Medicaid and Medicare enrollment increased between 2013 and 2015. In addition, fewer Oklahomans

were uninsured in 2015 (543,800) than in 2013 (657,200), resulting in an estimated decrease in Oklahoma's non-elderly uninsured rate from 25.4 percent to 21.4 percent.

Additionally, as shown in the following table individuals and families are covered by all different health insurance types with 43.8 percent of the lives covered through employer subsidized insurance, 36.5 percent covered through public programs and 5.7 percent individuals paying for their own coverage.

**Figure 12: State of Oklahoma Insured Market Share (Covered Lives by Payer, Calendar Year 2014)**




Note:

1. Fully insured values include enrollment in the individual and group health insurance markets, as well as Medicare Advantage.
2. Please see Section VII, Methodology and Assumptions, of the *Oklahoma State Innovation Model Insurance Market Analysis* for an explanation of the process and data sources used to develop the above values.

**Table 2: State of Oklahoma Estimated Enrollment by Insurance Source (2015)**

| Insurance Source | 2015 |
|---|---|
| **Individual** | 223,500 |
| **Small Group** | 177,300 |
| **Large Group** | 493,200 |
| **Self-Funded** | 854,500 |
| **Employees Group Insurance Division (EGID)** | 184,500 |
| **Medicaid/CHIP (with Duals)** | 826,700 |
| **Medicare (without Duals)** | 504,200 |

| | |
|---|---|
| **Other Public Programs** | 92,500 |
| **Uninsured** | 543,800 |
| ***Note: Numbers are rounded.*** <br> ***Source: Oklahoma State Innovation Model Insurance Market Analysis (2015)*** | |

Among the insured market in 2014, the top five payers of the insured market share in terms of covered lives were Medicaid (excluding dually eligible beneficiaries Medicare/Medicaid Dual Eligibles), Blue Cross Blue Shield of Oklahoma, Medicare Fee-for-Service (FFS), other self-funded employee sponsored health plans, and the Employee Group Insurance Division (EGID).[91] Together, these five payers comprise more than 80 percent of the insured market share. United Healthcare, CommunityCare, Dual Eligibles, other public programs, and Aetna hold the sixth through tenth largest shares of the insured market. The figure below shows the major payers in Oklahoma in terms of covered lives and percentage of the insured market share.

**Premiums and Deductibles**

In the past decade, deductibles for single person and family healthcare plans have significantly increased. Nationally, there has been a 117 percent increase for single plans and a 106 percent increase for family deductibles between 2003 and 2011, respectively. Oklahoma fared worse than the average national increase; the state had a 141 percent increase for single person plans and a 124 percent increase for family plans during the same period.[92]

**Figure 13: Average Health Insurance Premiums as a Percent of Median Household Income**

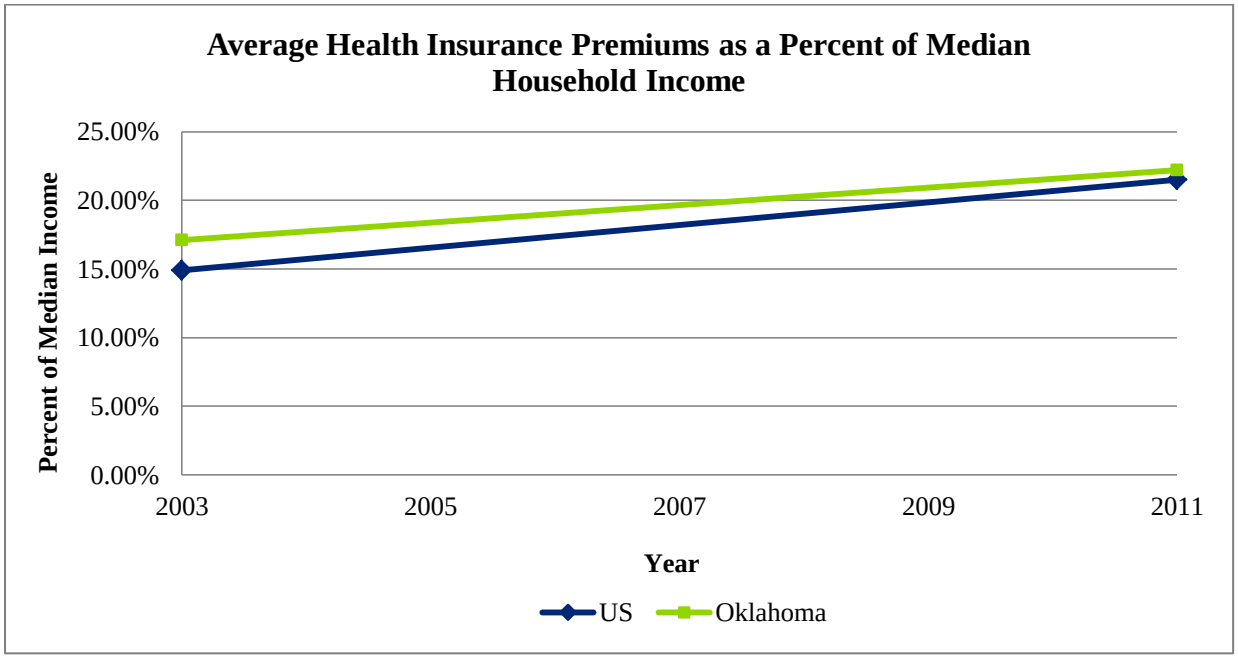
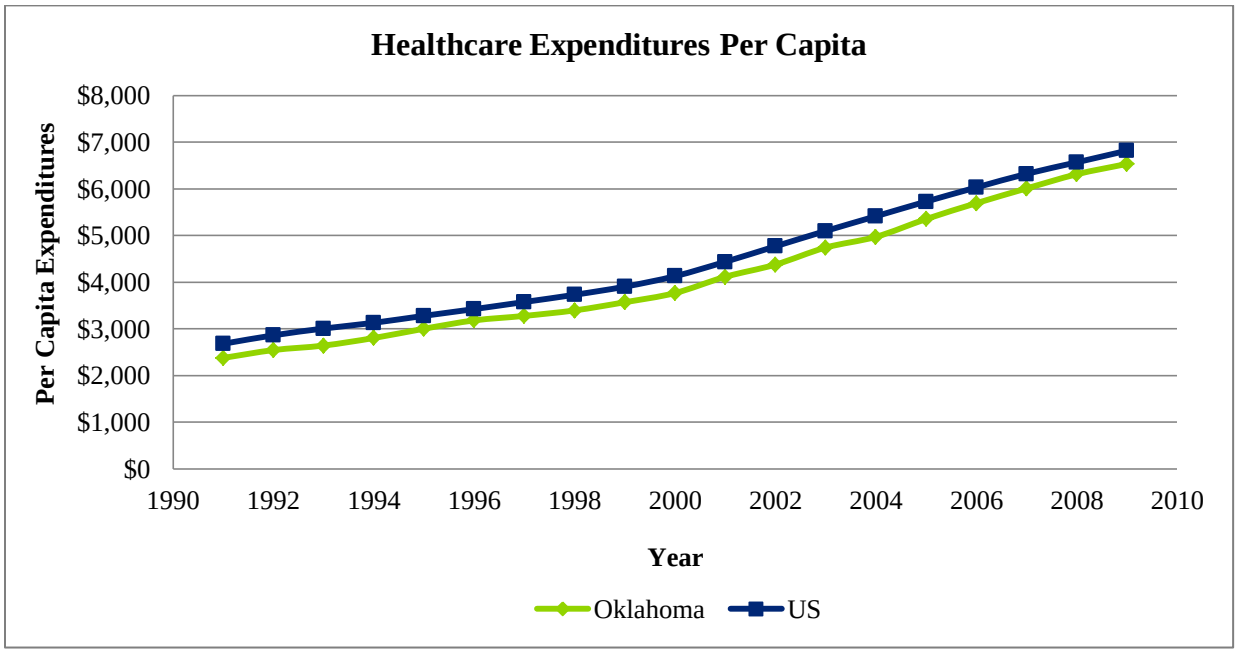


**Figure 14: Healthcare Expenditures Per Capita**




***Costs as a Proportion of Income***

Health insurance premiums continue to take an increasingly larger proportion of income, as shown in the figure above. For the US, premiums as a percentage of a single person median household income increased from 14.3 percent in 2003 to 20.1 percent in 2011. Premiums as a percentage of a family's median income also increased from 15.2 percent in 2003 to 22.1 percent in 2011. Similarly, in Oklahoma, premiums as a percentage of a single person median household income increased from 15.4 percent in 2003 to 20.2 percent in 2011. Premium as a percent of a family's median income also increased from 15.4 percent in 2003 to 21.5 percent in 2011.[93] These numbers illustrate that the burden of cost growth is being shifted to the consumer concurrently as coverage benefits decline and deductibles increase. This is particularly troubling in Oklahoma, where the increases in healthcare costs are eroding a significantly larger proportion of income as compared to other, higher income states.

**Payer-Specific Populations**

***Medicaid***

Low socio-economic status and physical and/or mental disabilities often qualify Oklahomans for SoonerCare or Medicaid, based on income and other eligibility guidelines. In general, the following groups of individuals may qualify for SoonerCare services in Oklahoma:

- Adults with children under age 19
- Children under age 19 and pregnant women
- Individuals age 65 and older
- Individuals who are blind and who have disabilities
- Women under 65 in need of breast or cervical cancer treatment

- Men and women age 19 and older with family planning needs (for the SoonerPlan program)

The higher rates of health impairments in the Medicaid-eligible population compared to the population covered by commercial or Medicare coverage often drive up healthcare costs. For example, compared to the population covered by commercial insurance or Medicare, the Medicaid population has a higher prevalence of mental health diagnoses. This significantly higher prevalence in mental health diagnoses compounded with physical health problems leads to higher healthcare utilization by members.

***Medicare***

The Medicare population possesses particular obstacles that are unique due to age (age 65 and older), which leads to a higher risk of chronic conditions and poorer health. As the "baby boomer" generation ages, there will be a significant increase to the Medicare-eligible population as well as usage of the healthcare system. The Medicare population has a significantly higher rate of hypertension (70.6 percent) and diabetes (25.9 percent) rates than any other payers.

***Dual Eligibles***

Dual eligibles are individuals that are covered by both Medicare and Medicaid. Close coordination between the two programs as it relates to providing care in a manner that meets the Triple Aim is now increasingly possible through demonstrations and other processes enabled by the ACA. Dual eligible individuals may include low-income seniors or younger individuals that possess a disability. The size of the dual eligible population has remained relatively steady over the past few years, with 109,200 beneficiaries in 2013 and 110,900 beneficiaries in 2015. This follows other Medicaid enrollment trends, with the exception of SoonerCare Children, which had a significant increase in the beneficiary population.[94] Given the unique demographics of the dual eligible population, there has been an effort to increase care coordination and payment between Medicare and Medicaid to streamline the process of healthcare delivery. Dual eligible individuals tend to have more complex and costly conditions than in other member populations.

***Employer Sponsored Insurance***

Employer Sponsored Insurance (ESI), or group insurance membership, has generally increased from 2012 to 2014 throughout different wage quartiles by about 4.5 percent. There is a positive correlation between wage quartile and the percent of full-time employees enrolled. ESI enrollment may be perceived to be more affordable for individuals that are in higher wage categories compared to individuals in lower wage categories. Additionally, individuals in lower wage categories may be less likely to enroll in ESI plans due to eligibility for subsidies through the ACA, or plans not being offered through the workplace. Premiums in Oklahoma for all tiers of ESI have increased between 2012 and 2014, with annualized increases ranging between 6 percent and 10 percent depending on the member category.[95] As premiums increase, employers are more likely to increase the share of contributions from employees.

*Pre-Medicare*

Pre-Medicare members, older adults who do not yet qualify for Medicare but have retired, were the most costly group for the Employee Group Insurance Division. The per-member-per-year cost for these members outpaced the cost for active and Medicare members by almost double, at $8,252 per year or $688 per month. This could be attributed to the reason they accepted early retirement, perhaps disability or other health factors. Further, pre-Medicare member premiums fell short of covering incurred claims by $26.3 million, whereas both Medicare and active member claims were able to cover incurred claims.[96]

***Disabled Populations***

An estimated 15.8 percent of Oklahoma's total population is living with a disability. Of those Oklahomans that are under the age of 18, 4.8 percent (44,819) are disabled. Of individuals between the ages of 18 and 64 years old, 14.1 percent (319,463) are disabled. Of individuals that are 65 years old or older, 42.3 percent (212,800) possess a disability. Individuals that possess a debilitating physical, mental, or emotional problem (29.6 percent) were more likely than those without a disability (12.9 percent) to delay a doctor's visit, citing costs. Similarly, those that required special equipment (23.6 percent) were also more likely to delay a doctor's visit than those that did not require any special equipment (16.5 percent).[97] As previously mentioned, delaying care may subsequently lead to more serious, more expensive, and higher acuity health problems. It is important to stress and encourage potential patients to be actively involved in their own care to improve health outcomes.

**Table 2: Percentage of Population by Age Group with Disability US Census, Oklahoma, 2009-2013**

| | Under 18 Years | 18 to 64 Years | 65 Years and Older |
|---|---|---|---|
| Population with Disability | 4.8% (N = 44,819) | 14.1% (N = 319,463) | 42.3% (N = 212,800) |

According to the American Community Survey, of the non-institutionalized population in Oklahoma that possesses a disability between 21 and 64 years of age, 77.4 percent are insured, 25.9 percent are on Medicaid, and 24.2 percent are on Medicare. Nationally, it is estimated that 83 percent of the population with a disability are insured and 17 percent are uninsured. Individuals that possessed a cognitive disability were more likely to live in poverty than individuals that had a visual, hearing, ambulatory, self-care, or independent living disability. The most likely to be uninsured are those with visual disabilities in Oklahoma (27.9 percent) compared to the nation (21.2 percent).[98]

**Demographics and Health Factors by Payer Type**

The distribution of insurance source enrollment varies by key demographic and health factors of enrollees, such as geography, age, income, and reported health status. These demographic and health factors are not evenly represented across the various payer types, a fact that needs to considered when evaluating payers, cost, and planning health system reforms.

***Urban versus Rural Location***

A larger proportion of rural Oklahomans are enrolled in government health programs (i.e. Medicare, Medicaid, and other government programs) than urban Oklahomans. Forty-one percent of rural Oklahomans are insured through governmental health programs compared to 36 percent of Oklahomans living in urban areas.[99] Oklahomans from rural counties are also less likely to be insured through employer-based health insurance coverage. Employer-based health insurance represents 39 percent of Oklahomans in rural areas, yet 45 percent of Oklahomans in urban areas. The proportion of uninsured Oklahomans did not vary significantly by geographic location. Urban and rural residents were equally likely to be uninsured. Table 3 shows estimates of enrollment by insurance source for urban and rural residents in 2015.

**Table 3: Estimated Enrollment by Insurance Source and Geography (2015)**

| Insurance Source | Geography | |
|---|---|---|
| | Rural | Urban |
| **Individual** | 66,600 | 156,900 |

| | | |
|---|---|---|
| **Small Group** | 45,300 | 132,000 |
| **Large Group** | 126,100 | 367,100 |
| **Self-Funded (with EGID)** | 256,100 | 743,500 |
| **Medicaid/CHIP (with Duals)** | 257,300 | 569,400 |
| **Medicare (without Duals)** | 172,200 | 371,500 |
| **Other Public Programs** | 24,200 | 68,300 |
| **Uninsured** | 160,200 | 383,600 |
| **TOTAL** | **1,107,800** | **2,792,300** |

***Age***

In 2015, over half (52 percent) of Oklahomans under the age of 19 were insured through Medicaid or CHIP, which is a much greater proportion than other age groups.[100] Twenty-seven percent of Oklahomans between the ages of 19 and 34 were uninsured, which is a much higher proportion than any other age group. The majority of Oklahomans in the 35 to 49 and 50 to 64 age groups was insured and received coverage through commercial insurance plans. Oklahomans over the age of 64 were most likely insured through Medicare. Only 2.7 percent of those over the age of 64 were uninsured, which is the second lowest uninsured age group after those under 19. Of note, the state has the seventh highest child uninsured rate with 9.7 percent uninsured in 2014.[101]

**Table 4: Estimated Enrolment by Insurance Source and Age (2015)**

| Insurance Source | Age Group | | | | | |
|---|---|---|---|---|---|---|
| | **Under 19** | **19 to 34** | **35 to 49** | **50 to 64** | **Over 64** | **Total** |
| **Individual** | 45,700 | 59,200 | 49,000 | 69,300 | 300 | 223,500 |
| **Small Group** | 42,100 | 45,600 | 43,200 | 45,200 | 1,100 | 177,300 |
| **Large Group** | 116,400 | 127,700 | 120,300 | 125,600 | 3,200 | 493,200 |
| **Self-Funded** | 204,900 | 228,700 | 209,100 | 205,200 | 6,600 | 854,500 |
| **EGID** | 28,900 | 32,300 | 35,400 | 48,600 | 39,300 | 184,500 |
| **Medicaid/CHIP (with Duals)** | 532.200 | 113,300 | 63,600 | 59,600 | 58,000 | 826,700 |
| **Medicare (without Duals)** | 8,000 | 11,100 | 14,500 | 47,500 | 423,100 | 504,200 |
| **Other Public Programs** | 21,800 | 25,500 | 15,200 | 28,600 | 1,500 | 92,500 |
| **Uninsured** | 22,900 | 241,100 | 167,400 | 97,400 | 14,900 | 543,800 |
| **TOTAL** | **1,022,900** | **884,500** | **717,700** | **727,000** | **548,000** | **3,900,200** |

***Health Status***

Health factors or morbidity vary by insurance source in several ways. Oklahomans with Medicare have a higher morbidity than the average for the state of Oklahoma, regardless of their reported health status.[102] Age is likely a moderator that reduces the effect of health status on morbidity, as Medicare enrollees are older than other insurance populations. Medicaid enrollees also experience higher morbidity than average. Oklahomans with employer-sponsored insurance have a lower morbidity than average Oklahomans.

Regardless of insurance, morbidity increases as health status decreases. Table 5 estimates the composite health factor by self-reported health status and insurance coverage source. A composite score of 1.0 represents the average health status for Oklahoma. Scores above 1.0 represent a higher morbidity compared to the state average, and scores below 1.0 signify a lower morbidity compared to the state average.

**Table 5: Estimated Health Status by Insurance Source (2015)**

| Insurance Source | Health Status | | | | |
|---|---|---|---|---|---|
| | Excellent | Very Good | Good | Fair / Poor | Composite |
| **Individual** | .29 | .44 | .97 | 3.08 | .80 |
| **Employer-Sponsored Insurance** | .29 | .43 | .98 | 3.05 | .64 |
| **Medicaid/CHIP (with Duals)** | .22 | .34 | .79 | 3.28 | .92 |
| **Medicare (without Duals)** | .84 | 1.08 | 1.87 | 4.25 | 2.44 |
| **Other Public Programs** | .28 | .41 | 1.01 | 3.24 | .89 |
| **Uninsured** | .30 | .41 | .96 | 3.02 | .87 |
| **COMPOSITE** | **.30** | **.47** | **1.11** | **3.55** | **1.00** |

***Health Status and Income by Health Insurance Source***

On average, individuals who earn less than 138 percent of the FPL and individuals who earn more than 400 percent of the FPL have a slightly higher morbidity than individuals with incomes between these two categories.[103] It is inferred that the reason individuals in the highest category of income have higher morbidity is due to being older, on average, than lower-income individuals.

Regardless of income, Medicare enrollees have a morbidity rate 229 percent to 256 percent higher than the average Oklahoman. This too can be likely attributed to Medicare enrollees being older then individuals with other insurance sources.

Table estimates the composite health factor by household income level as a percent of FPL and insurance coverage source. A composite score of 1.0 represents the average health status for Oklahoma. Scores above 1.0 represent higher morbidity compared to the state average, and scores below 1.0 signify lower morbidity compared to the state average.

**Table 6: Estimated Health Status by Income Level and Insurance Source**

| Insurance Source | Household Income Level as Percent of the Federal Poverty Line | | | | |
|---|---|---|---|---|---|
| | <138% | 139% - | 251% - | 400%+ | Composite |

| | | 250% | 400% | | |
|---|---|---|---|---|---|
| **Individual** | .89 | .84 | .70 | .77 | .80 |
| **Employer-Sponsored Insurance** | .55 | .57 | .62 | .73 | .64 |
| **Medicaid (with Duals)** | 1.00 | .69 | ---* | ---* | .92 |
| **Medicare (without Duals)** | 2.29 | 2.43 | 2.51 | 2.56 | 2.44 |
| **Other Public Programs** | .85 | .70 | .96 | 1.10 | .89 |
| **Uninsured** | .89 | .81 | .89 | .98 | .87 |
| **COMPOSITE** | **1.04** | **.99** | **.95** | **1.02** | **1.00** |
| ***Note: There are no persons enrolled in Medicaid with household incomes between 251-400% and 400%+ of the FPL*** | | | | | |

**High Cost Services by Payer**

High-cost services and patients are generally the result of poorly managed and inefficient care. There is no clear definition of what constitutes a high-cost patient; however, certain aspects among each population may delineate some commonalities. Seriousness of an illness, prevalence, and costs associated with each patient can be used to help identify high cost conditions. These conditions tend to be chronic and are generally preventable, but may cause serious complications or death if they are not treated appropriately. For instance, hypertensive patients tend to pay 283 percent more than the average patient for commercial payers, 127 percent more than the average for Medicare Patients, and 217 percent more than the average Medicaid patients per year.[104]

**Table 3: High Cost Condition Relative to Average Member by Payer in Oklahoma**

| Condition | Commercial Insurance | Medicare | Medicaid |
|---|---|---|---|
| **Obesity (based on coding)** | 343% | 229% | *Information Unavailable* |
| **Adult Obesity (based on published research)** | *Information Unavailable* | 122% | *Information Unavailable* |
| **Diabetes** | 349% | 157% | 232% |
| **Hypertension** | 283% | 127% | 217% |
| **Tobacco Use (based on coding)** | 345% | 213% | N/A |
| **Adult Tobacco Usage (based on published research)** | *Information Unavailable* | 115% | *Information Unavailable* |
| **Behavioral Health Conditions** | 313% | 224% | N/A |
| **Top 20% of Population** | 490% | 413% | N/A |
| **AVERAGE ANNUAL COST** | **$4,993** | **$9,865** | **$4,746** |

Healthcare transformation in Oklahoma must be particularly focused on highly prevalent, high-cost conditions and behaviors, which include obesity, diabetes, hypertension, tobacco usage, and behavioral health. According to the Employees Group Insurance Division (EGID) these conditions account for an estimated 63.5 percent of all health related costs in 2013. For commercial payers, obesity has the highest prevalence at 29.9 percent. In the Medicaid population, the prevalence of tobacco usage is 36.7 percent; obesity prevalence is 28.9 percent. Medicare had the highest potential high cost service prevalence in hypertension at 70.6 percent. Diabetes and hypertension are diagnosed in a higher proportion in the Medicare market than compared to the Medicaid and commercial market, likely attributed to the average age of Medicare patients being 74.2 years old while commercial enrollee average age was 33.7 years old.[105] For EGID enrollees the highest number of claims and costs were associated with hypertension. In 2013, there were almost 600,000 claims at a cost of over $116 million, which was the most expensive chronic condition accounting for 15 percent of all claims. Additionally, if all heart related diagnoses were combined, they would account for $274 million or approximately 35 percent of all healthcare related expenditures for EGID in 2013.[106]

Healthcare transformation in Oklahoma aims to support improved management and outcomes related to these conditions, as they represent both significant costs and a large number of individuals.

## CURRENT INITIATIVES FOR HEALTH IMPROVEMENT

The current disease burden in Oklahoma has given rise to many efforts for improvement. Through better reporting of health needs and outcomes, state and federal initiatives, as well as community and public health efforts, there are many ongoing initiatives that address Oklahoma's current health disparities. As health is so closely correlated with the social determinants, many initiatives to address these needs are also discussed here. However, this is not meant to be an exhaustive list of resources in Oklahoma, but examples of resources to create a foundation for health improvement with which to grow from.

### State Health Reports

#### *Oklahoma Health Improvement Plan*

The Oklahoma Health Improvement Plan (OHIP) is a public private partnership that is charged with creating a comprehensive plan for the improvement of the physical, social, and mental well-being of all Oklahomans.[15] Legislatively mandated in 2008 and first published in 2010, the OHIP is now in its second installation (OHIP 2020) and fifth year of implementation. Previous state health reports, community surveys, and OHIP designated workgroups were all used to design plan goals and strategies.[15] Input is also provided by business leaders, school teachers, healthcare providers, professional organizations, tribal nations, and other community members. Taking a statewide approach to assessing needs has allowed the OHIP to pinpoint the state's most preventable and costly conditions, and set goals for health improvement surrounding those conditions The OHIP 2020 focuses on four flagship issues to improve population health: tobacco use, obesity, children's health, and behavioral health. These flagship issues were determined by identifying key risk factors that contribute the most to negative health outcomes in Oklahoma. Since the first OHIP report was issued in 2010, there has been improvements made in the adult smoking prevalence; a leveling of the rate of adult obesity; and a decrease in infant mortality. However, there is still great variation between population health improvements at a county-level and thus much work to be done.[15] The OHIP provided the basis for the Oklahoma SIM project by collectively applying for the SIM Grant to further the pursuit of improved population health.

#### *State of the State's Health Report*

The State of the State's Health Report provides data on the leading causes of death, disease rates, risk factors and behaviors, and socioeconomic factors for Oklahomans. It also outlines outcomes by county, providing a snapshot of how each county's health compares to national health outcomes. The report identifies the areas in which the State has had health improvements, such as the decreases in infant mortality and smoking rates. According to the report, heart disease, stroke, cancer, chronic lower respiratory disease, and diabetes are identified as the State's biggest challenges and most prevalent causes of death.[1] These conditions are exacerbated by low rates of physical activity, low fruit and vegetable consumption, and high rates of smoking. The report emphasizes the importance of setting statewide health improvement goals and the need to work on improving population health through targeted statewide initiatives such as the Oklahoma State Innovation Model. The Oklahoma SIM flagship issues are identified using this report along with the OHIP. The Oklahoma SIM flagship issues are tobacco use, diabetes, hypertension, obesity, and behavioral health; all five issues are also identified as OHIP flagship issues or key health indicators leading to poor health outcomes.

***Population Health Needs Assessment***

The Oklahoma SIM project produced the Population Health Needs Assessment using data from various sources including the 2014 State of the State's Health Report and the OHIP 2020. The assessment identifies populations that experience more adverse health outcomes and account for a large part of the healthcare costs across the state. The assessment also evaluates and reports on the social determinants of health influencing health outcomes across the state. While each community identifies different social determinants, several overarching factors, including housing, food security, transportation, literacy, and employment adversely affect a vast majority of Oklahomans.[12]

***County Health Improvement Plans***

The Community Health Improvement Plan (CHIP) is a long-term, systematic effort to identify and address public health concerns with the input of community partners to set priorities, coordinate resources, and prepare a strategic plan of action to make improvements. Specific health priority areas, goals, and objectives are set that address the communities' health issues and their contributing factors.

Eighteen counties across the state have completed CHIPs. The CHIPs are developed in collaboration with community partners, health officials, education officials, and human service agency officials. Community chats, focus groups, and community health needs assessments coupled with morbidity and mortality data are used in the creation of CHIPs. Many of the counties serve as a hub for their region; therefore, the CHIP often speaks to the needs of the county and the region as a whole. To create a CHIP, each county must first conduct a community health assessment. Each CHIP identifies goals and measurable objectives, strategies, timelines, and performance measures.[17] The CHIP also identifies organizations and responsible parties for these objectives. The CHIPs are used to drive local population health improvement efforts through aligning local partners on health improvement goals, creating an action plan with specific interventions to improve priority areas, monitoring progress on plans, and making adjustments to priorities as needed.[17]

One example of a CHIP is from Beaver County, a rural county located in the Oklahoma panhandle. Beaver County conducted and completed their community health assessment and CHIP in 2013. They determined that some of their most important drivers to poor health outcomes were mental health, access to care, and youth wellness.[18] They found that 20 percent of the population reported four or more days of poor mental health in the previous month. Additionally, only 25.7 percent of residents were eating the recommended servings of vegetables each day. [18]

Similarly, Oklahoma County (of which the largest city is Oklahoma City) identified mental health and nutrition and physical activity, for both adults and children, as two of their priority areas.[19] Oklahoma

County reported only 27.6 percent of their residents eating the recommended number of vegetables each day. Additionally, 25 percent of their residents reported four or more poor mental health days in the previous month.[19] Both Oklahoma and Beaver Counties set goals around improving access to and promoting current mental health services in their respective areas, and goals to work with schools on improving their physical activity policies and accessibility.

In another example, McCurtain County, a rural county in southeastern Oklahoma, has one of the highest rates of poverty in the state (27.1 percent).[20] Studies show that poverty is linked to a variety of issues. In McCurtain County, poverty contributes to issues such as high rates of teenage mothers, minimal fruit and vegetable consumption, tobacco use, and poor mental health.[20] The McCurtain County CHIP identified 11 potential strategic issues. The issues were then bundled together into five priority areas: teen pregnancy and infant mortality; mental health and substance abuse, domestic violence and unintentional death and injury; chronic disease, physical activity, obesity and tobacco use.[20] Their CHIP focuses on these issues, some of which are not unique to the county but others which have been due to the county's high rate of poverty and rural location.

In contrast, Tulsa County, one of the richest and most urban counties in the state, has a majority of residents (84.3 percent) that report always or frequently having access to fresh fruit and produce.[21] A total of 51.0 percent of residents reported participating in regular, sustained moderate or vigorous physical activity.[21] Despite what most would consider as higher rates of access to fresh fruits and regular physical activity, Tulsa County reports that nearly one in three adults (32.3 percent) are obese.[21] Tulsa County also reports a diabetes prevalence rate of 11.9 percent, which is higher than the overall state prevalence of 11.6 percent.[21] Due to the higher rates of obesity and diabetes, along with high rates of heart disease, chronic lower respiratory disease, and cancer, Tulsa County has identified chronic disease, obesity, and poor diet and inactivity as three of their six CHIP priority areas. The other priority areas are: drug and alcohol abuse, access to healthcare, and tobacco prevention.[21]

**Current State Health Initiatives**

Federally-funded initiatives currently support numerous health transformation initiatives to improve health outcomes for the state's population. Research conducted for the Oklahoma SIM project assessed current initiatives that align with the five flagship population health issues (tobacco use, obesity, diabetes, hypertension, and behavioral health). This research also identified federal agencies as the primary funders of initiatives, funding 93 percent of initiatives.[107] The research found that 68 percent of initiatives were funded for less than $200,000 and that over half of the initiatives were funded for 3 years or less. The landscape of healthcare initiatives in Oklahoma is dynamic. If cross-collaboration is to succeed, a process or infrastructure will need to be implemented to coordinate and facilitate these varied, but related, initiatives. Oklahoma has many worthwhile ongoing healthcare initiatives, the effects of which could be magnified through effectively coordinating resources.

The table below lists ongoing initiatives to advance the health of the state, where funding sources could be identified. Following the table are examples of federally-funded projects described in greater detail.

**Table 4: Identifiable Primary Payers / Funding Agencies among Health Initiatives**

| Payers / Funding Agencies | Type of Funding | Number of Initiatives | Percent (%) |
|---|---|---|---|
| **Centers for Disease Control and Prevention** | Federal | 52 | 32% |
| **National Institutes of Health** | Federal | 36 | 22% |

| | | | |
|---|---|---|---|
| **Health Resources and Services Administration** | Federal | 19 | 12% |
| **Substance Abuse and Mental Health Services Administration** | Federal | 17 | 10% |
| **Centers for Medicaid and Medicare Services** | Federal | 9 | 5% |
| **Medicaid – Unspecified** | Federal | 4 | 1% |
| **Family & Youth Services Bureau** | Federal | 4 | 2% |
| **Administration for Community Living** | Federal | 3 | 2% |
| **U.S. Department of Health & Human Services – Unspecified** | Federal | 3 | 2% |
| **Indian Health Services** | Federal | 2 | 1% |
| **Children's Bureau** | Federal | 1 | 1% |
| **Office of Justice Programs** | Federal | 1 | 1% |
| **Blue Cross and Blue Shield of Oklahoma** | Private/Non-Profit/ Commercial | 2 | 2% |
| **Notah Begay III Foundation** | Private Foundation | 2 | 1% |
| **Oklahoma Health Care Authority** | State Agency | 2 | 1% |
| **American Heart Association** | Non-Profit Assoc. | 1 | 1% |
| **Association of State and Territorial Health Officials** | Non-Profit Assoc. | 1 | 1% |
| **Community Care of Oklahoma** | Private/Non-Profit/Commercial | 1 | 1% |
| **Tobacco Industry – Unspecified** | Private/ Commercial | 1 | 1% |
| **United Health Foundation** | Private Foundation | 1 | 1% |
| **Total Identified Health Initiatives with Primary Federal Payer** | | **153** | **93%** |
| **Total Identified Initiatives** | | **164** | **100%** |

**Oklahoma Health Care Authority Initiatives**

The Oklahoma Health Care Authority, the state Medicaid Agency, serves over 818,000 adults and children.[13] Medicaid typically serves higher cost populations with more medical needs than the general population. In order to curb spending, OHCA has implemented several initiatives aimed at improving the health of their member population to decrease costs. The most notable efforts at improving health and decreasing costs are explained below:

***Electronic Health Record (EHR) Incentive Program***

The Oklahoma Medicaid EHR Incentive program, which began January 3, 2011, was one of the first in the nation to launch. The purpose of the program is to provide a financial incentive to assist eligible providers in adopting (acquire and install), implementing (train staff, deploy tools, exchange data), upgrading (expand functionality or interoperability) meaningfully use certified EHR technology. In

addition, Oklahoma had the first community mental health center (CMHC) to register eligible professionals for the EHR Incentive Program.

***Primary Care Medical Home***

SoonerCare Choice is a Primary Care Case Management (PCCM) program in which each member is assigned to a primary care medical home. The medical home provider will coordinate all healthcare services to qualifying Oklahomans. SoonerCare Choice members are designated a primary care physician (PCP) that provides basic health services. Members can change their PCP as they deem necessary and may see a provider who is not their designated PCP for services. To become a certified primary care medical home, practices must meet national quality standards related to patient access to care, care coordination and support, population health management, team-based care, and quality improvement.

***Health Access Networks***

OHCA created a Health Access Network (HAN) pilot program serving Oklahoma SoonerCare members. A HAN is an entity representing a collection of providers which may include hospitals, community health centers, public health departments, physicians, rural health clinics (RHCs), federally qualified health centers (FQHCs), or other recognized safety net providers that:

- Is organized for the purpose of restructuring and improving the access, quality, and continuity of care to SoonerCare members, the uninsured and the underinsured; and
- Offers patients access to all levels of care, including primary, outpatient, specialty, certain ancillary services, and acute inpatient care, within a community or across a broad spectrum of providers across a service region or State.

HANs are designed to increase access to care, quality of care, and cost effectiveness by providing a higher degree of care coordination support to HAN-affiliated PCMH providers. HANs are primarily focused on providing education and care management to high-risk members. HANs are also encouraged to offer practice enhancement to their affiliated PCMH providers, including assistance in demonstrating compliance with Tier 3 PCMH requirements. Currently there are three HANs operating in Canadian, Tulsa, and Payne counties.

***Health Management Program***

The Health Management Program was started to help SoonerCare Choice members who have, or are at risk, for developing a chronic disease improve their health. Telligen was chosen by the Oklahoma Health Care Authority to provide services to HMP members.

HMP Services Available:

- Health Coaching**:** Health coaches are registered nurses located in selected PCP offices that provide education, support and self-management tools aimed at improving the member's health.
- Behavioral Health Screening**:** HMP members are asked to complete a behavioral health screening to identify areas they may need help with managing.
- Pharmacy Review**:** Each HMP member fills out a medication list with the help of their Health Coach. The nurse can ask for this list to be reviewed by a pharmacist if any problems are identified. This will lessen the chance of a medication error.
- Community Resources**:** All Health Coaches are in contact with a resource specialist to help members locate appropriate resources.

- Primary Care Provider Involvement**:** As health coaches are located in selected PCP offices they will work with providers to help improve health outcomes.

***Sooner Excel Program***

SoonerExcel is a performance-based reimbursement component of SoonerCare Choice where providers are eligible for incentive payments if they meet certain quality-of-care benchmarks related to:[8]

- Breast and cervical cancer screenings**:** Providers are incented to meet or exceed compliance rates for recommended screenings services.

- Behavioral health screenings**:** The goal of this measure is to meet the national and local trends to integrate behavioral health into physical health delivery. Providers perform annual behavioral health screenings for patients age five and older.

- Well-child checks and 4th Diphtheria, Tetanus, and Pertussis (DTaP) Vaccine administration**:** These measures are targeted to improve the health of children covered under SoonerCare by recording well-child visits and encouraging the completion of the DTaP immunization series before age two.

- Emergency department (ED) utilization**:** Under this measure, providers are incented to reduce ED utilization by their patient panel and educate patients about proper ED use.

- Inpatient admissions**:** The incentive's purpose is to supply further payment (beyond the rate) to PCPs that provide inpatient admitting and care as well as to incent PCPs to admit and visit their panel member while in an inpatient setting.

***SoonerCare Practice Facilitators***

The OHCA currently employs practice facilitators that are available to any SoonerCare provider. These facilitators are available to assist with any quality improvement initiative that the practice may desire to implement.

**Oklahoma Department of Mental Health and Substance Abuse Services (ODMHSAS)**

The Oklahoma Department of Mental Health and Substance Abuse Services is responsible for providing services to Oklahomans who are affected by mental illness and substance abuse. In FY13, ODMHSAS provided services to approximately 187,000 individuals

***Health Homes***

Health Homes is an optional Medicaid State Plan benefit that provides an opportunity to build a person-centered system of care that achieves improved outcomes and better services and value for the Oklahoma SoonerCare program for individuals with complex needs. Health Home providers integrate and coordinate all primary, acute, behavioral health, and long-term services and supports to treat the "whole person".

In Oklahoma, the ODMHSAS has partnered with OHCA to expand upon the patient-centered medical home model to provide coordinated primary and behavioral health integration for adults with serious mental illness and children with serious emotional disturbance. Implementation began January 5, 2015.

These Health Homes provide comprehensive care management, care coordination, health promotion, comprehensive transitional care from inpatient settings, individual and family support, and referral to community and social support services. Health Homes are responsible for reporting on HEDIS measures related to hospital admission rates, emergency department visits, and skilled nursing facility admissions.

### *Primary Care and Behavioral Healthcare Integration*[108]

The Substance Abuse and Mental Health Services Administration (SAMHSA) distributed grants to support key behavioral health initiatives in Oklahoma. For FY 2014 to 2015, Oklahoma received a total of $55 million from SAMHSA, with approximately $32 million allocated to various behavioral health initiatives. As the recipient of SAMHSA grant funding for the Primary and Behavioral Health Care Integration program, the ODMHSAS reviews and issues sub-grants to implement collaborative, evidence-based partnerships between community mental health centers and primary care delivery sites, such as federally-qualified health centers. Key goals of the program include improving the physical health status and access to care for people with mental illness and substance abuse disorders. Selected organizations jointly conduct activities in this program, such as facilitating screening and referral for conditions such as depression and substance abuse, and develop follow-up processes and metrics for specialized physical health services, depending on the needs of the patient.

## Statewide Goals for Health Information Technology

The OSDH's five-year strategic plan (Healthy Oklahoma 2020: OHIP) sets statewide goals, objectives, and strategies for the adoption and use of health information technology (HIT). The goals listed below were selected through consultation with experts in the state. The goals are consistent with the state's overall goals of a transformed health system that achieves the Triple Aim of improved quality of care, increased population health, and lower healthcare costs growth.[109] The state's goals for HIT align closely with the major national objectives established by the Office of the National Coordinator for Health Information Technology (ONC).[110]

### *Health Information Technology Utilization*

Health information technology is a critical component of achieving the Triple Aim of improved quality of care, increased population health, and lower healthcare cost growths. It enables patient-centered care and the integration of clinical, claims, and social determinants of health data.

In 2009, the ONC developed a certification program for EHR systems and offered supplemental Medicaid and Medicare "incentive payments" to eligible providers and hospitals to offset the cost of implementing, upgrading or transitioning to certified EHR systems. The OHCA was the first Medicaid program in the nation to issue Medicaid incentive payments to providers, with the first payment disbursed in January 2011.[111]

According to CMS data from July 2015, more than $484 million has been paid in Medicare and Medicaid EHR Incentive payments to hospitals and individual providers in the state of Oklahoma, making EHR incentive payments one of the single largest sources of funds dedicated to assisting providers with HIT system investments.[112] Organizations participate in the program voluntarily. Additionally, some providers have pursued and invested in systems independent of the incentive program.

The most recent monthly report from the OHCA identifies a total of 107 out of an eligible 150 hospitals (72.0 percent) that received Medicaid incentive payments as of July 2015. For individual providers, 2,947 providers out of 11,983 eligible physicians, nurse practitioners, physician assistants, and dentists received Medicaid EHR incentive funding (22.7 percent.)[113] A survey conducted in July 2015 of healthcare practice locations across the state found that 86 percent (n = 1,277) of respondents reported utilization of an EHR system, while 14 percent (n = 211) of the practices at the time of the survey did not have systems.[114] Gaining a complete assessment of the landscape of HIT remains an ongoing challenge at the state level. This is in part due to barriers in collecting adequate information. For example, the SIM EHR survey had a low response rate (25.5 percent). This low response rate contributes to the persistent gap in

our knowledge about the nature of statewide HIT use, particularly for rural and independent providers not affiliated with larger health systems and hospitals.

Four broad practice types were classified in the study design:

1. Physician offices and ambulatory clinics;
2. Hospitals;
3. Behavioral and mental health centers, and
4. Long-term or post-acute care facilities, such as nursing homes.

Overall, physician offices/ambulatory clinics indicated the highest rate of adoption of EHRs (92 percent and 94 percent, respectively), while behavioral health centers and long-term and post-acute care centers reported using EHR systems at the lowest rates of the four categories of healthcare facilities (75 percent and 64 percent, respectively).[115] Among the 181 practices that did not currently have an EHR and responded to the inquiry, respondents indicated if they "never" planned to implement an EHR system (27 percent of respondents), planned to implement systems in six to 12 months (11 percent of respondents), planned to implement systems in 12 to 24 months (18 percent of respondents), or planned to implement systems over a greater time period than 24 months. Additionally, some practices did not specify a time frame but stated that they were "in the process" of adopting an EHR system (10 percent of respondents).

Practices that did not have EHR systems were given the opportunity to identify reasons for the lack of an EHR system at their location, with the ability to choose multiple applicable answers. Responses were categorized by survey analysts, as shown in the figures below.[116]

**Figure 15: Responses Selected for Having "No EHR" (N = 209)**

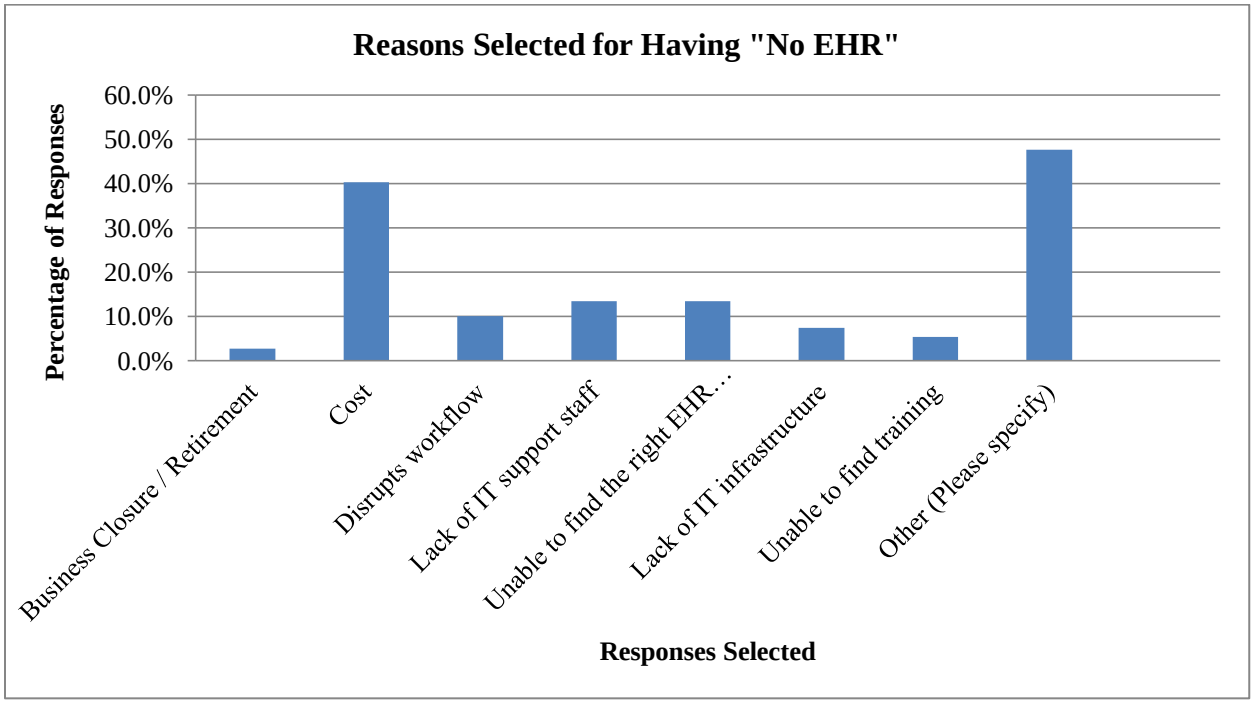
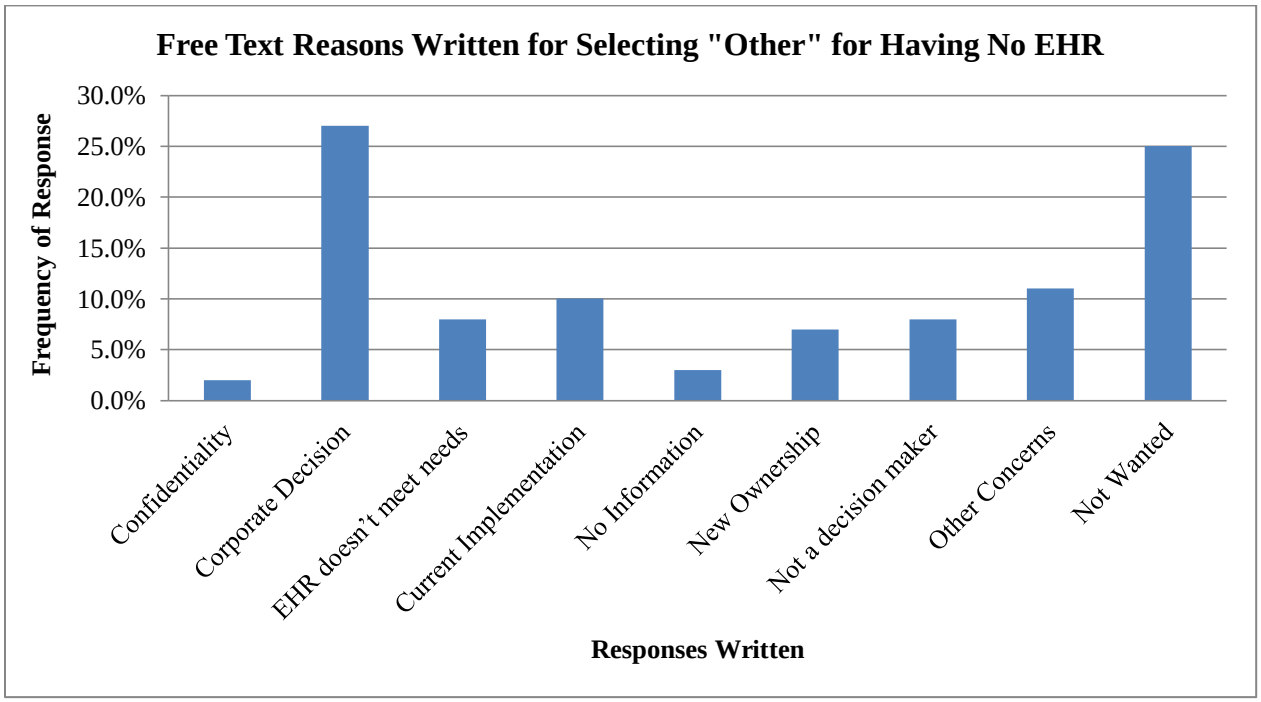


**Figure 16: Free-Text Reasons Written for Selecting "Other" for Having "No EHR" (N = 71)**




Responses to the EHR survey, while limited, provide information that can be used to assess barriers to greater HIT adoption. Recent national studies of EHR adoption, such as the Robert Wood Johnson Foundation's (RWJF) *Health Information Technology in the United States* (2014), have described evidence of a "digital divide'" in which disparities in the speed of adoption and use of EHRs can exist among hospitals and physicians serving different demographics. Hospitals that had not yet adopted an EHR at the time of the RWJF study were more likely to be rural, smaller in size, or have critical access or public hospital designations. Similar characteristics were observed for hospitals and providers that were not "early" adopters, such as those that had plans to adopt EHRs within a time frame beyond six to 12 months from the time they completed the survey. Hospitals or providers with these characteristics typically face greater financial constraints, often due to the disproportionate share of vulnerable or uninsured patients that they serve. EHR implementation also involves extensive staff re-training and workflow redesign, which is especially difficult to perform with shortages of health professionals or HIT experts.

## Public Health and Community Organizations

### *Certified Healthy Oklahoma Program*

The Certified Healthy Oklahoma Program is a free, voluntary statewide certification for public facilities. The program began in 2003 as a collaborative initiative with four founding partners: the Oklahoma Turning Point Council, the Oklahoma Academy for State Goals, the Oklahoma State Chamber, and the Oklahoma State Department of Health. The certification spotlights businesses, campuses, communities, congregations, early childhood programs, restaurants, and schools that are committed to supporting healthy choices through environmental and policy change.

### *Tobacco Settlement Endowment Trust*

Tobacco Settlement Endowment Trust (TSET) is a grant making state agency. Funds for the trust come from payments from tobacco companies through the Master Settlement Agreement. All earnings from the fund are used for programs that promote the improvement of health for Oklahomans. Grants focus on preventing tobacco use, reducing tobacco use, and preventing obesity.

- Healthy Communities Incentive Grants- These are incentive grants to communities throughout Oklahoma for the purpose of supporting improved health for every Oklahoman.

- Healthy Schools Incentive Grants- School districts that adopt all of the incentive grant policies and criteria that effect students during the school day will be eligible to apply for funding. A bonus incentive grant will be offered to Districts that opt to adopt policy that allows for only healthy food and beverage options outside of the school day. This would include after school events, celebrations, fundraising and concessions.

- TSET Healthy Living Program Grants- TSET Healthy Living Program grants are community-based grants that seek to prevent and reduce tobacco use and obesity through a comprehensive approach that includes strategic actions and partnerships with businesses, cities and governments, community institutions, organizations, and schools.

- Rural Health Providers Grant- These are grants to support medical residency programs to place physicians in rural and medically underserved portions of the state.

***Turning Point Partnerships***

The Oklahoma Turning Point Council (OTPC) helps to transform public health in Oklahoma by working directly with community partnerships for health improvement initiatives. Rather than using a top down approach to public health, Turning Point seeks input from communities to help identify community priorities and implement local solutions. For over 15 years, OTPC has partnered with communities across Oklahoma to work on local innovations such as community health centers, extensive walking trails, community gardens, improved school health activities, and advocacy for health improvement policies. Moreover, OTPC continues as an independent statewide consortium focused on policy issues aimed at improving Oklahoma's health.[6] Below are several highlights of OTPC coalitions:

- Currently there are 67 Turning Point partnerships statewide and two partnerships in development.

- There are 24 partnerships engaged in the Mobilizing for Action through Planning and Partnerships (MAPP) process, the strategic planning process for improving community health. Eighteen partnerships have developed a Community Health Improvement Plan (CHIP) and five partnerships have conducted a community health assessment.

- Overarching issues identified by the CHIPs include: food security, access to healthcare, behavioral health, substance abuse, physical activity, obesity, and teen pregnancy.

***County Health Department Accreditation***

The OSDH is currently accredited through the Public Health Accreditation Board (PHAB). In addition to the central office, Oklahoma has 68 counties with health departments. Currently, 32 county health departments are participating in some part of the accreditation process.

***State and Local Public Health Actions to Prevent Obesity, Diabetes, Heart Disease and Stroke (Centers for Disease Control and Prevention 1422 Grant)***

As part of the 1422 grant from the Centers for Disease Control and Prevention (CDC), the Chronic Disease Service and Center for the Advancement of Wellness in the OSDH are collaborating with local county health departments to develop and implement evidence-based interventions to promote health, support and reinforce healthful behaviors, build support for lifestyle improvements, and improve health outcomes by leveraging system and policy changes at the community level and in healthcare settings. These interventions focus on combatting obesity, diabetes, health disease, and stroke. This multi-year project is being advanced in Carter County, Comanche County, Le Flore County, Lincoln County, McCurtain County, Muskogee County, Pittsburg County, Seminole County, and Sequoyah County. Criteria for being selected include factors such as size of the adult population, disease specific mortality and morbidity, and the previously demonstrated ability of the selected county to implement health improving strategies. No monetary commitment is required of communities and agencies involved in the project partnership.

***Health Equity Campaign***

The Health Equity Campaign (OHEC) is a statewide campaign alerting state and community leaders to socioeconomic and ethnic inequities in health and engaging leaders in conversations that result in actions to fight the effects of these inequities in Oklahoma. The OHEC looks to address inequities that are a result of the social determinants of health. OHEC will provide the opportunity for groups to build on the strengths, assets, and resources of a community and work toward reducing the health inequities of under-served populations in Oklahoma.[9]

The OHEC has four focus areas: transportation, health literacy, food security, and housing.

- Transportation**:** The goal of this focus area is to increase access to healthcare and jobs through reliable, low-cost public transit, and building healthy cities and communities to give people cleaner, safer options for active transportation.

- Health Literacy**:** The goals of this focus area are to improve literacy skills of adults and children so that individuals can fully function in society; improving access to accurate, easy to read and understand health information; and improving access to resources for health professionals to effectively address patient literacy and language barriers.

- Food Security**:** The goals of this focus area are to increase food security in Oklahoma by making fresh, affordable, locally-grown food more available; and to increase consumption of fresh produce, whole grains, and lean meat.

- Housing**:** The goal of this focus area are to identify housing solutions for homeless veterans and low-wage workers; improve access to affordable, safe housing for people with disabilities; and develop long-term planning to meet affordable housing needs by Oklahomans.

***Free/Charitable Clinics and Pharmacy Programs***

A total of 40 licensed charitable pharmacies and over 80 free clinics exist in Oklahoma. Below are several examples of these important safety net programs.

- Health Alliance for the Uninsured (HAU)**:** Care Connection coordinates diagnostic testing, specialty consultants and surgical care for low-income, uninsured patients of partner safety net clinics in Oklahoma County. The HAU also partners with Oklahoma County Social Services to provide bulk prescription medications to free charitable clinics in Oklahoma County so that acute illnesses are treated at the time the patient is diagnosed.

- Sandy Park Clinic (Tulsa)**:** Sandy Park was the first Bedlam Public Housing Clinic. It is located in the southwest part of Tulsa and operated through the Tulsa Housing Authority. It serves at risk school children, residents of public housing, isolated elderly, single parents, and the working poor.

- Good Shepherd Community Clinic (McAlester)**:** Located in McAlester County and serving a five county area, Good Shepherd offers medical, dental, vision, pharmacy, and prevention programs to residents who are uninsured, underinsured, and indigent. Today, Good Shepherd is a free healthcare home for over 4,000 patients.

***Regional Food Bank***

The Regional Food Bank of Oklahoma distributes food and other products through a network of more than 1,100 charitable feeding programs, including food pantries, homeless shelters, church pantries, soup kitchens, Food Resource Centers and schools. Food is provided to feed 110,000 Oklahoma residents each week. Programs include: Food for Kids, Fresh RX, Senior Feeding, Urban Harvest, Beef for Backpacks, USDA Commodities, Hunger 101, and the Food and Resource Center Programs.

***Department of Human Services Aging Services Division***

The Department of Human Services (DHS) Aging Services Division contracts with 11 Area Agencies to provide services to residents age 60 and older. Services included include:

- Congregate and Home Delivered Meals**:** Meals are served each year at local nutrition sites throughout Oklahoma and to homebound individuals. Meals are planned by a Registered Dietitian and must meet one-third of the recommended daily requirement.

- Evidence Based Health Promotion**:** Often located at the local nutrition site, health promotion services include provision of educational presentations, exercise programs, and health screening activities to residents 60 years and older.

- Nutrition Education**:** Information on the benefits of healthy eating and exercise are provided to congregate and homebound meal participants.

- In-Home Assistance**:** Local projects are funded by Area Agencies on Aging to provide chore services, personal care, housekeeping, and home repair.

- Outreach**:** Skilled outreach personnel in each county provide one-on-one assistance to help older persons make informed choices.

- Legal Services**:** Educational presentations on legal issues of interest are provided to older adults, as well as individual legal assistance. Legal assistance is provided through the Legal Aid Services of Oklahoma.

- Transportation**:** Trips to the nutrition site, bank, doctor's office or grocery store allow older persons who no longer drive to remain independent in their communities.

- Caregiver Assistance- Services, education and support groups are available to family members who are caring for older persons.

***Alliance for Healthier Generation – Healthy Schools Program***

The Alliance for Healthier Generation Healthy Schools Program assists schools with completing an online assessment and creating an action plan that will work for their specific community. The plan

includes strategies to improve snack policies, add physical activity breaks in the classroom, start active afterschool programs, and start employee wellness programs.

***Schools for Healthy Lifestyles***

The Schools for Healthy Lifestyles program provides health education to Oklahoma elementary students in five key areas: physical activity and fitness, nutrition education and awareness, tobacco use prevention, safety and injury prevention, and oral health. Schools are also provided the opportunity to participate in the adopt-a-doc/adopt-a-dentist program where a doctor/dentist may serve on the school health advisory committee, make classroom presentations, connect the school with health resources, or assist with required physical fitness testing and health education assessments.

***Mental Health Association of Oklahoma***

The Mental Health Association of Oklahoma offers statewide programs designed to help achieve victory over mental illness and prevent mental disorders. Programs include:

- Support groups for depression, anxiety, bipolar disorder, suicide, parents supporting parents, and strength and serenity.
- Legal outreach and resources to identify, evaluate, and diminish systemic barriers to access to justice for targeted disadvantaged populations.
- Recovery services programs that empower individuals with mental illnesses to engage in their communities.
- Trainings for psychological first aid, suicide prevention, and crisis intervention.
- Housing programs that offer short-term or transitional living options as well as some scattered site apartments for those that can live independently in the community.

***United Way of Central Oklahoma***

The United Way of Central Oklahoma works to provide access and critical funding to over 127 results-oriented programs at 61 accountable non-profits across central Oklahoma. Funded agencies provide services such as housing, mental health services, food, clothing, health clinics, advocacy, job placement, and drug and alcohol counseling.

***Tulsa Area United Way***

The Tulsa Area United Way works to advance the common good by focusing on the three building blocks of a better quality of life: education, health/safety, and financial stability. The Tulsa Area United Way served 505,000 people through 60 partner agencies in six counties of the Tulsa region in 2014. The service area includes Tulsa, Creek, Okmulgee, Osage, Rogers, and Wagoner counties.

**Tribal Public Health Efforts**

Oklahoma is home to 38 federally-recognized tribal nations.[10] The State has an American Indian population of almost 350,000 persons, comprising 9 percent of the state's population.[14] Along with being citizens of the state, tribal members are citizens of their respective tribal nations. Tribal nations have inalienable self-governance of their citizens and territories, and possess unique culture, beliefs, value systems, and history as a sovereign nation.

American Indian people suffer greater health disparities than other populations and have higher rates of heart disease and diabetes than other Oklahomans. Due to high rates of chronic disease and other health issues, it is important for the state to ensure healthcare transformation addresses the health needs of the American Indian population. However, this must be done within the context of the tribal nation's sovereignty. As such, the OSDH has utilized two outlets for respectfully communicating and collaborating with the tribal nations to address public health issues: the Office of the Tribal Liaison and Tribal Public Health Advisory Committee.

***Office of the Tribal Liaison (OTL) within the Oklahoma State Department of Health***

The OTL was created in 2012 to demonstrate a respect for the sovereignty and advocate for tribal nations while fostering inclusive partnerships using sound public health practices to achieve its vision.[10] The OTL works with the 38 federally-recognized tribal nations in Oklahoma to seek consultation; establish relationships between tribal nations, state entities, health departments, and other stakeholders; increase cultural competency and implement culturally appropriate communications; and appropriately disseminate information from American Indian public health findings. The OTL functions as a vehicle that can be leveraged to engage tribal nations in the conversations about public health. Some of the more notable activities of the OTL are detailed below.

Inclusive Governance

The five civilized tribes of Oklahoma (Cherokee, Choctaw, Muskogee-Creek, Chickasaw, and Seminole) have come together to create a plan for public health integration and establish their own code of public health. Under the model of inclusive governance, the different tribes have created partnerships that allow for larger scale problem-solving and resource-sharing. Some examples include:

- Immunization program: The Choctaw Nation partnered with the Pittsburgh County Health Department to improve influenza (flu) vaccination rates in the region after noting increased hospitalizations and school closures due to flu cases in the previous year. Through the partnership, the Choctaw Nation provided 32,000 vaccinations and the county health department supplied the staff and items (needles, bandages, etc.) to administer the doses. Additional tribal nations are now looking to partner with their local county health department to establish similar programs.

- Emergency Response initiative: The OSDH is working with the Chickasaw Nation to create an emergency preparedness plan that creates a dual incident command structure in case of an emergency (such as a large-scale food-borne illness outbreak at a casino).

- Tribal Cessation Workgroup: The Oklahoma Hospital Association is working with several tribal nations to improve access to and utilization of electronic referrals to tobacco cessation at both tribal health centers and Federal Indian Health Services.

Communities of Practice

The OTL is also creating workgroups with various tribal nations and other public health and state entities to create communities of practice related to improving the collection and reporting of tribal public health data; improving cultural intelligence for state agency workers and potential tribal partners; and performing motivational interviewing related to tobacco and other health risk behaviors.

***Tribal Public Health Advisory Committee***

The Tribal Public Health Advisory Committee (TPHAC)'s primary purpose is to seek consensus, exchange views, share information, provide advice and/or recommendations, or facilitate any other

collaborative interaction related to public health responsibilities or implementation of programs.[15] This purpose is accomplished through forums, meetings, and conversations between state public health officials and health directors representing tribal nations, tribal-serving urban clinics, health boards, and other individuals.

***Special Diabetes Program for Indians (SDPI)***[117]

In Oklahoma, numerous tribal governments operate their own tribal health systems or partner with the federal Indian Health Service (IHS) for direct services to tribal citizens. Nationally, IHS has accelerated its use of the Patient-Centered Medical Home (PCMH) model to provide primary care services as part of the agency's effort to provide patient-centric, quality care to Native American populations. While only 38 IHS sites used PCMH models in 2009, 172 sites had implemented these models by 2014.[118] Additionally, IHS funds programs designed to develop or enhance diabetes treatment and prevention programs for American Indian populations. Since 1998 these programs have been central to the IHS mission to improve the health of Native Americans by addressing the disproportionate negative impact that diabetes can have on Native American communities. Oklahoma tribes, including the Cherokee, Seminole, and Chickasaw Nations, received SDPI grants to implement preventive and clinical programs to address diabetes in the Northeast and South-Central areas of the state.[119] [120] The most recent report from the Department of Health and Human Services indicates that funding has been authorized to continue the program into FY 2016 and FY 2017.

## CURRENT DEMONSTRATION PROJECTS AND WAIVER EFFORTS

### Federal Health and Human Services Initiatives

***Comprehensive Primary Care Initiative***[121]

The Comprehensive Primary Care (CPC) Initiative is a four-year demonstration project that was launched in October 2012 in seven regions across the U.S. The goal of the initiative is to test approaches that improve primary care coordination and delivery. The initiative supports primary care practices in testing, on a broader scale, innovative payment models that incorporate five comprehensive primary care functions identified by CMS and stakeholders. These five functions include: access and continuity of care; planned care and chronic conditions; risk-stratified care management; patient and caregiver engagement; and coordination of care across a medical neighborhood. As of August 2015, 67 primary care practices, including 264 individual primary care providers, have participated in the Greater Tulsa metropolitan area. Across these practices, 316,097 individual patients are participating in this project.[122] The CPC Initiative also requires quality and performance measures include preventive screenings (cancer, hypertension, and obesity), depression screenings, tobacco screening and cessation, and diabetes management.

Eligibility for provider participation in the program is based on multiple factors, such as the size and previous experience of a practice with PCMH models. This is a multi-payer effort including Medicare, Medicaid, Blue Cross Blue Shield of Oklahoma, and Community Care of Oklahoma. Medicare offers risk-adjusted care management payments in addition to traditional FFS components and will offer a shared savings component in Year 2 of the project. Care management fees are designed to allow providers to make investments in transformative primary care practice changes, including workflow redesigns, increased utilization of HIT, and proactive identification of higher-risk populations. The median practice received $227,849 in additional revenues (equivalent to 19 percent of the median 2012 total practice revenue) over the first year of implementation.[123]

**Table 5: Primary Care Functions for Comprehensive Primary Care Initiative**

| Primary Care Function | Function Description |
|---|---|
| **Access and Continuity** | Extended hours, continued follow-up services for patients |
| **Planned Care & Chronic Conditions** | Proactive assessment, including medication management and review of services and behavioral health referrals |
| **Risk-Stratified Care Management** | After identification of highest risk patients, care planning and monitoring is implemented, leveraging health IT to measure improvements |
| **Patient and Caregiver Engagement** | Decision making involves patients at all levels of care, with attention paid to patient and caregiver satisfaction and cultural competency |
| **Coordination of Care Across the Medical Neighborhood** | Primary Care Providers integrate and manage care transitions and health information exchange |

The main driver identified for the overall reduction in healthcare expenditures was reduced spending on inpatient hospitalizations. Oklahoma's Greater Tulsa region reduced inpatient facility expenditures by approximately 12 percent, while the national sample reduced inpatient facility expenditures by approximately three percent. The CPC Initiative will continue through December 2016, with annual evaluations for the remaining three years of the four-year program. Overall, the CPC Initiative in the greater Tulsa region showed substantial improvement on cost of care. The initiative generated a net savings of $10.8 million and earned more than $500,000 in shared savings payments.[124] Sustainability of the findings of the first year evaluation will be confirmed by the analyses conducted by evaluators.

***Federally Qualified Health Center Advanced Primary Care Practice Demonstration***

Federally-qualified health centers (FHQCs) are an integral part of the care delivery system, particularly for lower-income patients. FQHCs are designated by the Health Resources and Services Administration (HRSA) to provide healthcare services to medically underserved populations, regardless of the ability to pay. Oklahoma has 20 primary FQHCs with 76 sites across the state that offer a variety of primary, preventive, dental, and behavioral health services.

Beginning in 2011, CMS selected 500 FQHCs nationwide to participate in a three-year demonstration project, the FQHC Advanced Primary Care Practice Demonstration. FQHCs received Section 330 grants under the Public Health Service Act to deliver comprehensive healthcare to patients in underserved areas or populations. The goal of the project was to assist participating organizations with transforming the delivery of care for Medicare beneficiaries. The demonstration project tested the effectiveness of doctors and other health professionals working in teams to coordinate and improve care for their Medicare patients. The project aimed to show the PCMH model could improve quality of care, promote better health, and lower costs. Provider and patient satisfaction is measured by surveys conducted by the FQHCs on an ongoing basis.[5] A key goal of the project was to increase the number of FQHCs achieving Level 3 recognition from the National Committee on Quality Assurance (NCQA). Level 3 Recognition represents a significant achievement, as it is the highest level of care delivery recognized by NCQA, demonstrating high-quality, continuous, comprehensive patient-centered care delivery.

Three FQHC organizations in Oklahoma participated in the project from 2011 to 2014, including Great Salt Plains Medical Center, Pushmataha Family Medical Center, and Variety Care, Inc.,. CMS and other stakeholders provided support to FQHCs through monthly care management fees, issued for each

Medicare beneficiary, to assist in the enhanced infrastructure and care coordination. Extensive technical assistance was provided to FQHCs through trainings and consultation opportunities to increase organizational knowledge of the NCQA recognition process.

### *Healthy Hearts for Oklahoma (H2O)*[125]

The Healthy Hearts for Oklahoma (H2O) initiative is a four-year statewide cooperative established in 2015 through a $15 million grant from the Agency for Healthcare Research and Quality (AHRQ). H20 focuses on improving the infrastructure and use of evidence-based monitoring and treatment of cardiovascular disease. The goal is to support over 300 primary care practices that have 10 physicians or less with practice facilitators who give each practice performance feedback and information technology support. Practice facilitators provide in-practice assistance with process improvements; connect practices and communities for health; prepare practices for value-based payment; assist with maximizing electronic medical records (EMR) and health information exchange (HIE) systems use; and assist with practice change to achieve peak performance on the ABCS (Aspirin Use when appropriate, Blood Pressure Control, Cholesterol Management and Smoking Cessation) of cardiovascular disease risk reduction. Furthermore, the initiative seeks to include an independent national evaluation to determine if quality improvement support can accelerate implementation of evidence-based treatment and prevention in primary care.

Oklahoma's regional cooperative consists of key primary care providers, academic institutions, hospitals, and information technology specialists that are working together from 2015 to 2019 to provide innovative primary care to a population of 1.23 to 1.35 million patients. Central to the strategy of the cooperative is deploying and sustaining an infrastructure of physician coaches, information technology advisors, and practice facilitators through the broader Oklahoma Primary Healthcare Extension System.

### *Practice Transformation Networks (PTN)*

CMS recently announced the Transforming Clinical Practice Initiative award to 29 participants that will serve as Practice Transformation Networks (PTNs). PTNs are peer-based learning networks designed to coach, mentor, and assist clinicians in developing core competencies specific to practice transformation. The Iowa Healthcare Collaborative received an award to implement a six-state PTN in Iowa, Nebraska, South Dakota, Oklahoma, Kansas, and Georgia. Telligen, an Iowa-based organization, will partner with the Iowa Healthcare Collaborative to serve as the centralized data vendor. Telligen will provide consulting support for program management, data analysis and measures and serve as quality improvement advisers providing direct technical assistance to practices in all aspects including HIT. Oklahoma will leverage its participation in the PTN as part of the Oklahoma SIM practice transformation effort.

## Medicare Initiatives in Oklahoma

### *Accountable Care Organizations*

Accountable Care Organizations were established through Section 3022 of the Affordable Care Act. Under the Medicare Shared Savings program, CMS established overall cost of care benchmarks and 33 individual domains for quality of care that are adjusted for a number of factors related to patient population composition and regional variations in costs of care.[126] Groups of physicians, hospitals and other healthcare providers voluntarily collaborate to ensure patients enrolled in Medicare FFS receive care that meets the set of quality benchmarks and that providers can achieve shared savings over a multi-year period if they are able to successfully contain the overall cost of care. All ACOs are required to report on both patient satisfaction measures (CAHPS) and quality/performance measures (NQF) to determine the degree to which care meets the needs of patients. ACO quality and performance measures

include preventive screenings for cancer, hypertension, and depression; diabetes, hypertension, and high blood pressure management; and tobacco use screening and cessation. Oklahoma currently has three major health systems leading ACOs: Mercy Health ACO (Oklahoma City), SSMOK ACO - St. Anthony (Oklahoma City), and SJFI Oklahoma Initiatives - St. John (Tulsa). Each of the three ACOs consists of a major non-profit health system with multiple hospitals and physician specialty groups. In addition to hospitals and specialty groups, other partners, such as skilled nursing facilities and long-term care providers collaborate under a shared governance board with representatives for each entity and for Medicare beneficiaries.

***Bundled Payments for Care Improvement Initiative***

Bundled payments are a reimbursement methodology in which providers receive payment for the expected costs of an episode of care, rather than the actual costs for any specific instance. All episodes begin with an acute hospitalization by a patient but then vary by: (1) initiation and duration of episode, (2) applicable Diagnosis-Related Groups (DRG), and (3) timing of patients.

In Oklahoma, 39 sites are currently participating in the Bundled Payments for Care Improvement (BPCI) Initiative. Eighteen sites are in Model 2 (retrospective calculation, episode of care includes both acute and post-acute care) and 21 sites are in Model 3 (retrospective calculation, episode of care includes post-acute care only. The BPCI Initiative aims to improve the individual experience of care, improve the health of populations, and reduce the per capita costs of care for populations. The initiative allows providers to enter into payment arrangements that include performance accountability for episodes of care and share gains accrued from the delivery of coordinated care across care settings for Medicare FFS beneficiaries.[127]

***Comprehensive Care for Joint Replacement***

CMS has a new program starting in 2016 that will mandatorily require the Oklahoma City Metro hospitals to participate in the hip and knee bundled payment program. This will no longer be an optional program for those affected hospitals in Oklahoma City and selected cities across the United States.

**Medicaid 1115 Waivers**

***Patient-Centered Medical Homes (SoonerCare Choice)***

OHCA operates significant Medicaid programs under a waiver in accordance with Section 1115 of the Social Security Act, which grants the CMS the authority to accept innovative or alternative designs to state Medicaid programs, provided that they demonstrate comparable levels of access to health services for those in need. Oklahoma's Medicaid program (referred to as SoonerCare) is the state's largest public payer for healthcare with approximately 826,700 enrolled members in 2015. Oklahoma's largest program under the 1115 waiver, known as SoonerCare Choice, has an estimated enrollment of 548,162 as of June 2015.[128,129]

SoonerCare Choice is a Primary Care Case Management (PCCM) model in which the OHCA contracts directly with primary care physicians, physician assistants, and nurse practitioners throughout Oklahoma to provide primary care, care coordination, and specialty care referrals. A total of 2,454 primary care providers are eligible to receive three types of reimbursement under the SoonerCare Choice model:

- A monthly, per-member-per-month care coordination payment;
- A fee schedule for services provided; and
- A set of performance-based payments based on quality-of-care benchmarks.

Contingent on the characteristics of the practice, which includes the level of services offered, PCPs can receive increasing per-member per-month payments under a 3-tiered system.

**Table 6: Section 1115 Waiver Programs**

| Waiver Programs | Waiver Program Description |
|---|---|
| **SoonerCare Choice**<br><br>**FY 2014 Total Expenditures: $1,876,473,885**<br>**FY 2014 Provider Network:2,454 PCPs**<br>**FY 2014 Total Enrollment: 548,162**<br>**FY 2014 Children: 443,990**<br>**FY 2014 Adults: 104,172** | Enrollees receive basic health services from their primary care provider (PCP), while PCPs are eligible to be reimbursed in three ways: monthly care coordination fees, visit-based fee-for-service reimbursement, and SoonerExcel incentive payments. Care coordination fees are awarded in a three tier system, with increasing per-member-per month funds based on populations served and other factors.<br><br>SoonerCare Health Access Networks are providers affiliated with networks, allowing for broader coordination of care for patients with high-risk conditions.<br><br>SoonerCare Health Management Program ensures practice facilitators and health coaches are available to support enhanced disease management services for enrollees with chronic conditions (i.e., asthma, hypertension, cardiovascular illness, etc.). |
| **Insure Oklahoma**<br>**Employer Plan**<br>FY 2014: Expenditures: $45,117,052<br>FY 2014: Participating Employers: 3,796<br>FY 2014: Employer Coverage Plan Enrollment: 13,527<br>**Individual Plan**<br>FY 2014: Expenditures: $49,492,609<br>FY 2014: Individual Plan Enrollment: 4,396<br>**Combined**<br>FY 2014: Total Enrollment; 17,923<br>FY 2014: Expenditures: $94,609,661 | Insure Oklahoma extends healthcare coverage to Oklahomans under two models: a Premium Assistance Employer Coverage Plan and a Premium Assistance Individual Plan. The Employer Coverage Plan assists qualifying businesses to provide private health insurance plans. Employers may offer private health insurance to employees and their families, with premium costs shared between the Insure Oklahoma program (60%), employers (25%) and employees (15%).The Individual Plan allows qualifying adults at 100% of the FPL that do not qualify for the ESI program the ability to receive certain Medicaid services by paying a monthly premium. |

**Medicaid 1915(c) Waivers**

The OHCA's Long-Term Care Waiver Operations Division and the Oklahoma DHS operate programs to serve populations with unique, long-term needs in a home or community-based setting. Under the authority of Section 1915 of the Social Security Act, CMS has approved eight 'Home and Community-Based Services' (HCBS) waivers designed to provide a variety of in-home and community support services to children and adults as an alternative to long-term institutionalization. Overall, approximately 23,000[130] individuals are served through the HCBS Waiver authority. Four of the eight waivers are currently designed to implement programs supporting adults with physical disabilities, while the remaining four waivers offer services to citizens with cognitive disabilities.[131] Services provided in home and community-based settings offer individuals alternatives and supports that may not otherwise exist in a traditional long-term institutional setting. Additionally, such programs have been documented to generate significant cost-savings, with the OHCA estimating an annual cost of care of $28,342 for enrollees at skilled nursing facilities, compared with an estimated annual cost of $8,565 for participants in the SoonerSeniors Waiver program, or $10,927 for the My Life My Choice program, which involves the provision of services in residential or home settings.[132]

**Table 7: Section 1915(c) Waiver Programs (Total Enrollees, All Programs: 27,208)**

| Waiver Programs | Waiver Program Description |
|---|---|
| **OK Advantage Waiver**<br>Program Number: 0256.R04.00<br>FY 2014 Expenditures: $191,057,419<br>FY 2014 Unduplicated Members Served: 21,299 | Provides in-home supports, including home health, case management, personal care, and adult day services to elderly adults (age 65 and over) and adults with physical disabilities |
| **OK Community Waiver**<br>Program Number: 0179.R05.00<br>FY 2014 Expenditures: $173,890,688<br>FY 2014 Unduplicated Members Served 2,879 | Provides intensive daily supports in the home, including extended-hour nursing and psychiatric services, daily living services, and transportation services to children or adults above the age of 3 with conditions that would otherwise require care in facilities for individuals with intellectual impairment |
| **OK Homeward Bound**<br>Program Number: 0399.R02.00<br>FY 2014 Expenditures: $90,178,069<br>FY 2014 Unduplicated Members Served: 697 | Provides intensive daily supports, including extended-hour nursing and psychiatric services, daily living services, and transportation services to adults (age 18 and over) with conditions that would otherwise require care in intensive care facilities. |
| **OK In-Home Supports Waiver for Children and Adults**<br>Program Number: 0351.R03.00 and 0343.R03.00<br>Combined Programs<br>FY 2014 Total Expenditures: $23,896,415<br>FY 2014 Unduplicated Members Served 1,828 | Adults: Provides support services in the home or DHS foster home, including daily living supports, psychological services, and occupational, speech, and physical therapy services to adults above the age of 18 with conditions that would otherwise require care in intensive care facilities. Beneficiaries' critical support needs must be met within an annual cap.<br>Children: Provides support services in the home or DHS foster home, including daily living supports, psychological services, and occupational, speech, and physical therapy services to children between the ages of 3 to 17 with conditions that would otherwise require care in intensive care facilities. Beneficiaries' critical |

| | |
|---|---|
| | support needs must be met within an annual cap. |
| **OK Medically Fragile**<br>Program Number: 0811.R01.00<br>FY 2014 Expenditures: $3,236,144<br>FY 2014 Unduplicated Members Served: 57 | Provides services to Medicaid eligible adults (age 19 and over) that experience a chronic disease that requires prolonged specialized treatments that are medically necessary, such as continuous oxygen or dialysis. Beneficiaries may receive care in their homes, but would otherwise be required to receive care in a hospital and/or skilled nursing facility. |

**Oklahoma SIM Efforts**

The Oklahoma SIM project leveraged the stakeholder workgroup structure that was established by the OHIP Coalition as vehicles to accomplish the goals of the initiative. Through the Oklahoma SIM project, the workgroups participated in the planning and development of the SHSIP. Specifically, workgroups helped to formulate the objectives and goals of the project and provided feedback on deliverable reports created by vendors, as well as feedback on all sections of the SHSIP.

Below is a description of the four workgroups.

***The Health Efficiency and Effectiveness Workgroup***

The workgroup was responsible for the direction, creation, and vetting of the Population Health Needs Assessment. This report identified and described the most prevalent health problems across Oklahoma, gaps and strengths in healthcare services, and suggested interventions needed to improve the population's health. The workgroup also reviewed a report outlining current population health initiatives occurring across the state in an effort to determine what health needs were being addressed through current programs and where gaps existed.

***The Health Workforce Workgroup***

The workgroup developed a workforce data catalog to identify healthcare provider gaps and assess the state's capacity to meet current and future healthcare demands. As access to care can have a major impact on the population's health, the workgroup worked on plans to address healthcare shortage areas through policies that include telehealth, workforce redesign, recruitment and retention, and providers practicing at the top of their license.

***The Health Information Technology Workgroup***

The workgroup evaluated reports on the state's current EHR and health information exchange utilization by healthcare providers. Along with these reports, the workgroup vetted a report that created a road map for the creation and implementation of a Value-Based Analytics (VBA) tool for the state. Through these reports, the workgroup outlined how the VBA tool, along with HIT interoperability, can shape interventions and reduce costs related to population health.

***The Health Finance Workgroup***

The workgroup worked with an actuarial contractor to develop a plan to integrate new value-based payment models based on pay-for-performance with the goal of covering as many healthcare payments under a value-based system as possible. This group assessed the current state of healthcare insurance coverage as well as what populations and services are most costly to the state. This group also helped shape the financial analysis of the SIM model.

## CONCLUSION

(This section of the SHSIP will be updated at a future date.)


Health System Design and Performance Objectives
Value-Based Payment and Service Delivery Plan
Healthcare Delivery System Transformation Plan
Health Information Technology Plan
Workforce Development Strategy
Financial Analysis
Monitoring and Evaluation Plan
Operational And Sustainability Plan
State Healthcare Environment
Stakeholder Engagement Report
Population Health Improvement Plan
OKLAHOMA STATE HEALTH SYSTEM INNOVATION PLAN

# C. Report on Stakeholder Engagement and Design Process Deliberations

## INTRODUCTION

This section of the State Health System Innovation Plan (SHSIP) describes the stakeholder engagement and design deliberations for the Oklahoma State Innovation Model (SIM) project. This report reviews all stakeholder activities as of the close of the project on March 31, 2016. The purpose of this section is to present details of the SIM stakeholder engagement activities, including collaborative efforts between the Oklahoma SIM project staff and stakeholders, identification of relevant aspects of the 2014 Oklahoma State Department of Health (OSDH) Wellness Business Survey Report, and analysis and interpretation of key findings on collected data and analysis. Stakeholder engagement aimed at bringing subject matter experts together to facilitate discourse and consensus on critical areas of the SIM design.

### Stakeholder Engagement Foundation

The OSDH, the fiduciary agent of the Oklahoma SIM grant, understands that broad stakeholder engagement is essential for effective and sustainable health system transformation. In 2008, five years prior to the SIM design and testing opportunities provided by federal law, the State convened a broad-based group of stakeholders, called the Oklahoma Health Improvement Planning (OHIP) Coalition. The goal of this coalition was to develop a comprehensive health improvement plan for Oklahoma. The OHIP team consisted of influential stakeholders representing providers, payers, state and local governments, tribal sovereign nations, academic institutions, private institutions, businesses, and community organizations. Under the OHIP Coalition's leadership, the State produced two state health improvement plans: the Oklahoma Health Care Improvement Plan (OHIP) 2014, for 2010 to 2014, and the OHIP Plan 2020, for 2015 to 2020. OHIP 2014 and OHIP 2020 identified the state's flagship population health issues (tobacco use, obesity, children's health, behavioral health); infrastructure goals (public health finance, workforce development, access to care, health systems effectiveness); and societal and policy integration goals (social determinants of health, health equity).

### Oklahoma SIM and OHIP Alignment

The State has used the governance structure and stakeholder base of the OHIP Coalition to lead the Oklahoma SIM project. OHIP workgroups were organized around four distinct focus areas, Health Efficiency and Effectiveness, Health Workforce, Health Finance, and Health Information Technology (IT). These same focus areas were used for the SIM design. The alignment of the vision and goals of the Oklahoma SIM project and OHIP Coalition has been actualized through the incorporation of the OHIP Coalition, Tribal Public Health Advisory Committee, and OHIP Workgroups into the Oklahoma SIM governance structure. As with OHIP 2014 and OHIP 2020, the SHSIP will be a product of collaboration across diverse stakeholder groups.

While the OHIP plans presented a comprehensive assessment of Oklahoma's population health successes, challenges, and improvement strategies, the Oklahoma SIM project takes OHIP to the next level by designing a feasible and sustainable model for healthcare delivery and payment reform to advance the population health improvement goals identified by the OHIP Coalition. Furthermore, the Oklahoma SIM project team has expanded OHIP's stakeholder base to include additional consumers, businesses, public

health coalitions, healthcare associations, and the state's top payers and organizations at the forefront of healthcare innovation.

## STAKEHOLDER ENGAGEMENT PLAN UPDATE

The Oklahoma SIM project team devised a Stakeholder Engagement Plan to address the value of healthcare delivery and payment reform. The aim of the stakeholder engagement plan was to encourage collaboration and discourse that would ensure incorporation of stakeholder input and facilitate agreement and ultimately buy-in necessary to shape the design of the state's model. The project team has utilized a multi-pronged approach to ensure broad and diverse stakeholder engagement across the state.

At a high-level, the strategies to this Oklahoma SIM Stakeholder Engagement Plan include:

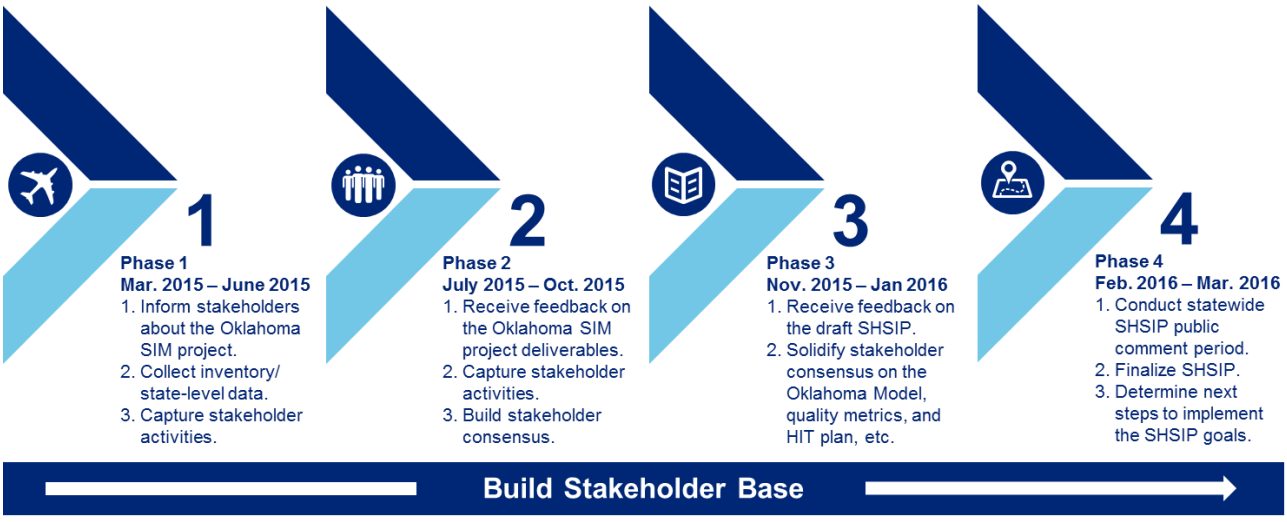
1. Leveraging the OHIP governance structure and workgroups to ensure representatives with the appropriate subject matter expertise and practical experience facilitate, monitor, and evaluate the various activities and deliverables of the Oklahoma SIM project.

2. Utilizing the Tribal Public Health Advisory Committee to seek feedback and recommendations for the model design from Oklahoma's tribal nations and partners.

3. Deploying Oklahoma SIM staff and a Stakeholder Engagement Facilitator to work together in the field to engage new communities and stakeholders throughout Oklahoma to solicit more interest, support, and subject matter expertise for the Oklahoma SIM project.

Below is a diagram of the four phases of Oklahoma SIM Stakeholder Engagement Plan. Using extensive stakeholder input, the Oklahoma SIM project team created the conceptual design of the "Oklahoma Model", and drafted the SHSIP, the final product of the Oklahoma project. The project team conducted a statewide public comment period on the SHSIP from February 2016 to March 2016. Now at the end of March 2016, the project team has completed all four phases of the plan and is submitting the SHSIP.

**Figure 17: Phases of the Engagement Plan**



The Oklahoma SIM project team has implemented the strategies contained in the Stakeholder Engagement Plan. The table below details successes and future opportunities for each strategy.

**Table 8: Stakeholder Engagement Plan High-Level Strategies**

| Strategy | Successes | Opportunities |
|---|---|---|
| **Leverage the OHIP governance structure and workgroups to ensure representatives with the appropriate subject matter expertise and practical experience facilitate, monitor, and evaluate the various activities and deliverables of the Oklahoma SIM project.** | • Held 3 Executive Steering Committee Meetings<br>• Held regular leadership calls to discuss and refine Stakeholder Engagement Plan strategies<br>• Held 33 workgroup meetings, including 3 All Workgroup meetings<br>• Drafted, reviewed, and completed 15 workgroup deliverables<br>• Completed 9 technical assistance deliverables | • Encourage further focused stakeholder input on workgroup deliverables via the workgroup online public comment boxes<br>• Recruit additional members from underrepresented communities to serve as workgroup members |
| **Utilize the Tribal Public Health Advisory Committee (incorporated as part of the OKLAHOMA SIM governance structure) to seek feedback and recommendations for the model design from Oklahoma's Tribal nations and partners.** | • Had active participation from various tribal nations and associations on the workgroups<br>• Had representation of an industry expert and hospital executive from the Cherokee Nation in the Executive Steering Committee<br>• Presented twice to the Tribal Public Health Advisory Committee<br>• Held two tribal consultations | • Continue working with the Tribal Liaison to establish and coordinate meetings between the committee, workgroups, staff, and leadership to keep the committee apprised of the project's status and seek their input into the SHSIP |
| **Deploy Oklahoma SIM staff and a Stakeholder Engagement Facilitator to work together in the field to engage new communities and stakeholders throughout Oklahoma to solicit more interest, support, and subject matter expertise for Oklahoma SIM.** | • Held 90 stakeholder meetings and presentations, 2 Statewide Webinars, and 1 All Payer Meeting to inform and engage stakeholders<br>• Held meetings in 14 cities and counties across urban and rural Oklahoma, representing all four quadrants<br>• Prepared agendas, scalable educational materials, supporting document, and summary notes | • Secure buy-in and consensus from the state's top payers on the proposed model design<br>• Continue reaching out to the business community to align vision for health system transformation, recruit new workgroup members, and secure buy-in for the model design |

The Oklahoma SIM project team leveraged OSDH's existing outreach network of community coalitions, educators, and specialists embedded throughout Oklahoma to disseminate information about project goals and objectives, assemble stakeholders, and provide regional and community logistics and support to host stakeholder meetings. In particular, the project team leveraged the Turning Point program and Partnerships for Health Improvement Program. The project team incorporated information about community-based health initiatives into the SHSIP.

**Stakeholder Type**

The Oklahoma SIM project engaged with a diverse group of stakeholders as shown in the list below:

A. Advisory Group/Committee

B. Academic/Research Institution

C. Business/Business Association

D. Community Organization/Consumer Advocate

E. Healthcare Association

F. Payer (State-Funded, Commercial, Non-Profit)

G. Provider

H. Public Health Association/Coalition

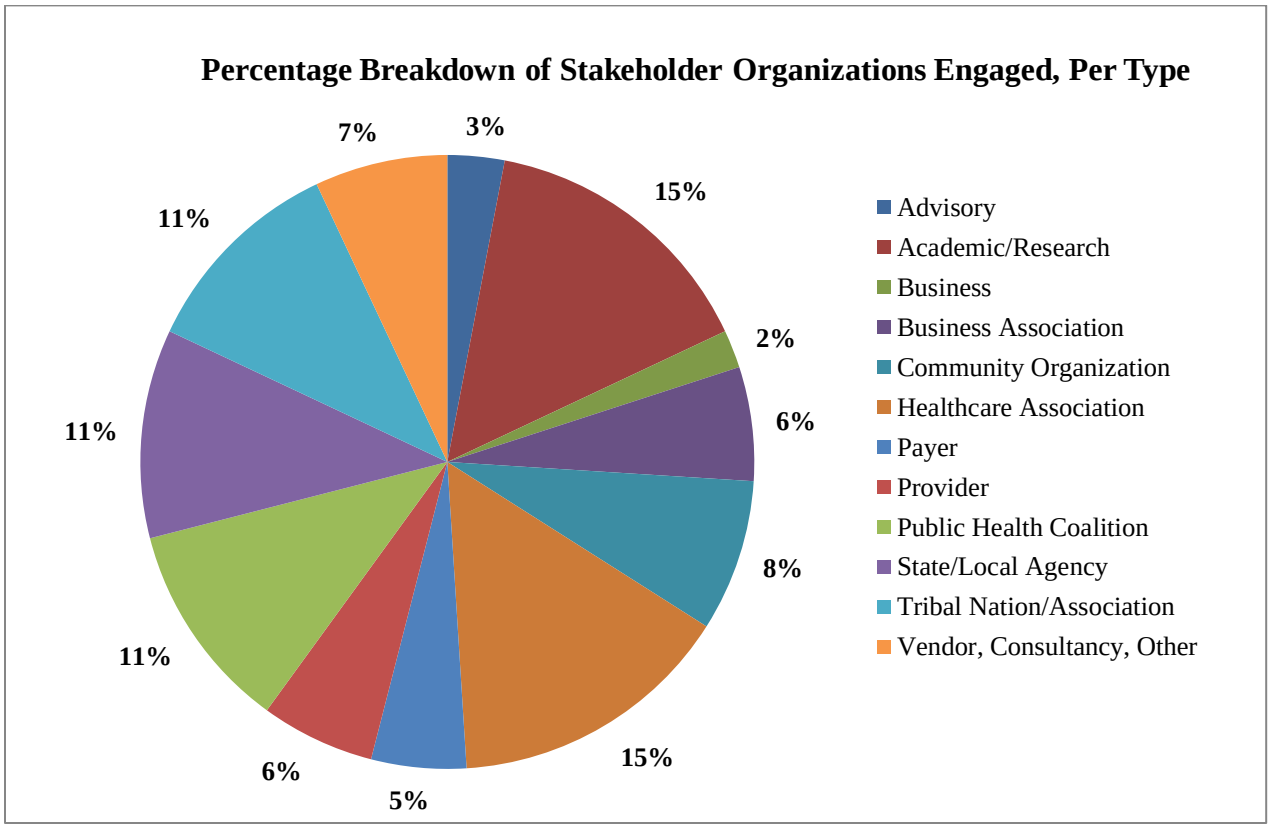
I. State/Local Agency

J. Tribal Nation/Association

K. Vendor, Consultancy, Other

The pie chart below depicts a breakdown of stakeholder organizations, per stakeholder type, with whom the Oklahoma SIM project team has engaged, out of a total of 100 stakeholder organizations.

**Figure 18: Percentage Breakdown of Stakeholder Organizations Engaged, Per Type**




### Stakeholder Meetings

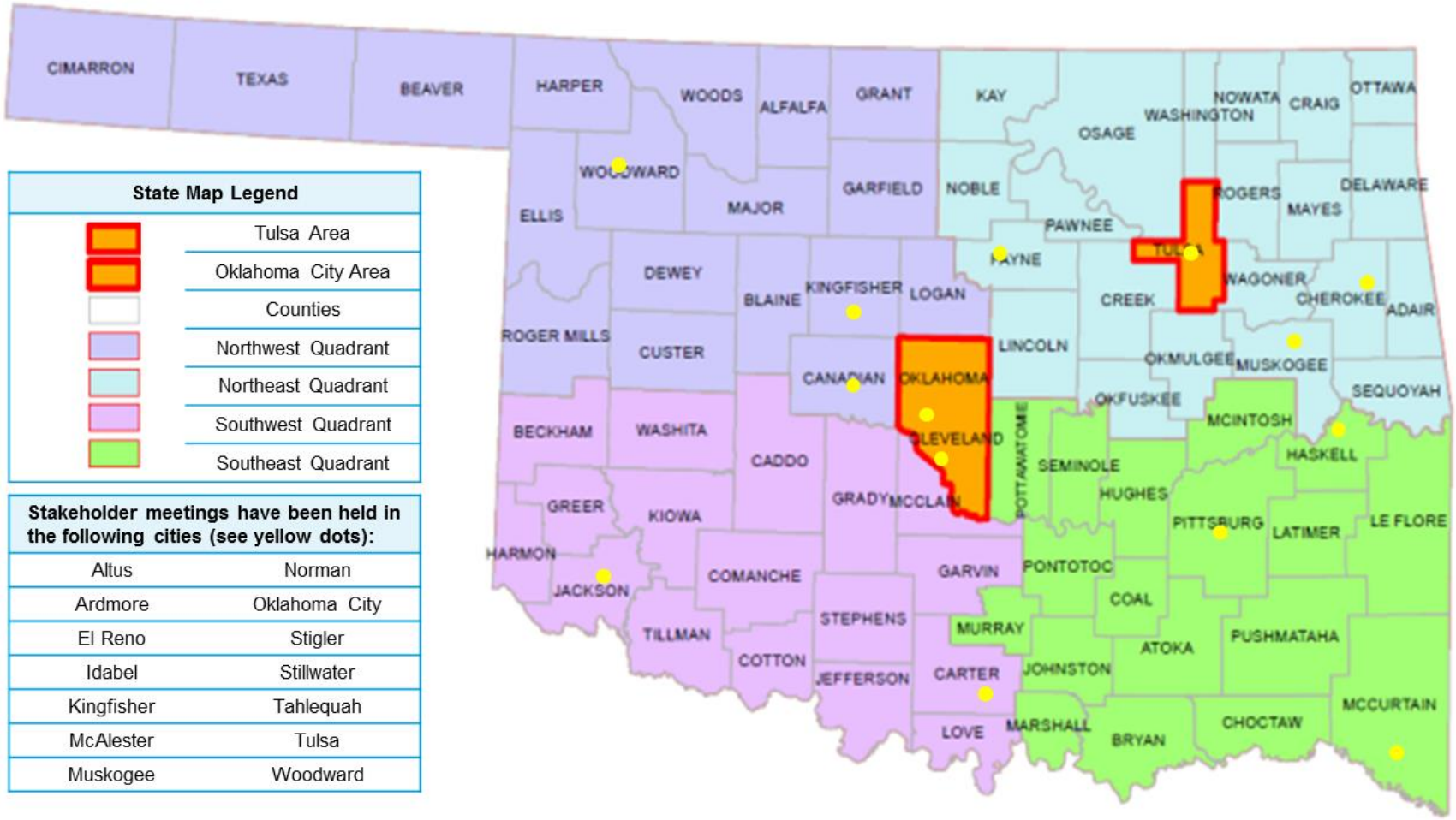
The table and map below show the location of meetings in 14 cities and counties across the state. The Oklahoma SIM leadership divided Oklahoma into four geographic quadrants (Northwest, Northeast, Southwest, and Southeast) and two metropolitan areas (Oklahoma City and Tulsa). The Oklahoma SIM project team has engaged local communities in all of the four quadrants. The majority of meetings outside the Oklahoma City and Tulsa Metropolitan Areas represent meetings with Turning Point Coalitions to learn about community-based initiatives. The project team used OSDH's Turning Point program to help schedule these meetings.

**Table 9: Stakeholder Engagement Meeting Locations**

| City | County | Quadrant |
|---|---|---|
| **Altus** | Jackson County | Southwest |
| **Ardmore** | Carter County | Southwest |
| **El Reno** | Canadian County | Northwest |
| **Idabel** | McCurtain County | Southeast |
| **Kingfisher** | Kingfisher County | Northwest |
| **McAlester** | Pittsburg County | Southeast |

| | | |
|---|---|---|
| **Muskogee** | Muskogee County | Northeast |
| **Norman** | Cleveland County | Oklahoma City Area |
| **Oklahoma City** | Oklahoma County | Oklahoma City Area |
| **Stigler** | Haskell County | Southeast |
| **Stillwater** | Payne County | Northeast |
| **Tahlequah** | Cherokee County | Northeast |
| **Tulsa** | Tulsa County | Tulsa Area |
| **Woodward** | Woodward County | Northeast |

**Figure 19: Stakeholder Meeting Map**




| State Map Legend | |
|---|---|
| | Tulsa Area |
| | Oklahoma City Area |
| | Counties |
| | Northwest Quadrant |
| | Northeast Quadrant |
| | Southwest Quadrant |
| | Southeast Quadrant |

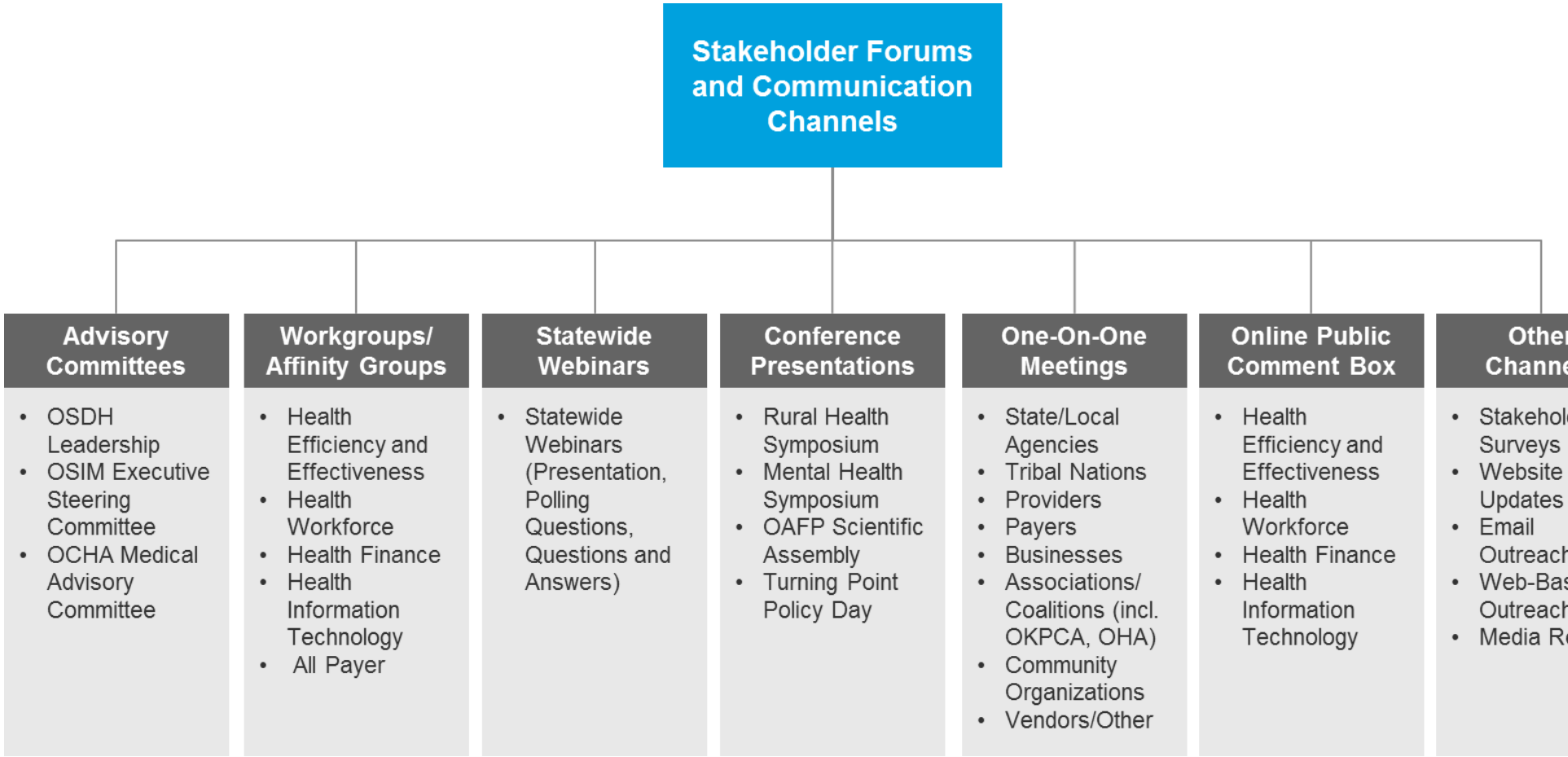
| Stakeholder meetings have been held in the following cities (see yellow dots): | |
|---|---|
| Altus | Norman |
| Ardmore | Oklahoma City |
| El Reno | Stigler |
| Idabel | Stillwater |
| Kingfisher | Tahlequah |
| McAlester | Tulsa |
| Muskogee | Woodward |

## NARRATIVE OF STAKEHOLDER ENGAGEMENT ACTIVITIES

The Oklahoma SIM project team has benefited from the use of multiple forums and communication channels for stakeholder engagement. Executive Steering Committee meetings focused on providing project leadership with high-level updates to the project and driving critical decision-making on key aspects of the SHSIP development. This was coupled with meetings of the OSDH leadership and Oklahoma Health Care Authority (OHCA) Medicaid Advisory Committee to provide advisory guidance for the project. Workgroup meetings allowed stakeholders to offer focused feedback to Oklahoma SIM deliverables as well as on the SHSIP sections. Statewide Webinars focused on providing quarterly updates on project meetings, activities, and deliverables. Affinity group based meetings, in this case the All Payer Meeting, focused on determining areas of alignment between these similar entities and building consensus on a model for the state. One-on-one meetings focused on conducting key informant interviews and informing stakeholders about the project and stakeholder opportunities, determining areas of alignment between the project and stakeholder organizations, and collecting data on organizational activities, particularly with regards to healthcare innovation. These meetings also enabled the project team to receive focused feedback on the model for the state. Presentations at stakeholder board meetings and conferences focused on informing potential stakeholders about the project, leading discussions, providing answers to questions from the public, and soliciting participation in workgroups. Additionally, the project team used a public comment box located on the Oklahoma SIM website and other channels, such as stakeholder surveys, website updates, and direct email outreach, to engage stakeholders virtually.

Figure 20 displays the various forums and communication channels used throughout the Oklahoma SIM project period to engage stakeholders in developing project deliverables and the final SHSIP.

**Figure 20: Oklahoma SIM Stakeholder Forums and Community Channels**



As a representation of the constant meeting activity during the Oklahoma SIM project period, the graphs below show a breakdown of Executive Steering Committee meetings, workgroup meetings, statewide webinars, affinity group meetings, and general stakeholder meetings as of the close of the project period. In total, the project team held 3 Executive Steering Committee meetings, 33 workgroup meetings, 2 statewide webinars, and a range of other stakeholder meetings and presentations.

**Figure 21: Number of Executive Steering Committee and Workgroup Meetings**

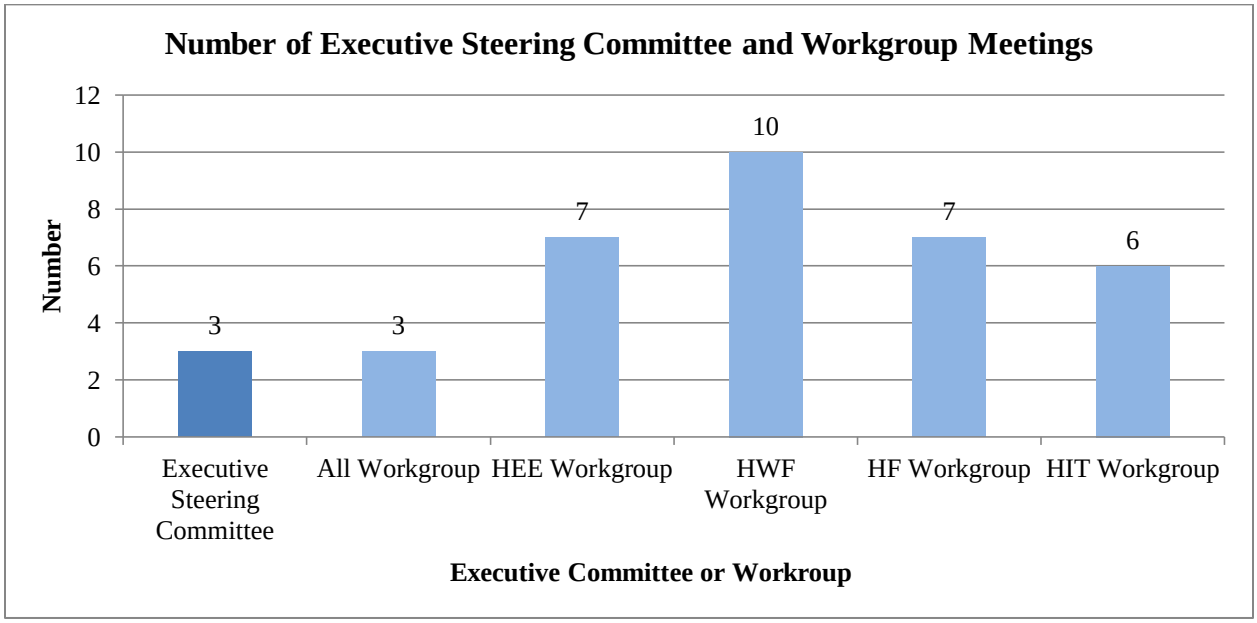
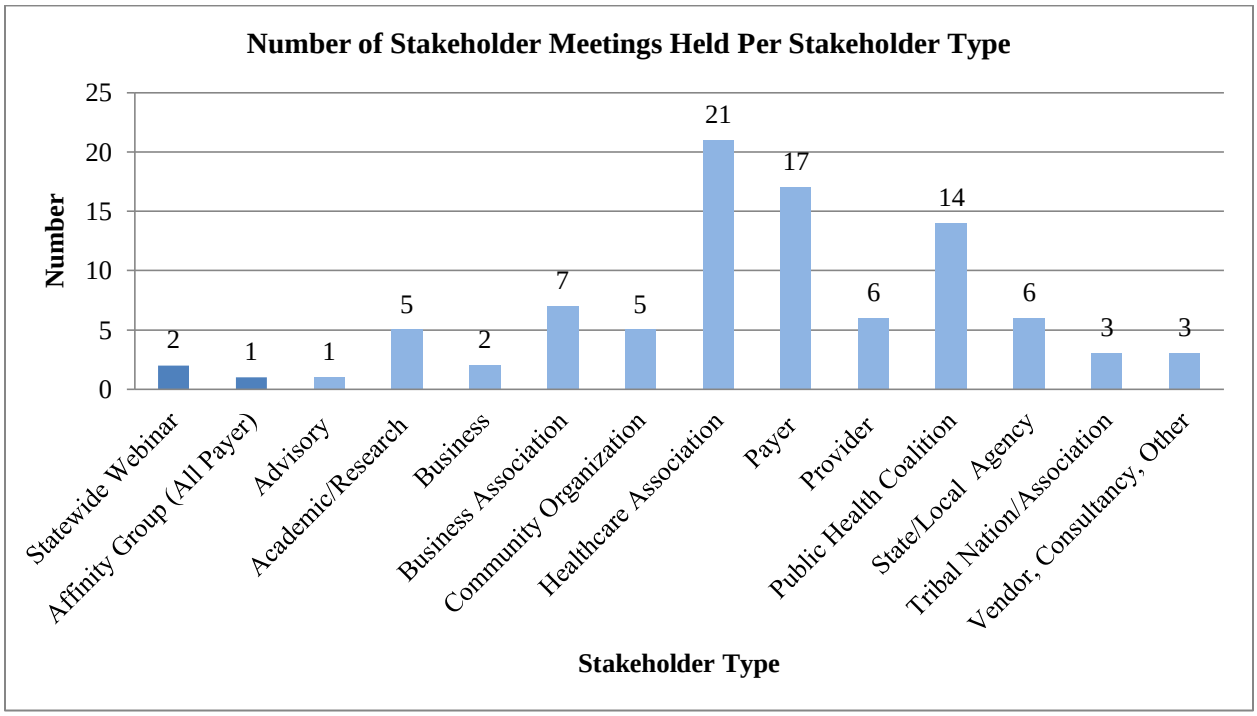



**Figure 22: Number of Stakeholder Meetings per Stakeholder Type**



**Executive Steering Committee Meetings**

The Oklahoma SIM project team held three Executive Steering Committee Meetings on June 11, 2015; September 16, 2015; and January 13, 2016. Table 10 shows the list of the 12 committee members.

**Table 10: Executive Steering Committee Membership**

| Name | Title and Organization | Committee Role |
|---|---|---|
| **Julie Cox-Kain** | Deputy Secretary for Health and Human Services, OSDH | Leadership Chair |
| **Rebecca Pasternik-Ikard** | State Medicaid Director, Oklahoma Health Care Authority (OHCA) | Health Efficiency and Effectiveness Workgroup Vice Chair |
| **Deidre Meyers** | Deputy Secretary of Workforce Development, Office of Workforce Development | Health Workforce Workgroup Vice Chair |
| **Joseph Cunningham** | Vice President of Health Care Management and Chief Medical Officer, Blue Cross Blue Shield (BCBS) of Oklahoma | Health Finance Workgroup Vice Chair |
| **Bo Reese** | State Chief Information Officer, Office of Management and Enterprise Services (OMES) | HIT Workgroup Vice Chair |
| **Mitchell Thornbrugh** | Chief Operating Officer, Cherokee Nation W.W. Hastings Hospital | Tribal Leadership Advisor |
| **David Kendrick** | Chair of Medical Informatics, University of Oklahoma (OU) College of Medicine; Founder and Chief Executive Officer (CEO), My Health Access Network | Committee Member |
| **Brian Yeaman** | Chief Administrative Officer, Coordinated Care Oklahoma | Committee Member |
| **Bill Hancock** | Vice President, CommunityCare of Oklahoma Health Insurance Plans | Committee Member |
| **David Hadley** | Managing Director and Chief Financial Officer, INTEGRIS Health | Committee Member |
| **Debby Hampton** | President and CEO, United Way of Central Oklahoma | Committee Member |
| **Michael Brose** | Executive Director, Mental Health Association Oklahoma | Committee Member |

Executive Steering Committee meetings solicited critical feedback from committee members on the development of the Oklahoma SIM project, the model design, and the SHSIP sections. The first meeting focused on the following objectives: 1) Increasing committee membership to reflect the business community, health systems, behavioral health providers, and safety net providers; and 2) strategies to conduct research and evaluation on alternative payment models in Arkansas, Ohio, Colorado, Oregon and Tennessee with the aim of identifying practices that could be replicated in Oklahoma's model design.

The second meeting allowed the committee to review all stakeholder feedback and considerations on options for the state's model design. After deliberation, the committee directed the Oklahoma SIM project team to draft a model similar to the Oregon Care Coordination, with a focus on integrating the social

determinants of health and mental health and substance abuse. The committee also deliberated on the HIT plan to support the state's model and statewide interoperability.

The third meeting allowed the committee to review an update on the model design as well as the working assumptions for the financial analysis of the model. The committee suggested ideas for strengthening the governance of the model and achieved agreement on the working assumptions for the financial analysis.

**Workgroup Meetings**

The Oklahoma SIM project had four workgroups that were responsible for producing, reviewing, and finalizing a range of deliverables that were used to produce the SHSIP, as outlined in Table 11.

**Table 11: Oklahoma SIM Workgroups**

| Workgroup | Function |
|---|---|
| **Health Efficiency and Effectiveness** | Provide guidance in the design of an evaluation plan that identifies specific quality metrics in coordination with healthcare delivery models identified for Oklahoma with a focus on three key outcomes: (1) strengthening population health; (2) transforming the health care delivery system; and (3) decreasing per capita healthcare spending |
| **Health Workforce** | Develop a health workforce data catalog, identify data gaps, and assess state capacity for meeting current and future healthcare demands; provide a policy prospectus for health workforce redesign and training, recruitment, and retention |
| **Health Information Technology** | Increase the adoption of Electronic Health Records (EHR) and attainment of meaningful use (MU), incentive adoption among non-EHR providers and connect them to existing Health Information Exchanges (HIEs), foster interoperable health systems, and plan the development of a value-based analytics (VBA) tool |
| **Health Finance** | Work with the actuarial contractor to integrate a new value based payment model based on pay-for-success and perform actuarial analysis of Oklahoma interventions and evaluations |

The Oklahoma SIM project team held 33 workgroup meetings. At meetings, workgroup leaders and members reviewed and vetted contractor deliverables for inclusion in the SHSIP. Once deliverables were fully vetted and finalized, they were posted on the Oklahoma SIM website so that stakeholders could review and deliver feedback through the public comment box for each workgroup. Members were able to join meetings in person or virtually. Workgroups successfully vetted and completed 15 deliverables.

Three All Workgroup meetings brought stakeholders from all workgroups together on September 9 and 11, 2015 and again on January 13, 2016. The purpose of the All Workgroup Meetings was to review and discuss pivotal aspects of the Oklahoma SIM project to move the entire project forward based on overall stakeholder consensus at the conclusion of these meetings. At the September meetings, the workgroups discussed the Value-Based Analytics Roadmap and evaluated three conceptual model design options for the state. Workgroup members evaluated the strengths and weaknesses of a conceptual model for patient-centered medical homes, accountable care organizations, and care coordination organizations, based on a pre-determined set of criteria that aligned to the objectives of the Oklahoma SIM project and the Triple

Aim. Based on feedback from these meetings, the project team devised the key conceptual design tenets of the Oklahoma Model. At the January meeting, the Oklahoma SIM actuarial contractor reviewed the process of creating the working assumptions for the state's model based on standard actuarial analysis, the model components, and experiences in other states with similar models. Workgroup members discussed assumptions used to estimate enrollment into the CCOs and the use of models from other states as a baseline for Oklahoma. Concerns were addressed and the plan design was modified accordingly.

The section below details the activities conducted by each workgroup during the project period.

***Health Efficiency and Effectiveness Workgroup***

At Health Efficiency and Effectiveness Workgroup meetings, members reviewed and provided comments on the following deliverables:

- Population Health Needs Assessment
- Population Health Driver Diagrams
- Current Healthcare Transformation Initiatives
- Care Delivery Model Analysis
- High Cost Delivery Services

Additionally, members discussed funding opportunities and the sustainability of provider organizations such as federally-qualified health centers.

***Health Workforce Workgroup***

At Health Workforce Workgroup meetings, members reviewed and provided comments on the following deliverables:

- Health Workforce Data Catalog
- Health Workforce Assessment: Provider Organizations
- Health Workforce Assessment: Providers
- Health Workforce Assessment: Gap Analysis
- Health Workforce Assessment: Environmental Scan
- Health Workforce Assessment: Emerging Trends

Additionally, members discussed critical health occupations and the National Governor's Association Health Workforce Action Plan.

***Health Finance Workgroup***

At the Health Finance Meetings, members reviewed and provided comments on the following deliverables:

- Market Effects on Healthcare Transformation
- Oklahoma Care Delivery Model Analysis
- High-Cost Delivery Services

Additionally, members discussed guidelines for the financial analysis of the state's model.

***Health Information Technology Workgroup***

At HIT Workgroup Meetings, members reviewed and provided comments on the following deliverables:

- Health Information Exchange Environmental Scan
- Electronic Health Records Adoption Analysis Survey Report
- Value-Based Analytics Tool Roadmap and Discussion

Additionally, members discussed funding opportunities such as the Office of the National Coordinator's grant for interoperability, which the workgroup applied for but was not awarded. Members also discussed the outline of the HIT plan and delivery and payment models.

**Statewide Webinars**

The Oklahoma SIM project team held two statewide webinars on June 11, 2015 and August 13, 2015. The first webinar was an introduction to the project, including goals and objectives, timeline, workgroups, and stakeholder engagement opportunities. The second webinar presented a comprehensive review of deliverables from each workgroup, presented by the workgroup project managers. The first webinar had twice as many attendees as the second webinar (110 attendees compared to 55 attendees). The majority of webinar attendees represented state and local agencies, providers, healthcare associations, and payers.

The following characteristics about stakeholders were determined from webinar polling questions:

- Stakeholders reported that the Oklahoma SIM goal of improving population health outcomes most aligns with their organization's priorities (61.8 percent of respondents, Webinar 1).
- Stakeholders reported that a shared vision across payers is the greatest barrier to participating in multi-payer value-based purchasing (41.9 percent of respondents, Webinar 1).
- Stakeholders reported that behavioral health was the population health issue that was the most difficult to tackle (56 percent of respondents, Webinar 2). The majority of respondents stated that this was due to insufficient resources (58 percent of respondents, Webinar 2).
- Stakeholders reported that the greatest barrier to ensuring a well-trained health workforce was difficulty with recruitment and retention of providers (60 percent of respondents, Webinar 2).

Below are stakeholder evaluations of the two webinars.

**Table 12: Statewide Webinar Evaluation Answer Key**

| Rating Category | Rating Value |
|---|---|
| **Strongly Agree** | 5 |
| **Agree** | 4 |
| **Neutral** | 3 |
| **Disagree** | 2 |
| **Strongly Disagree** | 1 |
| **Did Not Attend** | N/A |

**Table 13: Statewide Webinar Evaluation Responses (Average)**

| Meeting Evaluation Statement | Webinar 1 (N = 13) | Webinar 2 (N = 17) |
|---|---|---|
| **The meeting leaders effectively moderated the meeting.** | 4.0 | 3.9 |

| | | |
|---|---|---|
| **The meeting content was useful for my organization's goals.** | 3.3 | 3.9 |
| **The meeting was the appropriate length of time.** | 4.1 | 3.9 |
| **The speakers were easily heard.** | 4.3 | 3.4 |
| **The presentation was easily seen.** | 3.8 | 3.8 |
| **I feel comfortable asking questions during a statewide meeting.** | 3.7 | 4.3 |

**Affinity Group Meetings**

The Oklahoma SIM project team held an All Payer Meeting on August 5, 2015. Payer organization stakeholders include the OHCA, State Employees Group Insurance Division (EGID), Blue Cross Blue Shield of Oklahoma, CommunityCare of Oklahoma Health Insurance Plans, and GlobalHealth, Inc. HMO.

Prior to the meeting, the project team conducted a survey to capture insight from the payer organizations into alternative payment models, including models currently in use, models of interest, and barriers to implementation of new models. The project team also captured responses on the population health issues that had the greatest impact on payer organizations and beneficiaries.

The table below details responses from payers.

**Table 14: Alternative Payment Arrangements**

| APAs Currently In Use | APAs Interested In Using | Greatest Barrier to APAs |
|---|---|---|
| • **Bundled Payments**<br>• **Capitation**<br>• **Pay for Coordination**<br>• **Pay for Performance**<br>• **Shared Savings** | • Bundled Payments<br>• Capitation<br>• Comprehensive Care/ Total Cost of Care Payment<br>• Pay for Coordination<br>• Pay for Performance<br>• Shared Savings (Shared Risk) | • Market Readiness<br>  ○ Insurance Market<br>  ○ Health Workforce<br>  ○ Providers<br>  ○ Patients |

**Table 15: Population Health Target Issues in Order of Greatest Impact**

| Population Health Flagship Issue | Ranking |
|---|---|
| **Behavioral Health** | 1 |
| **Diabetes** | 2 |
| **Obesity** | 3 |
| **Hypertension** | 4 |
| **Tobacco Use** | 5 |

The outcomes of the meeting included several useful recommendations on the model design with regards to quality measures, data and analytics, health information technology, and implementation. The project team followed-up with payers to receive one-on-one feedback and present a draft of the healthcare delivery and payment model for the state.

**One-On-One Meetings and Presentations**

The Oklahoma SIM project team held over 90 one-on-one meetings and presentations with stakeholders from March 2015 to March 2016. These meetings reflect engagement with academic and research institutions, businesses, business associations, community organizations and consumer advocates, healthcare associations, payers, providers, public health coalitions, state and local agencies, and vendors and consultancies.

From March to November 2015, the meetings focused on an overview of the Oklahoma SIM project and opportunities for stakeholder engagement and discussion. From December 2015 to March 2016, the meetings focused on an overview of the Oklahoma Model. These meetings were an opportunity to educate stakeholders about the Oklahoma SIM project and Oklahoma Model, answer clarifying questions, and at times, clear up misunderstandings.

Stakeholders expressed varying levels of support for the model, from strong enthusiasm and support, to acceptance with reservations, to non-acceptance with strong concerns. Overall, the model received strong support from academic institutions, the business community, community organizations, public health coalitions, and state public health agencies. The model received some support but overall mixed reactions from healthcare associations, payers, providers, and health information exchange vendors. The meetings provided the opportunity for dialogue aimed and gathering input and useful information on strategies to strengthen aspects of the Oklahoma Model, align the model with pre-existing initiatives and resources in the state, or otherwise better engage stakeholders in the initiative.

***Academic and Research Institutions***

The project team met with the following stakeholder entities:

- Oklahoma State University, Center for Health Systems Innovation
- Oklahoma State University, Center for Healthcare Improvement
- University of Oklahoma College of Medicine, Department of Family and Preventive Medicine
- University of Oklahoma College of Pharmacy, Pharmacy Management Consultants
- University of Oklahoma College of Medicine, OU Physicians
- University of Oklahoma, Oklahoma Tobacco Research Center

***Businesses***

The project team met with the following stakeholder entities:

- Dewberry Architects
- QuikTrip

***Business Associations***

The project team met with the following stakeholder entities:

- Greater Oklahoma City Chamber
- State Chamber of Oklahoma
- Oklahoma Association of Health Underwriters
- Oklahoma Restaurant Association
- Tulsa City Chamber of Commerce
- WellOK (Northeastern Business Coalition on Health)

***Community Organizations and Patient and Consumer Advocates***

The project team met with the following stakeholder entities:

- Homeless Alliance
- Health Alliance for the Uninsured
- Hospitality House
- Oklahoma Healthy Aging Initiative
- Tobacco Settlement Endowment Trust
- United Way of Central Oklahoma

***Healthcare Associations***

The project team met with the following stakeholder entities:

- Central Communities Health Access Network
- Healthcare Financial Management Association
- Mental Health Association Oklahoma
- Oklahoma Academy of Family Physicians
- Oklahoma Association of Health Plans
- Oklahoma Care Coordination Alliance
- Oklahoma Hospital Association
- Oklahoma Primary Care Association

- Association of Family Physicians
- Rural Health Association
- Oklahoma Medical Association
- Oklahoma Nursing Association
- Oklahoma Primary Care Association
- Oklahoma State Medical Association
- Oklahoma Osteopathic Association
- Sooner Care Health Access Network

***Payers***

The project team met with the following payers:

- Oklahoma Health Care Authority
- State Employees Group Insurance Division
- Blue Cross Blue Shield of Oklahoma
- CommunityCare of Oklahoma Health Insurance Plans
- GlobalHealth, Inc. HMO

***Providers***

The project team met with the following providers:

- Hillcrest Healthcare System
- INTEGRIS Health
- St. Anthony's Health System
- St. John's Health System
- Variety Care FQHC (Federally-Qualified Health Center)

***Public Health Coalitions and Associations***

The project team met with the following coalitions:

- Turning Point Regional Consultants

- Turning Point Conference and Policy Day
- North Dyad of Regional Health Educators
- South Dyad of Regional Health Educators
- Cherokee County Community Health Coalition
- Cleveland County Coalition
- Haskell County Turning Point
- Jackson County Community Health Action Team
- Kingfisher Turning Point
- McCurtain County Coalition for Change
- Muskogee Turning Point
- Pittsburgh County Local Services Coalition
- Tulsa City County Health Department
- Oklahoma City County Health Department

***State Agencies***

The project team met with the following state agencies:

- Oklahoma Department of Mental Health and Substance Abuse Services
- Oklahoma Health Care Authority
- Oklahoma Employees Group Insurance Division
- Oklahoma State Department of Health
- Oregon Health Authority
- Arkansas Health Care Payment Improvement Initiative

***Tribal Nations and Associations***

The project team met with the following tribal nation entities:

- Chickasaw Nation Department of Health
- Tribal Public Health Advisory Committee
- Tribal Consultation

***Vendors and Consultancies***

The project team met with the following stakeholder entities:

- Coordinated Care Oklahoma
- My Health Access Network
- National Committee for Quality Assurance
- Oklahoma Foundation for Medical Quality

## OSDH WELLNESS BUSINESS SURVEY REPORT (2014) FINDINGS

Businesses play a vital role in healthcare transformation. As employers and major sponsors of health plans, businesses have a direct stake in the expansion of value-based initiatives in healthcare.

For businesses, value-based initiatives and population health improvement mean:

- A healthier, more productive workforce
- Less healthcare spending from a decreased burden of chronic diseases and cost of medical care
- Greater value from health plans through innovation and health information technology
- Greater transparency about employee health information to guide healthcare decision-making

The Oklahoma State Department of Health, in cooperation with Governor Mary Fallin, the Oklahoma Department of Commerce, the State Chamber of Oklahoma Research Foundation, Insure Oklahoma, and the Oklahoma Employment Security Commission enlisted a contractor to conduct a survey to inform the State on how to partner with businesses on strategies for improving workforce readiness and productivity. Study findings were used to support preparation of OHIP 2020 and inform policy makers. Oklahoma SIM Stakeholders were asked to review and provide input on how to incorporate findings from the survey into the Oklahoma Model.

### Research Objectives

This project gathered Oklahoma employer perspectives on health insurance and wellness programs as they relate to workforce costs, productivity, and returning value on investment. The project sought to answer three research questions:

1. How does the health of the Oklahoma workforce affect business?
2. What impact does access or lack of access to healthcare have on the bottom line?
3. What barriers and challenges do employers face in providing health and wellness benefits?

### Research Methods

The information collection campaign for the project included an online survey, phone polling, and in-depth interviews. Data collection began July 28, 2014 and ended August 21, 2014. The survey and phone polling questions often allowed Oklahoma employers to select more than one option if they were applicable.

Below are the aspects of each research method:

1. An online survey sent through multiple channels was completed by 665 employers from 20 industries, across 63 counties
2. A phone poll was conducted with 78 employees from a randomized list of Oklahoma employers.
3. In-depth, face-to-face interviews were conducted with 8 employers who sponsor worksite wellness programs

**Key Findings**

Findings reflect the importance of healthcare improvement for the business community. Key findings include stakeholder feedback on the effect of health status on business, health insurance, wellness programs and activities, and advice regarding health-related programs for employees.

***Effect of Employee Health Status on Business***

Nearly half of survey respondents reported that employee health affects their business. High medical costs and frequent leave requests represent top challenges. Most respondents had 10 percent or less, on average, lost productive work days due to employee health issues. Polled employers, who answered an open-ended question about health-related challenges, did not articulate issues regarding employee health status.

**Figure 23: Employee Health Challenges Reported by Survey Respondents**

| Challenge | Percentage |
|---|---|
| **Making positive healthy lifestyle choices** | 82% |
| **Losing weight** | 69% |
| **Seeing doctor for preventive car** | 48% |
| **Quitting tobacco** | 46% |
| **Reducing stress** | 46% |
| **Access to healthcare** | 30% |
| **Caring for sick children/spouse** | 24% |
| **Substance abuse and addiction** | 22% |
| **Caring for elderly or sick parents** | 21% |
| **Mental health issues** | 14% |
| **Prenatal care** | 2% |

***Health Insurance***

The majority of study participants (85 percent of survey participants and 91 percent of phone poll participants) offer health insurance coverage to employees. More than half (64 percent) of survey respondents who provided employee health insurance offered coverage to eligible family members – though this was less common for small business employers with fewer than 50 full-time workers. When responding to why they offer health insurance, the majority of respondents (over 80 percent) says they do it because it is the right thing to do. Additionally, most survey respondents believed that health insurance

was very important in recruiting and retaining top-quality employees. Still, cost of health insurance was a significant concern.

**Figure 24: Impact of Healthcare Costs on Survey Respondents**

| Impact | Percentage |
|---|---|
| **Less profit available for general business growth** | 43% |
| **Held off on salary increases for employees** | 39% |
| **Increased medical plan deductible** | 31% |
| **Increased employee share of medical premiums** | 26% |
| **Held off on hiring new employees** | 22% |
| **Increased prices** | 17% |
| **Hired more part-time vs. full-time employees** | 17% |
| **Switched health insurance carriers** | 17% |
| **Delayed purchase of new equipment** | 17% |
| **Held off on implementing growth strategies** | 13% |
| **Reduced employee benefits** | 12% |
| **Reduced hours of existing employees** | 6% |
| **Reduced workforce/laid off employees** | 3% |

**Figure 25: Response to Rising Healthcare Costs Reported by Survey Respondents**

| Impact | Percentage |
|---|---|
| **Increased employee cost-sharing** | 38% |
| **Added a high deductible health plan** | 37% |
| **Started wellness programs or activities** | 33% |
| **Changed insurance companies** | 23% |
| **Reduced benefits** | 23% |
| **Tightened pharmacy benefit design** | 12% |
| **Put in a narrow provider network** | 8% |
| **Introduced disease and/or care management programs** | 7% |
| **Dropped coverage and gave money directly to employees to purchase insurance themselves** | 1% |

***Wellness***

Almost all survey respondents with 500 or more full-time employees offer some kind of wellness program or activity. In contrast, at least half of small business employers from this group do not currently offer wellness programs. The most common wellness initiative was a tobacco-free workplace. The most prevalent reason for providing wellness initiatives was an altruistic desire for employees to be healthy and happy, but also increase worker productivity. Other reasons included controlling rising healthcare costs; managing sick leave, reducing absenteeism, and reducing workers' compensation claims and costs, and positive impact on recruitment and retention. During the in-depth interviews, some participants noted the dire state of Oklahoma's health as a motivating factor. Among survey respondents who promote wellness, about half report healthier behaviors and positive impact on the business. This includes: a reduction in tobacco use, weight loss, increased productivity, increased morale, and stronger recruitment.

**Figure 26: Top 10 Wellness Programs/Activities Offered by Survey Respondents**

| Impact | Percentage |
|---|---|
| **Tobacco-free workplace** | 47% |
| **Smoking/tobacco cessation programs** | 28% |
| **Employee Assistance programs** | 27% |
| **Biometric screenings** | 22% |
| **Company participation in charity walks/runs** | 20% |
| **Health education** | 20% |
| **Gym membership subsidies** | 18% |
| **Stress management** | 16% |
| **Health coaching** | 16% |
| **Healthy snacks at company meetings** | 14% |

Businesses that promoted wellness activities and initiatives saw other positive outcomes, including:

- Favorable image in the community for marketing
- Attractive company culture for recruiting
- More productive, focused employees
- Healthier lifestyle choices and more informed healthcare decisions for benefits.

***Summary***

Findings from this survey demonstrate that most Oklahoma business, regardless of size, view offering health insurance as a key component of employee recruitment and retention and as "the right thing to do" for employees and their families. Aligned with this feedback, almost all large employers that responded to the survey (96 percent) sponsor some kind of wellness project or activity for their employees.
Businesses can take advantage of their role as key stakeholders in health system transformation by:

- Encouraging a "value agenda" in health plans by endorsing value-based plans that align to the Triple Aim of better heath, better care, and lower costs
- Going beyond their traditional role as sponsors of health plans to spearhead initiatives that increase quality and affordability of healthcare
- Championing prevention and wellness programs to encourage employees to play a more active role in their health and wellness

- Working with their local chambers of commerce to endorse legislation that supports members' business interests aligned to higher quality health plans at lower costs

## ANALYSIS AND INTERPRETATION OF KEY FINDINGS ON COLLECTED DATA

The Oklahoma SIM project team has used various channels to collect input from stakeholders on the best formation of a healthcare delivery and payment model for Oklahoma. This included polling questions during statewide webinars, post-webinar stakeholder surveys, and All Workgroup Meeting activities. Statewide webinar polling questions identified likely priority areas for the state's model, including population health improvement, behavioral healthcare, and multi-payer alignment. Post-webinar stakeholder surveys identified suggested components and characteristics of the model, including enhanced primary care services, behavioral healthcare services, and health education and prevention services; as well as social determinants of health and a variance of the model based on urban or rural locations. The All Workgroup Meetings further helped to narrow down a model selection for the state. Ultimately, based on this collective stakeholder feedback, in particular consensus drawn from the All Workgroup Meetings, the Oklahoma SIM project team proposed a care coordination model design for the state, which was then affirmed by the Executive Steering Committee, as aforementioned.

### Statewide Webinar Polling Questions

From early in the project period, the project team saw that stakeholders were strongly aligned to population health improvement being a major part of the state's focus on health system transformation. During the first statewide webinar, when asked "what Oklahoma SIM goal most aligns with your organization's priorities?" stakeholders primarily selected "improve population health outcomes".

**Table 16: "What Oklahoma SIM goal most aligns with your organization's priorities?"**

| Multiple Choice Selections | Respondents |
|---|---|
| **Improve population health outcomes** | 61.8% |
| **Achieve health equity (rural, socioeconomic, race/ethnicity, behavioral health)** | 17.6% |
| **Coordinate public health and healthcare services and goals** | 14.7% |
| **Achieve savings from multi-payer value-based purchasing** | 5.9% |
| **Align clinical population health measures** | 0% |

Furthermore, the project team received insight that aligning payers would be a major barrier and needed to be prioritized to achieve multi-payer value-based purchasing. During the first statewide webinar, when asked "what is your organization's greatest barrier to participating in multi-payer value-based purchasing?" stakeholders primarily selected "shared vision across payers".

**Table 17: "What is your organization's greatest barrier to participating in multi-payer value-based purchasing?"**

| Multiple Choice Selections | Respondents |
|---|---|
| **Shared vision across payers** | 41.9% |

| | |
|---|---|
| **Adequate HIT infrastructure** | 22.6% |
| **Financial resources** | 12.9% |
| **Workforce resources (staff and/or time)** | 9.7% |
| **Leadership buy-in** | 9.7% |
| **Cultural attitudes** | 3.2% |

The project team also found that the model would need to focus heavily on addressing challenges related to behavioral healthcare. During the second statewide webinar, when asked "which of the following population health issues have you found the most difficult to tackle", selecting among the five Oklahoma SIM flagship issues, stakeholders primarily selected behavioral health. When asked as a follow-up question why this issue was the most difficult to tackle, stakeholders primarily selected "insufficient resources (financial, personal, time)".

**Table 18: "Which of the following population health issues have you found the most difficult to tackle?"**

| Multiple Choice Selections | Respondents |
|---|---|
| **Behavioral Health** | 56% |
| **Obesity** | 22% |
| **Diabetes** | 11% |
| **Tobacco Use** | 11% |
| **Hypertension** | 0% |

**Post-Webinar Stakeholder Surveys**

The project team also conducted two stakeholder surveys to capture feedback on the first and second statewide webinars as well as stakeholder perspectives on a model for the state. Stakeholders responded to various survey questions, including:

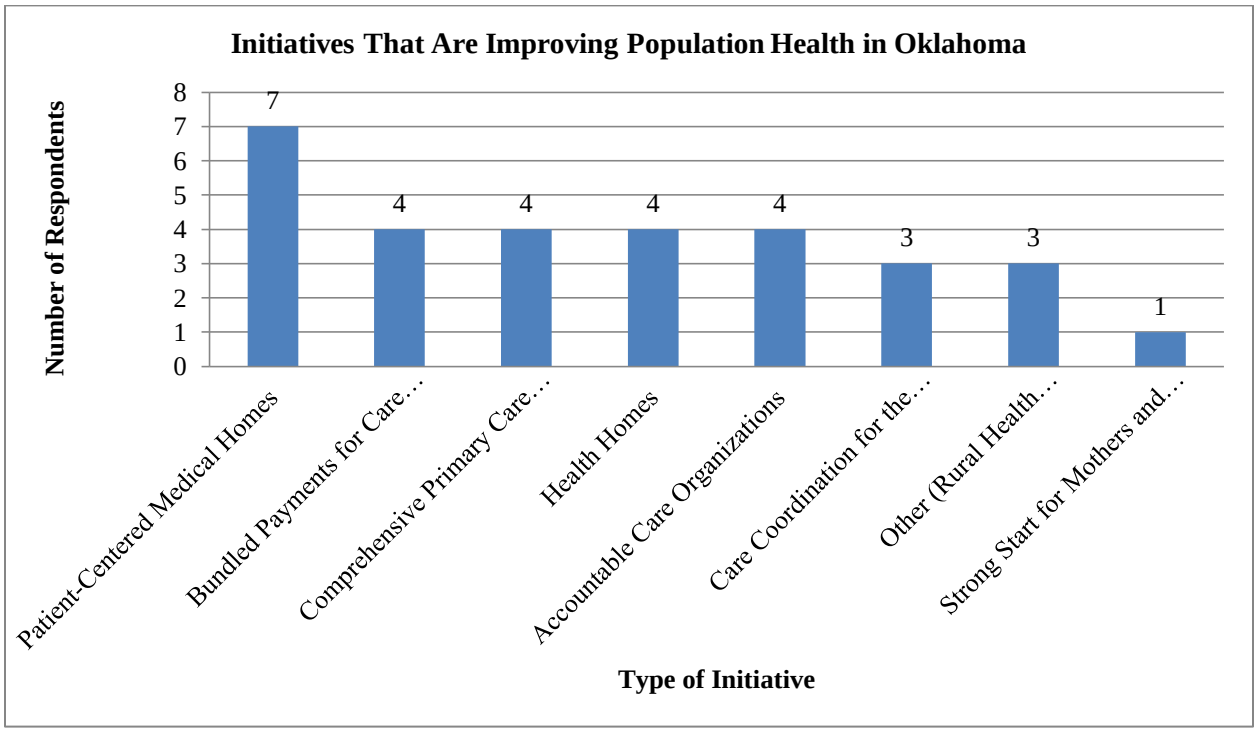
- What role do you play in the healthcare industry?
- What initiatives are making an impact in population health improvement in Oklahoma?
- What care delivery models are addressing your population health improvement goals?
- What social determinant of health has the greatest impact on your organization?
- Should the model vary based on an urban vs. rural context?

Overall, stakeholder respondents reported that an ideal model for the state would address primary care services, behavioral health services, and health education and prevention services; and would also vary based on an urban versus rural context. The tables below display results from these two surveys.

**Table 19: Stakeholder Surveys**

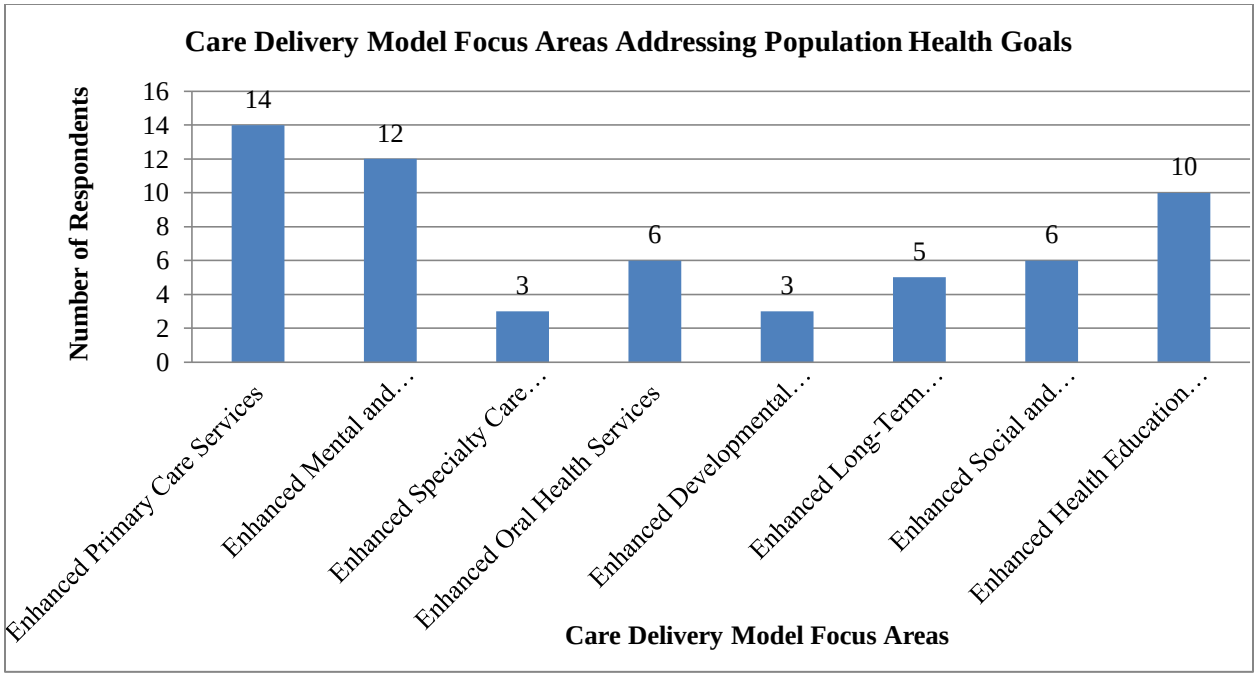
| Survey Name | Open Date | Close Date | Respondents (#) |
|---|---|---|---|
| **First Stakeholder Survey** | 6/23/2015 | 7/11/2015 | 13 |
| **Second Stakeholder Survey** | 8/28/2015 | 9/3/2015 | 17 |

**Figure 27: What Initiatives Are Improving Population Health in Oklahoma?**



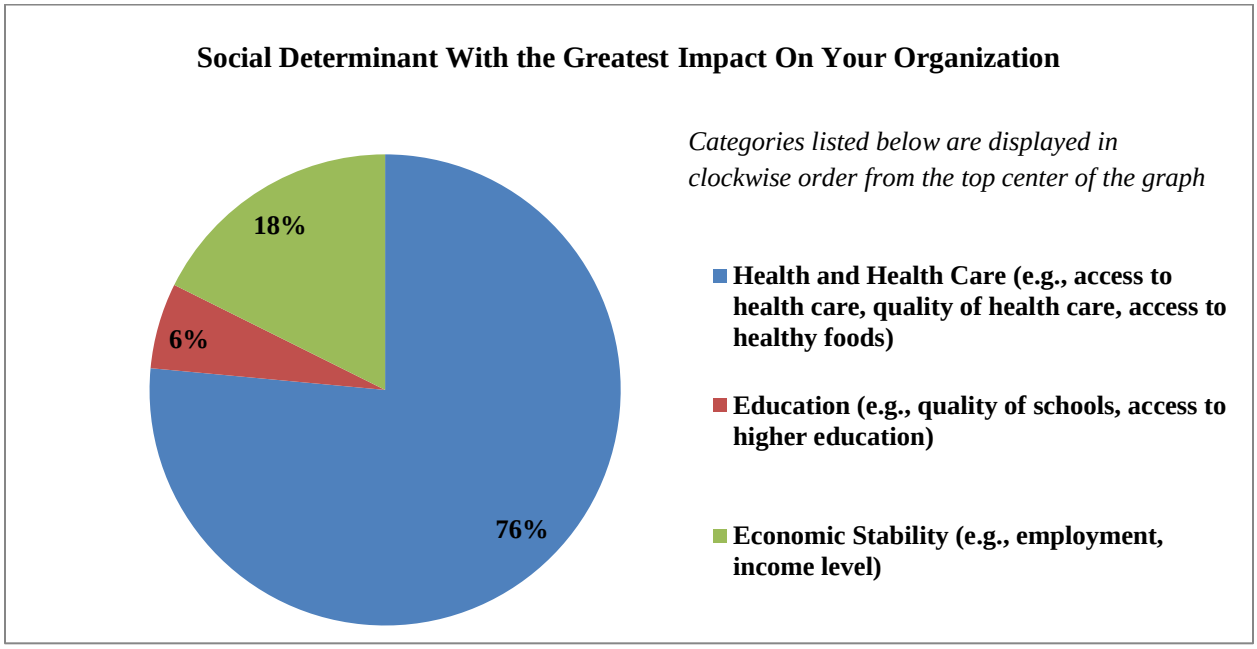

Stakeholders reported that a number of initiatives are making an impact on population health improvement, including patient-centered medical homes, bundled payments, health homes, accountable care organizations, and the Comprehensive Primary Care Initiative.

**Figure 28: What Care Delivery Model Focus Areas Are Addressing Your Population Health Goals?**



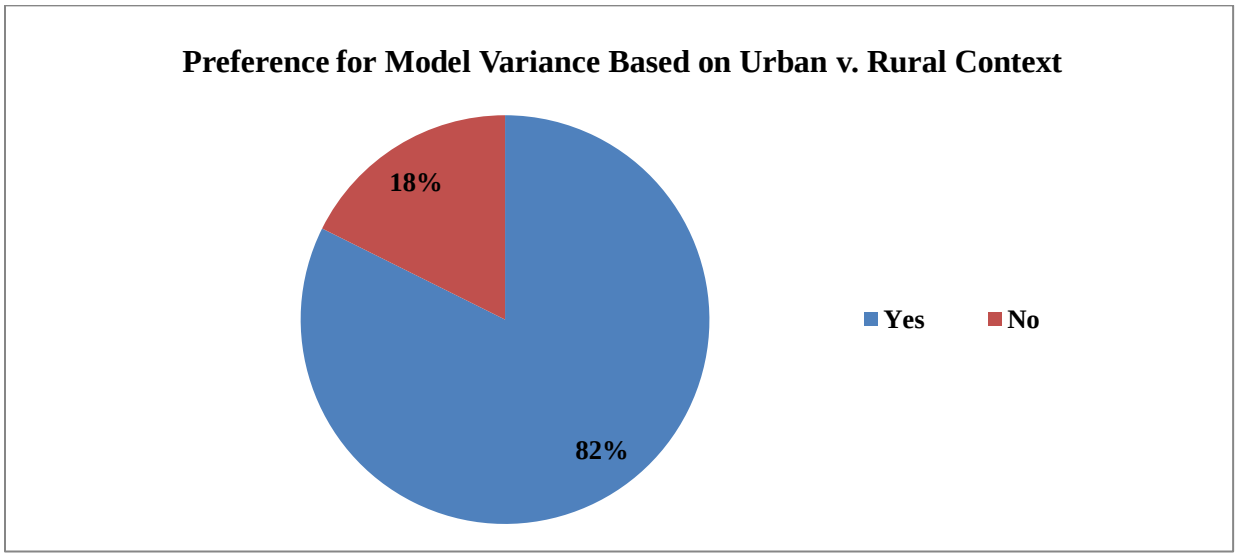
Stakeholders reported that enhanced primary care services, mental and behavioral health services, and health education and prevention services will best address their population health goals.

**Figure 29: What Social Determinant of Health Has the Greatest Impact on Your Organization?**




Stakeholders overwhelmingly reported that health and healthcare has the greatest impact on their beneficiary population.

**Figure 30: Should the Model Vary Based on an Urban vs. Rural Context?**




Stakeholders overwhelming reported that a model for Oklahoma should vary based on an urban or rural context.

**All Workgroup Meeting Activities**

At the All Workgroup Meetings in September 2015, the project team led an interactive activity with workgroup members to rate the effectiveness of three conceptual model designs based on the aims of the Oklahoma SIM project and Triple Aim. The aim of the activity was to generate and report on robust stakeholder discussion on model components that best serve the needs of the state. Based on previous stakeholder survey findings regarding initiatives that were improving population health in the state, as well as model designs being currently employed in other states with a similar healthcare landscape as Oklahoma, the project team used the following conceptual model designs for the workgroup activity: patient-centered medical home, accountable care organization, and care coordination organization.

Criteria for the model design discussions included the following:

- Improves the patient experience of care
- Improve population health
- Reduces the per capita cost of care
- Addresses the social determinants of health
- Has the workforce resources needed for implementation
- Has the technological resources needed for implementation
- Has the political will to support implementation
- Has the cultural will to support implementation

Based on cumulative stakeholder feedback, the project team determined the following:

- The model needs to address urban and rural scalability, which can be addressed over time through a multi-phased rollout
- The model needs to acknowledge patient choice
- The model needs to incorporate a direct connection between clinical care and social determinants
- The model needs to incorporate telehealth as a way to augment the existing workforce
- The model needs to incorporate a diverse workforce, including non-traditional healthcare workers such as community health workers
- The model needs to address potential roadblocks with HIT infrastructure in the state

**Table 20: Stakeholder Feedback on Pros and Cons of Conceptual Model Designs**

| Model Design | Pros of Model Design | Cons of Model Design |
|---|---|---|
| **Patient-Centered Medical Homes** | • Would integrate behavioral health within primary care<br>• Would not need extensive HIT to be extensive<br>• Could leverage telehealth for co-location of services<br>• Has infrastructure needed for implementation | • Does not have a strong enough linkage to social determinants of health; would need to expand healthcare team<br>• Does not have workforce resources for implementation<br>• Does not have HIT infrastructure for implementation |
| **Accountable Care Organization** | • Would be able to address all aspects of a patient's health needs<br>• Creates opportunity for potential savings<br>• Supported by current workforce availability in urban areas | • Has the potential to limit patient choice<br>• Is not feasible in rural areas<br>• Is politically unfeasible as the model would require too much centralization<br>• Would need a strong value-based |

| | | |
|---|---|---|
| | | insurance design |
| **Care Coordination Organization** | • Has a direct link to social determinants of health<br>• Would be scalable in rural and urban environments<br>• Has preexisting resources at the community level to aid implementation (e.g., public health, social services) | • Would need to strengthen the linkage to providers<br>• Would need to enhance HIT infrastructure<br>• Would need to implement workforce training and standards<br>• Would require extensive education on the model structure |

Based on this stakeholder feedback, the project team recommended creating a model for the state akin to a care coordination organization that had a robust primary care environment, integrated physical and behavioral healthcare, and a linkage between clinical care and social determinants of health. Furthermore, this model would use multi-payer engagement, quality measures, and a value-based purchasing strategy.

## CONCLUSION

The Oklahoma SIM project team has now completed all four phases of the Stakeholder Engagement Plan. From March 2015 to March 2016, the Oklahoma SIM project team advanced through each of the four phases. In Phase 1 (March to June 2015), the project team began holding regular workgroup meetings to begin producing project deliverables and introducing stakeholders to the project in order to solicit their idea and feedback and secure their buy-in on a new model for the state. The project team also held the first Executive Steering Committee Meeting and Statewide Webinar. In Phase 2 (July to October 2015), the project team continued engaging stakeholders and held the Second Statewide Webinar. Workgroups completed the review of the majority of project deliverables. The project team also developed the conceptual tenets of the Oklahoma Model and received buy-in from the Executive Steering Committee to create a new model for the state based on the care coordination model, called the Communities of Care Organization model. In Phase 3 (November 2015 to January 2016), the project team engaged key stakeholders and workgroup members to receive focused feedback on the proposed Oklahoma Model. The project team also completed drafting the SHSIP. In Phase 4 (February to March 2016), the project team held a statewide public comment period for the SHSIP and finalized the plan, which is now being submitted.

Each section of the SHSIP will continue to highlight how stakeholder engagement contributed to the development of each aspect of the Oklahoma SIM project and Oklahoma Model. The next section describes the Health System Design and Performance Objectives that the Oklahoma SIM project team used to guide the development of the new model for the State.


Health System Design and Performance Objectives
Value-Based Payment and Service Delivery Plan
Healthcare Delivery System Transformation Plan
Health Information Technology Plan
Workforce Development Strategy
Financial Analysis
Monitoring and Evaluation Plan
Operational And Sustainability Plan
State Healthcare Environment
Stakeholder Engagement Report
Population Health Improvement Plan
OKLAHOMA STATE HEALTH SYSTEM INNOVATION PLAN

# D. Health System Design and Performance Objectives

## INTRODUCTION

The State developed performance objectives and complementary strategies for the Oklahoma State Innovation Model (SIM) proposal to help achieve significant and measurable improvements within each element of the Triple Aim. Many system-level goals and objectives had been developed by the Oklahoma Health Improvement Planning (OHIP) Coalition prior to the Oklahoma SIM grant application. To align with those statewide goals and objectives, the Oklahoma SIM grant incorporated the goals of OHIP to establish its population health flagship issues and design healthcare value-based payment and delivery strategies that will aid in attaining those goals. The OHIP/Oklahoma SIM Workgroups, the Center for the Advancement of Wellness, and the Chronic Disease Unit at the State Department of Health were engaged to develop strategies to reach these goals. Those strategies were used in the model design process to align state goals that would enable a model capable of deploying the strategies and meet the system and population goals discussed here.

## HEALTH SYSTEM GOALS

### Health Expenditures

The Oklahoma Health Care Authority (OHCA) and Employees Group Insurance Division (EGID) together cover over a quarter of insured Oklahomans. State-purchased healthcare accounts for over 19 percent of Oklahoma's state budget. This represents a 5.6 percent increase since 2005.[3] Together, the healthcare coverage administered by these two payers provide ample ground for increased efficiencies in order to slow the growth rate of healthcare expenditures. Additionally, to help the State tie in 80 percent of all payments to value-based purchasing, multi-payer strategies were developed to align payment strategies across Oklahoma's healthcare market.

**Goal: By 2020, limit annual state-purchased healthcare cost growth through both Medicaid and EGID to 2 percent less than the average annual percentage growth rate of the projected national health expenditures, as set by CMS.**

Objective 1: Promote payment for value over volume.

Strategies:

1. Execute provider contracts that include alternative payment arrangements (APAs) that are value-based.
2. Require that 80 percent of all provider payments are value-based APAs by 2020.
3. Implement state-identified multi-payer episodes of care that reduce care and cost variances.
4. Implement pay-for-performance and other incentive-based programs. Establish a common set of quality measures across payers, with a focus on the Oklahoma SIM flagship issues (tobacco use, behavioral health, diabetes, obesity, and hypertension) and integrated care delivery.

5. Align multi-payer quality measures, with a focus on the Oklahoma SIM flagship issues (tobacco use, behavioral health, diabetes, obesity, and hypertension) and integrated care delivery.

6. Establish quality measure benchmarks related to all performance objectives that support the Oklahoma SIM objectives and the Triple Aim.

Objective 2: Increase monitoring and evaluation to ensure that the State is meeting cost benchmarks.

Strategies:

1. Utilize health information technology (HIT) to monitor and evaluate the performance outcomes of value-based purchasing models, clinical interventions, and targeted case management.

2. Create and utilize a value-based analytics tool to inform payment strategies improve overall population health and reduce the cost of care.

**Quality of Care**

Quality of care improvements will focus on reducing the number of potentially preventable hospitalizations and hospital emergency room visits. In Oklahoma, an estimated 45,000 hospital stays could have been avoided in 2013,[1] and emergency room (ER) utilization rates are higher than the national average.[4] These data points indicate considerable opportunities to improve the overall performance and quality of the current health system, including how well the current system addresses access to primary care and preventive service, care coordination, and patient education. Similar tactics can be used to achieve health system goals for reducing both preventable hospitalizations and ER utilization. Therefore, the objectives and strategies are cross-aimed at making improvements in both of those areas.

**Goal 1: Reduce the rate of potentially preventable hospitalizations per 100,000 Oklahomans by 20 percent, from 1656 (2013) to 1324.8, by 2020.**

**Goal 2: Reduce the rate of hospital emergency room visits per 1,000 population by 20 percent, from 500 (2012) to 400 visits, by 2020.**

Objective 1: Increase care coordination efforts to drive at-risk patients to preventive care and community-based services and resources.

Strategies:

1. Implement multi-payer episodes of care across major payers that incent providers to better coordinate care for patients with specific conditions.
2. Provide care coordination and targeted case management to assist at-risk beneficiaries to access preventive services and community-based resources.
3. Develop Community Health Improvement Plans (CHIPs) and Community Health Needs Assessments.
4. Identify options to pay for non-clinical services to promote whole-person care and address social determinants of health.
5. Allow for the reimbursement of telemedicine by OHCA and EGID, especially as it relates to integrating behavioral health services in rural areas.

6. Encourage primary care providers to have 24-hour call access.

Objective 2: Improve the monitoring of at-risk patients to ensure that patients have access to preventive care and community-based services and resources.

Strategies:

1. Establish a common set of multi-payer quality measures that address improving care coordination, access to preventive services, and better disease management.
2. Utilize EHR so that providers and care coordinators can better monitor inpatient stays, ER visits, and preventive visits.
3. Connect in-network providers to interoperable HIEs to ensure that providers and care coordinators have access to a more complete clinical view of the patient.
4. Monitor the number and expenditures related to potentially preventable hospitalizations (admissions and readmissions) and non-emergent use of ERs.
5. Encourage and facilitate the use of predictive modeling to assess baseline costs, risk stratify, and design interventions for their at-risk beneficiaries.
6. Monitor Ambulatory Care Sensitive Conditions (ACSC) through the use of standardized quality measures adapted from the Prevention Quality Indicators (PQIs).

7. Monitor hospital admissions, readmissions, ER utilization, and follow-up care through the use of standardized quality measures that measure patient access and post-discharge planning and care.

Objective 4: Increase patient education efforts.

Strategies:

1. Provide on-going, targeted outreach efforts to at-risk beneficiaries, such as frequent ER utilizers or beneficiaries with chronic conditions.
2. Provide informational materials to all individuals related to the appropriate use of the ER and urgent care facilities.

3. Ensure that all at-risk beneficiaries are linked to a care coordinator.

Objective 3: Encourage patient disease self-management.

Strategies:

1. Provide home visits by licensed professionals or community health workers to educate members and reduce home triggers that exacerbate disease.
2. Demonstrate the use of evidence-based disease self-management programs.
3. Encourage the adoption of patient portals to help patients monitor disease progression, track appointments, and access electronic records.

4. Enhance screening tools and referrals to disease treatment programs

## POPULATION HEALTH GOALS

Essential to any healthcare transformation effort is a reduction in chronic disease and high-cost conditions. Goals for the Oklahoma SIM flagship issues of tobacco use, behavioral health, diabetes, obesity, and hypertension have been developed to address the primary challenges of population health in Oklahoma. Achievement of these goals will lead to reductions in key risk factors contributing to negative health outcomes and a reduction in chronic disease, and in turn, improve health, reduce costs, and improve patient satisfaction with care. It is acknowledged that no condition occurs in a silo and many of the flagship issues can happen in conjunction with another compounding health costs and disease burden.

Each Oklahoma SIM flagship issue goal is described below. Heart disease goals encompass those of hypertension; therefore hypertension is not outlined separately.

**Tobacco Use**

With tobacco use a significant driver of healthcare costs, tobacco use reduction is an essential part of population health improvement. Smoking, Oklahoma's leading cause of preventable death, accounted for a total of $1.16 billion a year[2] in healthcare costs. As tobacco use contributes to the prevalence of high-cost conditions such as cancer, hypertension and diabetes,[1] tobacco use reduction strategies will also help achieve targets in other Oklahoma SIM improvement areas. To achieve a reduction in the adult smoking prevalence rate, Oklahoma SIM will utilize a multi-pronged approach that will pursue the following objectives:

**Goal: Reduce the adult smoking prevalence from 23.7 percent to 18.0 percent by 2020.**

Objective 1: Increase insurance coverage and utilization of evidence-based tobacco cessation treatments.

Strategies:

1. Remove patient copay for tobacco treatment counseling.
2. Provide FDA-approved tobacco cessation medications at no cost.
3. Incent providers to follow clinical practice guidelines for treatment of tobacco use.

Objective 2: Increase quit attempts among current tobacco users.

Strategies:

1. Embed best practice tobacco screening tools in electronic health records.
2. Incentivize e-referrals to the Oklahoma Tobacco Helpline.
3. Increase the price point of tobacco products.
1. Increase the use of 24/7 tobacco free policies, such as schools, playgrounds, and athletic facilities.

Objective 3: Increase the implementation of evidence-based interventions and strategies that address vulnerable and underserved populations.

Strategies:

2. Increase the implementation of interventions that support quitting, reduce exposure to second-hand smoke, and decrease access to and availability of tobacco products.
3. Increase health communication interventions to reach populations disproportionately affected by tobacco use, exposure to second-hand smoke, and tobacco-related disparities.
4. Increase the price point of tobacco products.
5. Increase the use of 24/7 tobacco-free policies at public facilities, such as schools, playgrounds, and athletic facilities.

**Behavioral Health**

Oklahoma faces significant challenges in treating mental illness, as demonstrated by a treatment gap of 86 percent and nearly 22 percent of adults reporting a mental health issue.[1] Untreated mental illness contributes to and exacerbates negative health outcomes. As such, healthcare transformation efforts will need to include strategies to improve the rates at which mental illness is treated. By including strategies related to insurance coverage, public education, workforce, and treatment, Oklahoma SIM will work to reduce the treatment gap in a comprehensive manner.

**Goal: Reduce the prevalence of untreated mental illness from 86 percent to 76 percent by 2020.**

Objective 1: Improve healthcare benefit design (referring the way health in which benefits are structured and utilized by employees) and increase insurance coverage rates for mental health services.

Strategies:

1. Work with insurers to expand scope of covered mental health services.
2. Increase reimbursement rates to encourage growth in the number of mental health services provided.

Objective 2: Increase public education regarding mental health.

Strategies:

1. Expand public awareness of mental health illnesses and treatment options.
2. Conduct public information campaigns to reduce the stigma of mental illness.

Objective 3: Develop the mental health workforce in both capacity and relevant competencies.

Strategies:

1. Work with universities to increase the number of available mental health professional graduates.
2. Strengthen mental health education programs to better equip health professionals in addressing behavioral health.
3. Enhance and expand the use of telehealth for behavioral health treatment.

Objective 4: Improve diagnosis and treatment of mental illness.

Strategies:

1. Enhance provider adoption of best-practice treatment approaches.
2. Ensure mental health patients receive appropriate service for appropriate length of time, including during transitions of care.
3. Increase screening and early intervention in primary care audiences for children and adults.

**Diabetes**

Diabetes can cause a wide range of short- and long-term complications, leading to hospitalization and life-threatening conditions such as cardiovascular disease. In Oklahoma, diabetes was the sixth leading cause of death in 2013.[1] By increasing access, accountability, and awareness, the Oklahoma SIM will

strive to reduce the prevalence of diabetes. Additionally, positive behaviors related to nutrition, physical activity, and weight loss that can prevent diabetes are addressed within the obesity objectives and strategies.

**Goal: Decrease the prevalence of diabetes from 11.2 percent (2014) to 10.1 percent by 2019.**

Objective 1: Increase provider awareness of pre-diabetes and metabolic syndrome diagnoses.

Strategies:

1. Expand provider education on screening and identifying patients at high-risk for type 2 diabetes.
2. Increase the use of EHRs for clinical decision support or panel management tools.
3. Encourage insurance reimbursement for pre-diabetes and diabetes prevention services.

Objective 2: Enhance access to and sustainability of diabetes prevention programs (DPP) in high prevalence areas.

Strategies:

1. Encourage insurers to offer DPP as a covered benefit to high-risk members.
2. Increase referrals to DPP due to increased diagnosis of pre-diabetes.
3. Ensure DPP program meets national standards for recognition or certification.

Objective 3: Increase patient accountability associated with diabetes prevention.

Strategies:

1. Educate providers to enable patient participation in medical decision making (i.e. "shared decision making") by including the use of motivational interview approaches.
2. Increase patient awareness of screening and risk factors for type 2 diabetes.

Emphasize patient readiness and responsibility to change behaviors.

**Obesity**

Ranked the sixth most obese state in the nation[1] Oklahoma needs to reduce habits associated with unhealthy weight and body mass index. These habits include increasing vegetable consumption, fruit consumption, and physical activity, all areas in which Oklahoma is ranked poorly. Strategies to support improved eating habits, increased physical activity, and increased awareness among both providers and individuals are a part of the Oklahoma SIM's goals for population health improvement. While these strategies are targeted to reduce the prevalence of obesity, they are particularly important because they help address obesity-related complications, including early mortality, heart disease, stroke, diabetes, and some cancers.[2]

**Goal: Reduce the prevalence of obesity from 32.5 percent (2013) to 29.5 percent by 2020.**

Objective 1: Increase access to affordable, healthy foods, especially fruits and vegetables.

Strategies:

1. Increase utilization of summer food programs.

2. Incentivize retailers to carry healthy food.

3. Optimize licensing regulations to allow and encourage healthy food.

4. Increase number of retailers that accept Supplemental Nutrition Assistance Program (SNAP) benefits, Women, Infants, and Children (WIC) benefits, and Electronic Benefit Transfer (EBT) cards

Objective 2: Increase access to places for physical fitness activities.

Strategies:

1. Pursue federal funds that would allow communities to develop infrastructures that encourage bike and pedestrian travel.

2. Educate and train local community development planners and engineers to plan and build bike and pedestrian projects.

3. Increase the number of shared-use agreements with schools, churches, tribes, and other entities to allow community members to access existing facilities for physical fitness.

Objective 3: Increase the awareness of benefits and opportunities for healthy living.

Strategies:

1. Encourage communities to assess and develop opportunities to participate in healthy activities.

2. Provide training and education regarding healthy eating and healthy food options.

3. Develop and execute health education campaigns.

Objective 4: Increase physician involvement in screening, diagnosis, and counseling of obesity.

Strategies:

1. Provide Continuing Medical Education (CME) credits for physicians for obesity training.

2. Increase utilization of EHRs for documentation of obesity.

3. Foster mechanisms that encourage providers to screen for, diagnosis and develop plans to reduce obesity.

**Hypertension**

The leading cause of death in Oklahoma[2] is heart disease, representing an area in which significant improvements are needed. To align with the OHIP 2020 goal to reduce deaths from heart disease by 13 percent by 2020, the Oklahoma SIM project adopted hypertension as one of its flagship issues for overall system transformation. Since hypertension is one of the leading indicators and causes of heart disease, early identification and effective management of hypertension are focus areas for providers to decrease heart disease deaths. The strategies outlined below also take into account the importance integrating community and social supports to improve patient accountability and choice to reduce hypertension and heart disease.

**Goal: Reduce deaths from heart disease by 13 percent from 9703 in 2013 to 8441 in 2020.**

Objective 1: Increase patient accountability.

Strategies:

1. Improve patient awareness of risk factors and screening tools.
2. Encourage patient participation in medical decision making (shared decision making) and the use of motivational interviewing.
3. Improve patient compliance with medical regimen: medication adherence and adoption of lifestyle change behaviors.

Objective 2: Foster team-based care coordination.

Strategies:

1. Increase recognition of "undiagnosed" hypertension.
2. Incent participation in multi-disciplinary care models, which address a range of professionals and commonly include medical, nursing and allied health professionals; and has been demonstrated to improve outcomes especially for patients with chronic illnesses.
3. Increase the use of EHR clinical decision support or panel management tools.

Objective 3: Increase community involvement.

Strategies:

1. Encourage payers to coordinate and direct use of social services and community resources and interventions targeting lifestyle, navigational assistance, and behavior factors.
2. Encourage payers to use mechanisms to connect clinical care to social services and community resources.
3. Foster improvements in social and physical environment through policy and system change to make healthy behaviors easier.

## CONCLUSION

Oklahoma has a set health system and population health performance objectives through OHIP were incorporated into the SIM model design initiative. These goals are utilized throughout the SIM model design to create a concerted effort towards impacting the health of all Oklahomans and designing a health delivery and payment system that enables the strategies to actualize these goals.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# E. Value-Based Payment and/or Service Delivery Model

## INTRODUCTION

As part of a broader effort to reform Oklahoma's healthcare system, the Governor of Oklahoma has established a benchmark to have 80 percent of all state-based healthcare insurance payments made under a value-based model by 2020. To achieve this target the Oklahoma State Innovation Model (SIM) project team is proposing the implementation of a model that includes fully capitated Communities of Care Organizations (CCO) for state-purchased healthcare, the statewide adoption of multi-payer quality metrics and multi-payer "episodes of care" payments. This model relies on coordination among community healthcare providers and partners and would encourage the delivery of patient-centered care, enable investments in personnel and systems that improve health, and assist local health systems meet high standards for cost and quality outcomes. Below is a diagram of the components of the proposed model.

**Figure 31: The Oklahoma Model**


This section of the State Health System Innovation Plan (SHSIP) presents a proposed value-based purchasing model and details the relevant attributes and functions of the Oklahoma CCO model and multi-payer efforts. This model was developed utilizing a robust stakeholder engagement and consultation process and represents the State's vision for how changes in healthcare payment and delivery will positively impact the health of Oklahomans, improve the quality of care they receive, and reduce the overall growth rate in healthcare spending.

## MODEL TENETS

Stakeholder engagement and deliberation has been a crucial component of the model design throughout the Oklahoma SIM planning process. Various care delivery and payment models, including models of other states, were presented to stakeholders to obtain their perspective and feedback regarding the models' ability to transform Oklahoma's healthcare system. The Oklahoma SIM project team

incorporated stakeholder feedback and commentary to develop the following tenets of an ideal care delivery model for Oklahoma:

**Tenet 1: Incorporate the drivers of health outcomes**

- Recognize that social and environmental factors play a major role in a person's health.
    - Integrate primary prevention strategies that address social determinants of health into clinical settings.
    - Develop formal relationships between healthcare providers and community resources to address the social determinants that negatively impact health outcomes.

**Tenet 2: Integrate the delivery of care**

- Ensure that primary, acute, and behavioral healthcare are integrated and managed collectively.
    - Leverage effective care coordination practices currently in place.
    - Enhance and expand the use of health information technology (HIT) through practice transformation and creation of a statewide IT infrastructure.
    - Fully integrate primary care and behavioral health through physical or virtual co-location.

**Tenet 3: Drive alignment of quality measures reporting to reduce provider burden**

- Engage with external stakeholders to align quality metrics.
    - Foster buy-in from private payers through engagement in which agreements are reached regarding quality metrics to drive alignment and consensus.
    - Work with CMS to synchronize Medicare quality measures with those proposed in the SHSIP.

**Tenet 4: Move toward value-based purchasing with realistic goals**

- Recognize that different levels of readiness for value-based purchasing exist across the state.
- Incorporate a period of transition to value-based purchasing.
- Foster commitment and collaboration across payers, providers and patients to allow for transformation to occur at the practice level.

## COMMUNITIES OF CARE ORGANIZATIONS

Using the key tenets as guidelines, Oklahoma proposes to implement a Communities of Care Organization (CCO) model for all state-purchased healthcare. State-purchased healthcare coverage includes Medicaid recipients and eligible public employees and their covered dependents. These covered lives represent nearly a quarter of the state's total population.

The CCO will be a provider and community-based care delivery organization that operates under a comprehensive risk contract with the State. CCOs will receive a fully capitated payment for attributed members and will be accountable for the provision of integrated and coordinated healthcare that meets

standardized quality and cost measures. Selected quality measures will ensure the integration of physical and behavioral health and incorporation of community resources that address social determinants of health. Metrics will be reported through a statewide HIT platform that will evaluate the performance of CCOs. The platform will be partially supported by a fixed plan fee assessed to each CCO. A further description of this platform is described in Section F (6), the HIT Plan, and the financing of the platform is discussed in Section K (10), the Operational and Sustainability Plan.

In order to create a shared responsibility for the health of the community, the CCO will be governed by a partnership of payers, healthcare providers, community members, and other stakeholders in the health system. The CCO governance will include a separate Board of Accountable Providers and a Community Advisory Board that will strive to identify mutually satisfactory practices and to promote shared responsibilities. The CCOs will be paid through a State Governing Body that administers all CCO contracts. The State Governing Body will also provide oversight of the CCOs to ensure regulatory and quality compliance.

## VALUE-BASED PAYMENT

The CCO model will transition the State's healthcare to a value-based payment system that rewards quality of care and positive health outcomes. To this end, the State will employ a global budget to pay CCOs for the complete cost of healthcare. The state will develop two separate methodologies for each distinct population included in the CCO Model in order to ensure a fair and equitable rate for covering attributed beneficiaries.

### State Payment to the CCO

The global budget for the CCO will consist of a capitated risk adjusted per member per month (PMPM) payment for covered services and incentive payments. There will be two withholds from the capitated payment; A withhold of 0.5 to 3.0 percent will be retained until the CCO meets the required CCO quality target. The CCO will receive this withhold after the reporting period if the report shows that they have met the required quality metrics. Similar to the method that other states have used, Oklahoma is proposing to review annually the withheld amount to determine if an increase in withholding will make a more positive impact. This increase over time could allow organizations to mature and align more of their capitated-rate to quality outcomes. The second withhold will be passed through to the health information network to maintain statewide HIT interoperability. More of the HIT requirements for CCOs are discussed later in this section. CCOs will receive additional payments from the bonus quality incentive pool to reward those that meet incentive pool targets.

Oklahoma estimates that, over time, its per capita healthcare expenditures will decline due to better health outcomes and a coordinated system that incents more efficient utilization of healthcare services. It is anticipated that the growth rate of healthcare expenditures will be slower than the rate under the current model. Along with cost savings, this model positions Oklahoma to achieve improvements in population health and quality of care. Understanding that the healthcare system is dynamic, continued payment innovation based on provider engagement and feedback will be utilized to incent CCOs to continue to deliver improved, cost-effective care to their beneficiaries.

### CCO Payments to Networked Providers

The CCOs will be responsible for implementing value-based alternative payment arrangements (APA) with their provider networks. Each CCO will identify and maintain a provider network that is meets

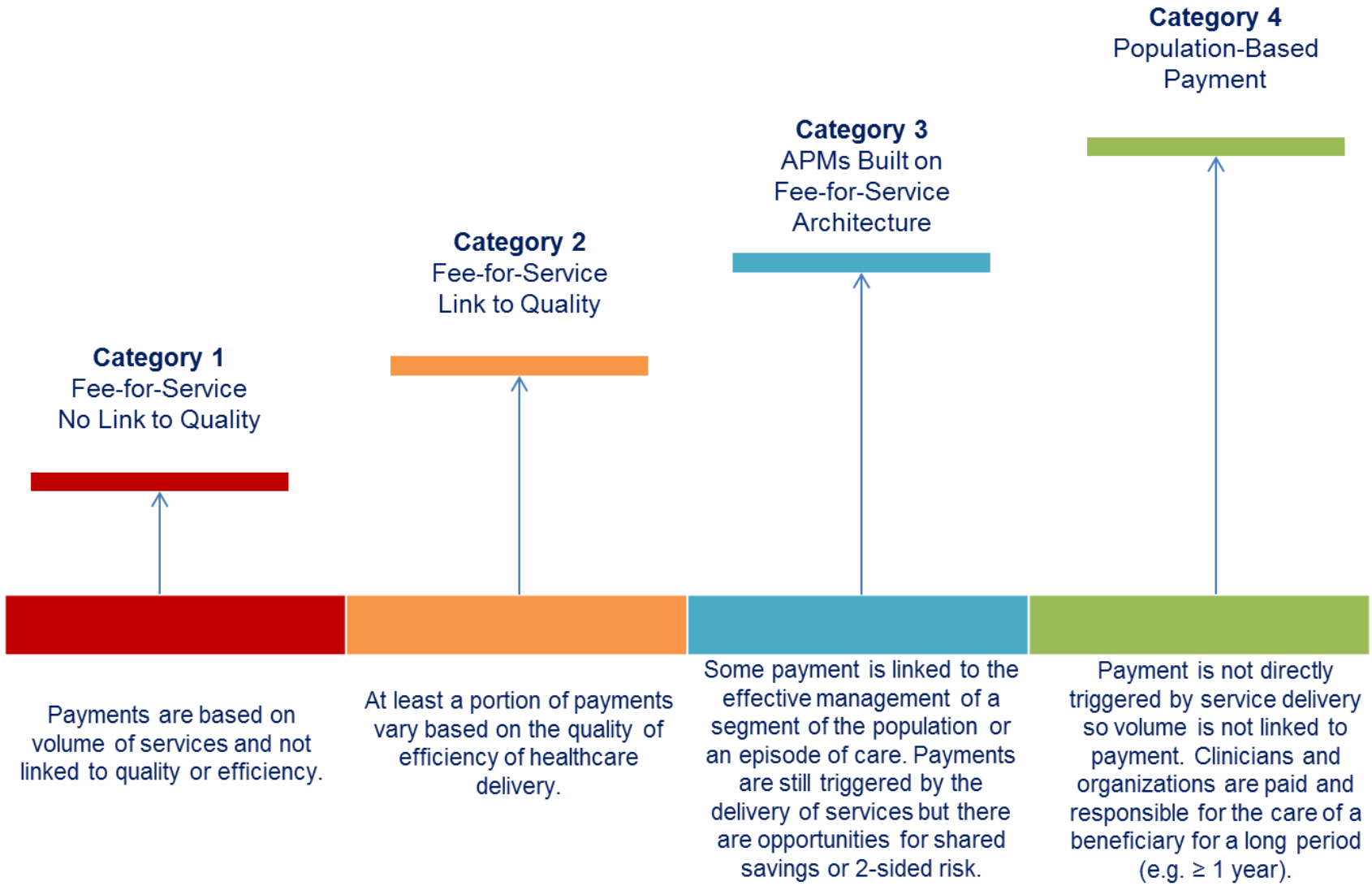
capacity and geographic adequacy standards designed to meets the needs of all of Oklahoma's communities. The State Governing Body will oversee efforts and will ensure compliance with quality targets contained in contractual requirements. The State will establish criteria that CCOs must meet as they implement value-based healthcare delivery, including the following:

- Eighty percent of payments made to providers must be value-based by 2020;
- CCOs must participate with the Multi-Payer Episodes of Care;
- One additional APA, as described below, must be utilized; and
- APAs must include mechanisms to encourage both cost savings and high quality care

Outside of these requirements, the decision on how providers within each CCO network are incented and held accountable will be left largely to the CCOs to determine, so that regionally-appropriate methods to move from volume-based to value-based healthcare delivery system innovations can be aligned with regional readiness and successfully implemented.

As the CCO model matures, the Health Care Payment and Learning Action Network continuum of payment, as shown below, will serve as a guide as the State develops direct links to population health outcomes within CCO adopted APAs. Consistent with other efforts across the state and nation, Oklahoma will move state-purchased healthcare further along the continuum in the years to come, moving from process measures to outcome measures as they become more feasible and available. However, flexibility is necessary to account for the different readiness levels and resources across the state. This is an ambitious payment model is consistent with industry efforts and should serve to assist Oklahoma's healthcare providers prepare for changes in private sector payment models.

**Figure 32: Health Care Payment Learning & Action Network Alternate Payment Methodology Framework**



The CCOs will be responsible for developing a network of providers and implementing APAs with aligned quality measures. If there are regions with multiple CCOs, it will be necessary for CCOs to coordinate payment methodologies to ensure clear and consistent goals for providers. Episodes of Care (EOCs) will be a required element of the CCOs' payment methodology for providers. EOCs are payment model in which services related to a condition or procedure are grouped into "episodes" that provide benchmarks for both costs and quality of care. In addition to EOCs, which will be later described in this section, the following APAs will be options for CCOs to utilize:

**Bundled Payments**

Bundled payments are a modification to the fee-for-service (FFS) structure in which payers reimburse providers for a set of services related to a procedure or health condition rather than reimbursing providers for each service separately. Bundled payments typically focus more on services provided in a hospital or post-acute care setting. A bundled payment often is used to reimburse multiple providers, including hospitals, physicians, and other practitioners. Bundled payments may be retrospective or prospective. The former involves reconciling target and actual costs after care is provided on a FFS basis, while the latter refers to payers providing a predetermined payment amount for services as one sum. If costs are less than the target or predetermined payment amount, providers experience savings. Conversely, providers lose money in instances when their costs exceed the payment amount.

Provider risk: Cost of services delivered may exceed the amount of the bundled payment.

**Pay-for-Performance**

In pay-for-performance models, providers are rewarded for meeting certain goals, which are generally defined by quality of care or patient outcome measures. Pay-for-performance systems are often focused on creating long-term savings through the improvement of primary healthcare, the use of preventive health services, the coordination of care across providers, and/or physician practice improvements. Pay-for-performance measures are designed to reward providers for focusing on quality of care rather than quantity. This payment model typically involves bonus payments, but may also assess penalties on providers who do not meet benchmarks.

Provider risk: May be upside only or two-sided, depending on whether penalties are included.

**Payment Penalties**

Under a payment model that includes payment penalties, provider payment may be withheld for failure to meet quality or outcomes goals, provider deviation from evidence-based practice standards, or when provider care is connected to sub-standard outcomes (e.g., certain healthcare acquired conditions, or never events). Payment penalties are designed to create motivation to improve quality of care and to enhance provider accountability for patient outcomes.

Provider risk: Providers are assessed penalties for failing to meet goals or other requirements.

**Shared Savings**

In a shared savings model, the payer sets a cost target, and if providers meet or exceed those targets while caring for patients, they share in the savings of avoided costs. Shared savings plans usually include quality of care and/or health outcome measures. A provider's eligibility to share in savings usually depends on achieving acceptable scores on identified measures. Shared savings plans are intended to create an incentive for providers to deliver high-value care rather than a high volume of services.

Provider risk: Providers receive a portion of savings they achieve, but have no risk if savings are not realized.

**Shared Savings and Shared Risk**

The shared risk model enhances the shared savings model by also putting the provider at risk if costs exceed the defined target threshold. Under shared savings, providers earn more if they reduce costs below the threshold, but have no downside risk. In shared risk models if costs exceed the threshold providers may pay a penalty or share in the costs exceeding the target.

Provider risk: Providers share in both cost savings and costs that exceed targets (penalties).

**Global Capitation**

Under capitation, a payer gives a provider, provider group, or health system a single per-patient payment with the intention that the provider or health system will provide all necessary services to that patient during the contract period (usually a year). Capitation models create strong financial incentives for providers to manage patient care efficiently and avoid costly complications or expensive services such as emergency department or inpatient admissions. Capitation contracts almost always include quality of care and patient health outcome measures to ensure that providers are not under serving patients to contain costs. By capitating provider payments, however, services provided under an EOC model will need to be carved out to ensure providers are incented to reduce costs. CCOs will have to describe how capitation could be implemented with other models.

Provider risk: Providers are not reimbursed for any costs that exceed the capitated payment.

## INTEGRATING THE SOCIAL DETERMINANTS OF HEALTH

Integration of primary prevention strategies to address the social determinants of health is a fundamental component for the Oklahoma Model. A wealth of evidence demonstrates social determinants can affect health outcomes as much, if not more than, direct care. Varying levels of available social service supports across the state and the uncoordinated administration of social services programs limits Oklahoma's providers' ability to address these social determinants. The Oklahoma SIM model aims to connect physical health and social service providers within the CCOs so that providers may effectively refer patients to existing resources and begin to identify gaps in critical resources that must be solved in order to positively affect community health outcomes.

One mechanism for this connection is through the governance structure of the CCO. Each CCO is required to form a Community Advisory Board that comprises community partners who understand the region's social services assets and advocate their use to address the population's social needs. The members of the committee are described later within this section.

To assist in the integration of social services into the healthcare delivery system, Oklahoma will pursue flexible spending arrangements with CMS to allow for the use of federal dollars to pay for non-medical expenditures that are in directed line with the patients care plan. These services and arrangements are described later in the "Covered Services" section and include activities such as mold remediation to alleviate asthma exacerbations and refrigeration of medication among many others.

CCOs will also be required to implement and use a Human Needs Survey that will identify members' social and health needs at the point of program enrollment. The survey will help in the risk stratification of patients on both a medical and social determinant basis and identify those patients with potentially higher needs not yet realized in a proactive manner. If possible, further predictive risk identification and stratification will also be conducted using existing EHR and claims data for the individual.

Lastly, the CCOs will create and maintain a regional asset data system of community resources. This will enable the care team to have an easy referral source for services that can be provided in the community to enable patient health and success. Resources such as food pantries, mobile meal programs, health literacy programs, diabetes prevention programs, and ride sharing services are a few of the many community resources that will be entered into this data store, which will be accessed via a web portal by care coordinators, community health workers and other providers include. Some of the potential resources have been described in section (A) the Healthcare Environment. Some organizations around the state have started similar projects to inventory the available resources of their communities. The CCOs will look to partner with and further leverage these projects.

**CCO Care Delivery Model**

The CCO will be held accountable for high care delivery standards. Delivery standards such as network adequacy, patient wait time, accessible clinic hours, and appointment availability will be set by the State Governing Body and its committees. The benchmark for these standards will vary based upon regional needs. Similarly, the quality metrics that the CCO will be required to report and the targets set to earn back withheld dollars or as incentives will cover clinical, quality, and population attainment and will be determined through the deliberations of the State Governing Body and Quality Metrics Committee.

To account for regional variation, each CCO will be asked to describe how it will meet standards given the resources that are available or may need to be created. While a single delivery system model will not be prescribed, each CCO will need to describe and demonstrate how they will accomplish the following:

- Deliver comprehensive acute and primary care.
- Encourage the use of preventive services.
- Integrate behavioral health and primary care.
- Integrate Federally Qualified Health Centers, County Health Departments, tribal health clinics and other existing entities to create a medical neighborhood
- Use non-traditional healthcare workers to address individual and community social determinants of health and unmet needs.
- Use a centralized multi-specialty care coordinator (among providers) to manage transitions between healthcare settings, connect patients to resources, , and perform aftercare follow-ups.
- Integrate telemedicine to increase access to behavioral health and specialty providers, especially in those CCOs serving rural, underserved areas.

**Transition to CCO from Primary Care Case Management (PCCM) and other Current Programs**

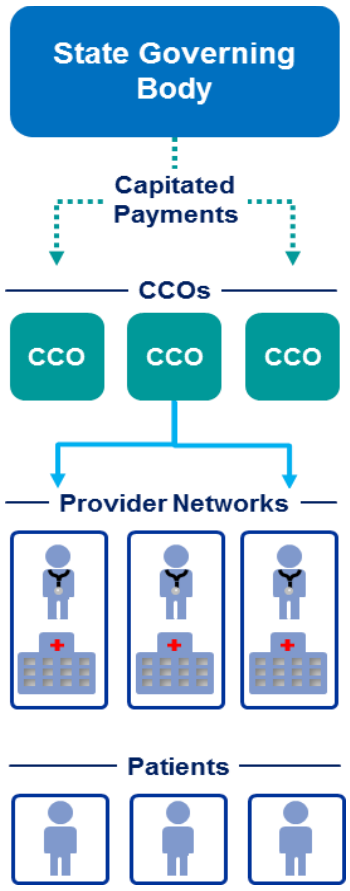
There are numerous existing programs within state purchased healthcare. These will be leveraged and enhanced to transition CCOs in an effective manner. The best practices and guidelines will help shape those of the CCO.

### OHCA Programs

Oklahoma already operates a Primary Care Case Management (PCCM) 1115 Waiver called SoonerCare Choice for most of the Oklahoma Medicaid population. With the exception of certain populations, most Medicaid beneficiaries are eligible to be enrolled in the PCCM and choose a primary care provider (PCP) who then serves as the patient's medical home. The PCP is paid a monthly care coordination fee on a PMPM basis to help coordinate the patient's care; the fees are based on three tiers and vary depending upon the type of panel the provider wishes to serve, as described in the Section B. The CCO will look to adopt the best practices of this model into the standards of care carried into the new model proposed here. However, with the delivery of care methodology left to the CCO to articulate, the patient-centered medical model may not be continued in every region based on what the CCO proposes as the best fit.

Other current efforts in the State include the Health Access Networks (HAN) and the SoonerExcel program. The HAN programs take on care management services for Medicaid members and are paid a flat PMPM care-coordination fee. These networks work directly with providers to receive patients and help manage care beyond the provider's walls. These are described in more detail in Section B. As with the PCMH program, the CCO will look to incorporate the best practices of the HANs as benchmarks to be met. These programs may also be continued by the CCO in the HAN regions.

**Figure 33: State Governing Body**




### Employees Group Insurance Division Programs

Public employees can choose from a variety of insurance plan options, ranging from a self-insured Preferred Provider Organization (PPO) plan to private Health Maintenance Organization (HMO) plans. The PPO plan, called HealthChoice, is administered by the Employee Group Insurance Division (EGID). EGID has implemented various programs to address cost and quality. EGID has championed programs focused on member education. This includes wellness screenings, education campaigns, and cost sharing programs that help direct members to more cost effective insurance plan options.

### Health Information Technology

The CCOs must be able to address their ability to incorporate and direct the use of HIT within their operations and provider networks. The CCOs will be expected to develop a HIT plan for their providers to use HIT meaningfully as they deliver care. This HIT plan should address how the CCOs will ensure their provider networks adopt Electronic Health Record (EHR) technology, connect to interoperable Health Information Exchanges (HIEs), and accurately report actionable data to their provider network. While the State will still encourage providers to meet meaningful use requirements for Medicaid, it expects that the CCOs will also coordinate with its networks to ensure HIT use. The CCO will also be asked to incorporate a consumer-friendly patient portal to engage members in the direction of their healthcare. The State Governing Body will use current information within the Health Information Network (HIN) to actively monitor CCO performance and population health outcomes

with a value-based analytics tool described in more detail within the HIT Plan.

This needs its own new section and header: Governance

Currently, two state agencies are responsible for managing state-purchased healthcare. The Oklahoma Healthcare Authority (OHCA) administers and manages healthcare for the Medicaid population through the SoonerCare program, and EGID administers and manages healthcare for most public employees through the PPO HealthChoice plans. In addition to the HealthChoice plans operated by EGID, state employees may also purchase healthcare through an array of private HMO plans. Those carriers that offer HMO plans contract with the Employees Benefits Department (EBD), and EBD collects and pays the premium to the HMOs on behalf of state employees that elect such coverage. The HMOs are then responsible for providing healthcare coverage for those state employees. Both EGID and EBD are divisions within the Office of Management Enterprise Services (OMES), the government agency which manages and supports the basic functioning of state government.

The centralized governing body will have representation from Oklahoma Health and Human Service agencies, paying institutions, and providers. The leadership for this governing body will consist of representatives from the following: the Oklahoma Health Care Authority, the Employee Group Insurance Division, the Department of Mental Health and Substance Abuse Services, the Oklahoma Insurance Department, the Member Advisory Committee, the Provider Advisory Committee, a representative from the Tribal Nations. Oklahoma will work with the Oklahoma State Legislature, CMS, and relevant agencies to pursue the necessary authority required to enable this model, including proposing a new 1115 Demonstration Project Waiver.

The State Governing Body will draft, certify, procure, and administer contracts with eligible entities that wish to serve as CCOs to provide healthcare coverage for the state. The State Governing Body will be responsible for setting the specific CCO requirements in a detailed RFP as a part of the planning and implementation phase. The State Governing Body will be guided by several advisory committees in making these certification and RFP requirements to be a CCO. A few of the advisory committees to guide this body that have proposed to date are the: CCO Certification Committee, Quality Metrics Committee, Episodes of Care Committee, HIT Committee, Health Workforce Committee, and Behavioral Health Promotion Committee. Other requirements will be specified at a later time based on CMS negotiations and further detailed rollout of the model. Below are the proposed functions of the State Governing Body advisory committees:

**Table 21: State Governing Body Advisory Board Committee**

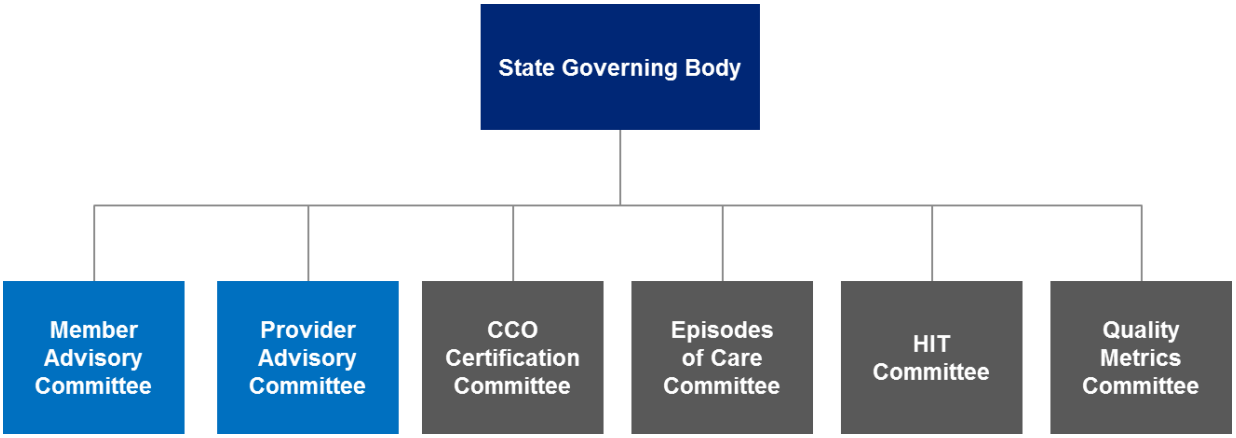



**Table 22: State Governing Body Advisory Board Committee Functions**

| Advisory Committee | Function |
|---|---|
| **CCO Certification** | The CCO Certification Committee will create the criteria to certify a CCO, indicating that they have the capacity and plans to meet the goals and requirements to provide services that are in alignment with the goals of this model. The proposed certification criteria for CCOs can be found in Appendix B. |
| **Quality Metrics** | The Quality Measures Committee will set CCO quality measure benchmarks and reporting requirements, as well as overseeing CCO monitoring and evaluation. |
| **Episodes of Care** | The Episodes of Care Committee will propose episodes of care and episode framework, including needed, identified alterations to existing episodes of care. |
| **Member Advisory Committee** | The Member Advisory Committee will consist of the beneficiaries being served by the CCOs in operation around the state and will send one member to be a part of the State Governing Body. This committee will be responsible for ensuring the voice of the member is heard at the highest level of governance |
| **Provider Advisory Committee** | The Provider Advisory Committee will consist of those providing care within the CCO and will send one member to be a part of the State Governing Body. This committee will be responsible for ensuring the voice of the provider is heard at the highest level of governance |

From a CCO performance perspective, the State Governing Body will be responsible for ensuring each CCO reports its quality measures. Through the development and use of the value-based analytics (VBA) platform and other HIT, the State Governing Body can closely monitor CCO activities and performance. The State Governing Body will work with the CCOs to ensure the availability of adequate resources for implementation and monitoring, including education, marketing, outreach, and enrollment.

The Board and its advisory committees will also assure its members of equitable access to services by establishing network adequacy and access requirements. They will also establish standards that the CCO will need to meet to ensure timely access to care and services and member protections are in place.

**CCO Governance and Scope**

While the State will provide a high degree of oversight of the CCOs, a key characteristic of the Oklahoma Model is to allow flexibility and discretion in the way the CCO organizes to deliver patient-centered care that meet and exceed outcome targets. Other states that have implemented similar types of models have fostered this by allowing CCOs to develop governance and payment models that match local health needs and account for provider maturity to move towards risk-based care. Given Oklahoma's disparate healthcare system and rural and urban divide, the State is pursuing a similar path to ensure that CCOs can thrive regardless of regional differences.

Each CCO must establish a governance structure that reflects the coordination of care delivery and community resources into one integrated model. To accomplish this, CCOs must include specific stakeholders within the CCO governance and establish two distinct advisory boards. First, the CCO Governing Body must comprise individuals that share in the financial risk of the organization. The CCO Governing Body must also consist of the relevant stakeholders impacted by the CCO's operations. The suggestions for the makeup of each of these boards are described below:

- The CCO Governing body will be responsible for meeting all cost and quality targets of the CCO. It will direct the CCO on payment and delivery of care to attributed members. This board will consist of:
    - Persons that share in the financial risk of the organization, and who must constitute a majority of the governing body
    - The major components of the healthcare delivery system
    - At least three healthcare providers in active practice, including an Oklahoma licensed physician, a nurse, and a mental health or substance abuse treatment provider
    - At least two members from the community at large, to ensure the organization's decision-making is consistent with the values of the members and the community
    - At least one member of the Community Advisory Board
- The Board of Accountable Providers (BAP) will be established to assure that best clinical practices and innovative approaches to delivering care are being used and are culturally appropriate. They will suggest interventions to address issues with cost and quality attainment. This board will include representation from provider types (or their representative organizations) active in the CCO's healthcare delivery system.
- The Community Advisory Board (CAB) will have broad regional representation from community partners, such as 501(c)(3) entities, county health departments, social service agencies and organizations, local municipalities and businesses, patient advocates, and community action agencies. This board will help guide the CCO to conduct a community health needs assessment and complete a community health improvement plan (CHIP). These will be

used to help guide the CCO to provide regionally-specific care and guide interventions that help address the social determinants of health. The Community Board will be integral in linking the CCO to community resources that support whole-person care and will be required to maintain databases of community resources. The board should include representation from:

- Consumer and patient advocates, forming a majority of the membership
- Non-profit community organizations
- County health departments from the counties served by the CCO
- Tribal nations in the CCO service area
- FQHCs operating within the service area

One person from the BAP will sit on the CAB and one person from the CAB will sit on the PAB to ensure that there is collaboration between the two boards. The boards will give joint recommendations on how to invest in new models and initiatives that support value-based purchasing. These boards will jointly help to guide the CCO to conduct a community health needs assessment and a community health improvement plan (CHIP).

These boards will be integral to linking the CCO to community resources that support whole-person care. They will also promote effective interventions to improve healthcare delivery, recommend strategies to better integrate community supports and services into healthcare, suggest methods to elicit consumer feedback, and provide culturally aware information that supports the CCO to improve health outcomes in its respective region. Each CCO will be responsible to the State Governing Body to demonstrate how decisions related to its operations have taken input from the board into account. Governance approaches and membership will ultimately be approved by the CCO state governing body.

**Populations Covered**

Oklahoma is proposing to attribute its Medicaid beneficiaries and state employees to the CCO model, with the exception of those exempt from managed care and those receiving limited benefit packages. The total number of eligible members to be included in this model is approximately 1,031,618 lives, or a quarter of Oklahoma's population. Oklahoma can leverage the State's purchasing power and influence over the way healthcare is delivered to all Oklahomans by requiring mandatory enrollment of individuals with state-purchased healthcare into the CCO. By targeting as many individuals who receive healthcare insurance through some type of state-purchased healthcare into the CCO model, Oklahoma can move closer to its value-based benchmark for state-purchased insurance of 80 percent by 2020. A further description of the populations covered within both Medicaid and state employee insurance are described below.

***Medicaid Covered Lives***

Medicaid covers more than 800,000 individuals through various programs and waivers. Under this proposal, the CCOs will cover the majority of those Medicaid beneficiaries, including children, pregnant women, and individuals who qualify under the Aged, Blind, and Disabled (ABD) category, including persons dually eligible for both Medicaid and Medicare. There will be, though, be some populations excluded from the CCO, such as those receiving family planning services only, the Specified Low-Income Medicare Beneficiaries (SLMBs), Qualifying Individuals and Quality Working and Disabled Individuals and those who receive the Qualified Medicare Beneficiaries (QMBS) benefit only.

Under the proposed CCO model, Medicaid beneficiaries, except those that are exempt from mandatory managed care enrollment, must enroll with a CCO and choose to receive benefits through the CCO. By

including nearly all Medicaid beneficiaries, the State can achieve a higher degree of budget predictability and accountability while driving the volume necessary to make CCOs financially viable.

To provide a rough estimate to CMS of the number of Medicaid beneficiaries Oklahoma proposes to cover, the Oklahoma SIM project has identified the various populations currently served under the Medicaid State Plan and various waivers it will attribute to the CCO model.

**Table 23: CCO Covered Populations**

| CCO Covered Populations: Medicaid | Population |
|---|---|
| **1115 Waiver (SoonerCare Choice and Insure Oklahoma)** | **544,628** |
| **SoonerCare Choice** | 540,708 |
| **Insure Oklahoma-Individual Plan** | 3,920 |
| **SoonerCare Traditional** | **238,083** |
| **Total** | **782,711** |
| **1915(c) Home and Community Based Waivers** | **23,046** |
| **Total Medicaid** | **805,757** |

Excluded populations:

Oklahoma is proposing to exclude the following Medicaid coverage groups from the CCO:

- Foster care children
- Children in Department of Human Services custody
- Qualified Medicare beneficiaries without full Medicaid
- Specified Low-Income Medicare beneficiaries without full Medicaid
- Qualifying Individuals between 120 percent and 138 percent FPL
- Qualified Disabled Working Individuals
- Insure Oklahoma Employee Sponsored Insurance program enrollees

***Public Employee Covered Lives***

EGID, the agency responsible for administering and operating HealthChoice, and the HMO plans covering state employees currently have an enrollment of over 225,000 individuals. This number includes active employees, as well as Medicare and pre-Medicare populations, and their dependents. Under this proposal, CCOs will be responsible to provide healthcare services to all individuals enrolled with EGID and HMO plans. The coverage of these individuals will be phased in over time after enrollment of Medicaid populations. HealthChoice, the plan operated by EGID, will be replaced by plans offered by the CCOs. Initially, state employees will be given the option to enroll with a HMO plan currently offered or enroll with a CCO. Once the State Governing Body has developed an adequate number of CCOs to cover state employees, all HMO plans that wish to cover state employees will be required to become a CCO to

continue to provide their healthcare coverage to state employees. These plans will be required to meet the same quality measure and community integration requirements of the CCOs that cover Medicaid populations. By including the majority of Medicaid beneficiaries and public employees, over a quarter of the state's population will be covered under a CCO. The table below illustrates the anticipated number of covered lives of public employees who will eventually be covered by a CCO.

**Table 24: Public Employees Covered**

| CCO Covered Populations: State Employees | Members | Dependents | Total |
|---|---|---|---|
| **HealthChoice (Self-Insured)** | | | |
| **Active Employees** | 87,041 | 53,006 | 140,047 |
| **Pre-Medicare** | **7,299** | **1,702** | **9,001** |
| **Medicare** | 31,048 | 4,367 | 35,415 |
| **Total** | **125,388** | **59,075** | **184,463** |
| **HMOs** | | | |
| **Active Employees** | 20,388 | 16,468 | 36,856 |
| **Pre-Medicare** | **1,266** | **221** | **1,487** |
| **Medicare** | 2,646 | 409 | 3,055 |
| **Total** | **24,300** | **17,098** | **41,398** |
| **All Plans** | **149,688** | **76,173** | **225,861** |

### Integrating the Private Market

As the CCO matures, it is envisioned that other private markets could be incorporated as desired. If the CCOs can demonstrate cost and quality improvements as expected, self-funded employers and commercial payers have indicated they will be interested in purchasing healthcare in a similar manner.

### Covered Services

The array of services covered by the CCO will include traditional physical, mental health, and chemical dependency services, as seen in the table below, for both Medicaid and public-employee beneficiaries as mandated by applicable regulation. This includes essential health benefits, such as services currently required under Oklahoma statute and, for Medicaid, services indicated under Oklahoma's Medicaid State Plan and any waivers remaining in effect. There may be differing benefit plans for Medicaid and public employees. In addition to meeting federal regulations set out for Medicaid and federal guidelines for group insurance regarding covered services, the CCOs will also have to meet minimum essential coverage mandates and the applicable state-specific guidelines set out by the Oklahoma Insurance Department for healthcare coverage offered by HMOs. The applicable guidelines will vary depending on the beneficiaries they serve. All covered services offered by the CCO will be established through the procurement process. Oklahoma plans to include as many services within the capitated rate as possible achieve the largest return on investment and population health improvement.

Below are the high-level services Oklahoma intends on eventually including within the CCO. Limitations currently in place for EGID and Medicaid members, including cost sharing, caps on total services, etc., will remain.

**Table 25: Covered Services**

| Services | Medicaid | Public Employees |
|---|---|---|
| **Inpatient hospital** | X | X |
| **Primary Care and Outpatient services** | X | X |
| **Pharmacy** | X | X |
| **Institutional Long Term Care (both nursing facility and ICF/IID)** | X | N/A |
| **Personal Care** | X | N/A |
| **HCBS Home and Community Based Services** | X | N/A |
| **Inpatient Behavioral Health Services** | X | X |
| **Outpatient Behavioral Health Services** | X | X |
| **Dental** | X | Separate |
| **Non-Emergency Medical Transportation** | X | N/A |
| **Durable Medical Equipment (DME)** | X | X |

### Flexible Services

In addition to traditional healthcare covered services, Oklahoma is also looking to provide CCOs with innovative ways to provide care that address social determinants of health. The CCOs will also be required to include alternative non-State Plan services (i.e., flexible services) for Medicaid beneficiaries. The State will also consider how flexible services could be provided for state employees at a 100 percent cost to the State. Since CCOs are to include community resources and stakeholders within their governance, it is anticipated that CCOs may enter into financial agreements or memorandums of understanding with community organizations for use of flexible services that improve the beneficiaries' health. Services must be both medically necessary and consistent with the member's treatment plan among other requirements. However, the State is exploring investing in resources that impact health outcomes by reallocating dollars normally used for direct healthcare services to flexible services because they may have a more effective impact in improving health and reducing costs. Particular to improving population health, Oklahoma anticipates that its Health and Human Services agencies, local and state-wide non-profits, and other community-led initiatives can optimize value-based care and provide the greatest degree of return on investment by coordinating with the CCOs or entering into contractual relationships to provide flexible services.

### Contracting

The State Governing Body will form a detailed request for procurement to solicit vendors for the regions, pursuant with Oklahoma law. The RFP requirements to become certified as a CCO will include requirements discussed here, as well as those that are established through further model development with

stakeholders and negotiations with CMS. Once the vendors have been selected, this State Governing Body will be tasked with enforcing and managing those contracts to ensure all cost and quality targets are being met.

### Encouraging Participation in the CCOs

To ensure that there is adequate participation from CCOs and to meet federal and state legal and regulatory requirements, the State will employ necessary actuarial tools and analysis to determine actuarially sound capitation amounts for attributed beneficiaries. Additionally, the State will establish accountability mechanisms, learning collaborations, and stakeholder feedback to help CCOs remain sustainable and viable. This design will support the CCOs' maturation progression so that they can achieve success in supporting health outcomes while also experiencing financial incentives to keep their interest in serving these populations. Initial responses from the HB 1566 Request for Information process for a "care coordination model for the ABD population", in which 22 submissions were received, are encouraging. The State will leverage the current interest in coordinated care for this population as it moves toward enrolling the majority of Medicaid beneficiaries and state employees in the CCOs.

## QUALITY MEASURES

One of the focuses of Oklahoma SIM project is to implement quality and population-based health measures that reward value over volume and to align them across payment models and payers. The Oklahoma SIM project has incorporated OHIP's flagship goals of obesity, tobacco use, diabetes, hypertension, and behavioral health within the SHSIP and model design to ensure consistent goals are used across health transformation efforts. The Oklahoma SIM flagship issues will be used as the basis for many quality measures used to align payers and assess the CCOs. Another key goal of the Oklahoma SIM project is to develop extensive monitoring tools and quality metrics to assess the effectiveness of Oklahoma's healthcare delivery system.

Oklahoma understands the need to drive improvement through an active commitment to data collection and analyses. Through the HIT Plan, many of the data collection and analysis of CCOs will be further described. The project team considered multiple quality measures and data sources that could be used to evaluate the effectiveness of any model proposed through the Oklahoma SIM project. The proposed measure sets were developed using many data points such as OHIP 2020, extensive research related to quality measures used in value-based models, stakeholder feedback, alignment with other state and national initiatives, the measures link to clinical outcomes, and national quality accreditation.

### CCO Required Evaluation Metrics

The Oklahoma SIM project team has determined that two sets of quality measures are needed to support the State's healthcare transformation efforts. The first set of quality measures will be used to evaluate the performance of the CCOs. To achieve this, CCOs will be required to report on a number of different quality measures as mandated in their contract and to meet quality targets to be paid all or a portion of their withheld capitation payment.

#### *CCO Required Evaluation Metrics*

- Metrics used by the state to evaluate the regional CCO entities
- Population-level and process metrics to measure overall population health and quality of care delivered

- Metrics to ensure patient access and patient satisfaction of care

***CCO Optional Bonus Evaluation Metrics***

- Metrics used by the state to evaluate if the CCO is eligible to receive incentive money from the community quality pool
- Mix of population-level and patient-level metrics

The following sections detail each metrics set.

As shown in Table 26, CCOs will also be accountable for reporting on a set of metrics that are meant to gauge health outcomes against specific targets and benchmarks. Specific timeframes and reporting requirements have not been proposed for the SHSIP. However, prior the implementation of the CCO model, the State Governing Board will include metrics and targets in the CCO contract, including how the CCO will be required to fulfill these obligations, as well as the reporting, evaluation and payment timeframes,

These measures are related to the Oklahoma SIM flagship issues or were developed to ensure quality access to care and monitor population health. They are aligned to the OHIP 2020 goals. With the goal of addressing disparities and poor outcomes within populations, these measures will be used to assess how well the CCOs coordinate and manage the care of the individuals attributed to it. Although the Oklahoma SIM project team hopes to include all the quality measures in the table below for both state employees and Medicaid, adjustments to the measures or benchmarks across beneficiary type and region may be made during the planning phase to account for normal variations found within all of state-purchased healthcare. Targets may also vary across the two populations.

**Multi-Payer Quality Measure Alignment**

Multi-payer involvement is an integral component of the Oklahoma SIM. Alignment across a subset of quality metrics is a foundational first step toward healthcare transformation, as it streamlines provider efforts and allows for better aggregate data collection and analysis. Fostering multi-payer alignment on quality metrics will be an ongoing process of committee discussions. The Oklahoma SIM project has taken the first step of composing an inventory of metrics and reached an agreement, in principle, to align these measures across the carriers participating in the Oklahoma Model. These metrics are a distinct subset of all the metrics that will be incorporated into the CCO organizations. They will include measures across a wider range of chronic and high costs conditions, as well as system and population level evaluations. The first 11 proposed measures for multi-payer alignment are in Table 26 and are identified with an asterisk mark (*).

**Table 26: Proposed CCO Required Evaluation Metrics**

| Measure Name | NQF Measure Number | Oklahoma SIM Flagship Issue/Key Health Indicator |
|---|---|---|
| **Preventive Care and Screening: Tobacco Use: Screening & Cessation Intervention*** | 0028 | Tobacco |
| **Comprehensive Diabetes Management/Diabetes Poor Control*** | 0059 | Diabetes |
| **Diabetes Screening for People with Schizophrenia or Bipolar Disorder who are Using Antipsychotic** | 1932 | Diabetes |

| | | |
|---|---|---|
| **Medications*** | | |
| **Abnormal Blood Glucose and Type 2 Diabetes: Screening - Adults Aged 40 to 70 Years who are Overweight or Obese*** | USPTF | Diabetes |
| **Controlling High Blood Pressure*** | 0018 | Hypertension |
| **Preventive Care and Screening: Body Mass Index (BMI) Screening & Follow-Up*** | 0421 | Obesity |
| **Weight Assessment and Counseling for Nutrition and Physical Activity for Children/Adolescents*** | 0024 | Obesity |
| **Anti-Depressant Medication Management a) Optimal Practitioner Contacts For Medication Management b) Effective Acute Phase Treatment c) Effective Continuation Phase Treatment*** | 0105 | Behavioral Health/Medication Adherence |
| **Depression Screening*** | 0418 | Behavioral Health |
| **Initiation And Engagement of Alcohol And Other Drug Dependence Treatment a) Initiation b) Engagement*** | 0004 | Behavioral Health |
| **Follow Up After Hospitalization (within 30 days) (BH-related primary diagnosis)*** | 0576 | Behavioral Health/ Readmissions |
| **Ambulatory Care: Emergency Department Utilization** | HEDIS | Emergency Room Utilization |
| **PQI 05: Chronic Obstructive Pulmonary Disease Admission** | 0275 | Tobacco Use |
| **PQI 08: Congestive Heart Failure Admission Rate** | 0277 | Heart Failure |
| **PQI 01: Diabetes, Short Term Complication Admission Rate** | 0272 | Diabetes |
| **PQI 15: Adult Asthma Admission Rate** | 0283 | Tobacco Use |
| **CAHPS Composite: Satisfaction With Care** | CAHPS | Patient Satisfaction |
| **Developmental Screening In The First 36 Months Of Life** | 1448 | Children's Health |
| **Prenatal And Postpartum Care: Timeliness Of Prenatal Care** | 1517 | Children's Health |
| **% Of primary care practices co-located with a behavioral health provider** | X | Behavioral Health |
| **% Of primary care practices in network with expanded hours (after 5 weekends)** | X | Access to Care |
| **% Of primary care practices in network with 24 hour availability** | X | Access to Care |
| **% Of population who have an assigned risk** | X | X |

| | | |
|---|---|---|
| **score/stratification** | | |
| **% Of population assigned to a care coordinator with an elevated risk score** | X | Care Coordination |
| **% Of network with HIE access** | X | HIT Interoperability |
| **Electronic resource guide available to care coordinator/staff** | X | Care Coordination |
| **% Of population who screened yes to being a current tobacco user under 18 years of age** | X | Tobacco |
| **% Of population who screened yes to being a current tobacco user 18 years of age and older** | X | Tobacco |
| **% Of population with a current BMI over 25 who are under 18 years of age** | X | Obesity |
| **% Of population with current BMI over 25 who are 18 years of age and older** | X | Obesity |
| **% Of population diagnosed with diabetes (type I and II) under 18 years of age** | X | Diabetes |
| **% Of population diagnosed with diabetes (type I and II) 18 years of age and older** | X | Obesity |
| **% Of population diagnosed with hypertension under 18 years of age** | X | Hypertension |
| **% Of population diagnosed with hypertension 18 years of age and older** | X | Hypertension |
| **% Of population with a positive screening for depression under 18 years of age** | X | Behavioral Health |
| **% Of population with a positive screening for depression 18 years of age and older** | X | Behavioral Health |
| **Infant Mortality Rate** | X | Children's Health |
| **Deaths Due to Heart Disease** | X | Hypertension |
| **Suicide Deaths** | X | Behavioral Health |
| **Diabetes Deaths** | X | Diabetes |

**CCO-Optional Bonus Payment Metrics**

The Community Quality Incentive pool will be used as an incentive payment based on the CCO meeting additional quality metrics. The CCO must choose at least 7 additional quality metrics to report on and meet minimum thresholds to be eligible for the Community Quality Incentive pool payment. The proposed measures that may be chosen as bonus reporting measures are in the table below.

**Table 27: CCO Optional Bonus Payment Metrics**

| Measure Name | NQF Measure Number | Oklahoma SIM Flagship Issue/Key Health Indicator |
|---|---|---|
| **Cervical Cancer Screening** | 0032 | Cancer |
| **Colorectal Cancer Screening** | 0034 | Cancer |
| **Influenza Immunization (6months and older)** | 0041 | Immunization |
| **Influenza Immunization (50 and older)** | 0039 | Immunization |
| **Breast Cancer** | 0031 | Cancer |
| **Childhood Immunization Status** | 0038 | Children's Health |
| **Well-Child Visits: Well-Child Visits in Third, Fourth, Fifth, and Sixth Years of Life** | 1516 | Children's Health |
| **Plan All-Cause Readmission** | 1768 | Readmission |
| **Dental Sealants On Permanent Molars For Children** | X | Children's Health |
| **Effective Contraceptive Use Among Women At Risk Of Unintended Pregnancy** | X | Pregnancy |
| **Chronic Stable Coronary Artery Disease: Lipid Control** | 0074 | Heart Failure |
| **Adherence to Statins** | 0569 | Heart Failure |
| **Proportion of Days Covered (PDC): 3 Rates by Therapeutic Category (Renin Angiotensin System Antagonists, Diabetes Medication, Statins)** | 0541 | Heart Failure, Diabetes |
| **Screening, Brief Intervention, and Referral to Treatment (SBIRT)** | SBIRT | Behavioral Health |
| **Cholesterol abnormalities screening: men – 35+, women 45+** | USPTF | Heart Failure |

**Oklahoma Quality Metrics Committee**

The sets of quality measures discussed here will be the early work and guidance to a new committee that is being proposed, the Oklahoma Quality Measure Committee. This committee will be part of the State Governing Body and responsible for proposing quality metrics that the CCOs and participating payers will require to be reported and how to benchmark and set targets for individual CCOs taking into account regional considerations. Members of this committee would be:

- Six providers from different practice settings and populations

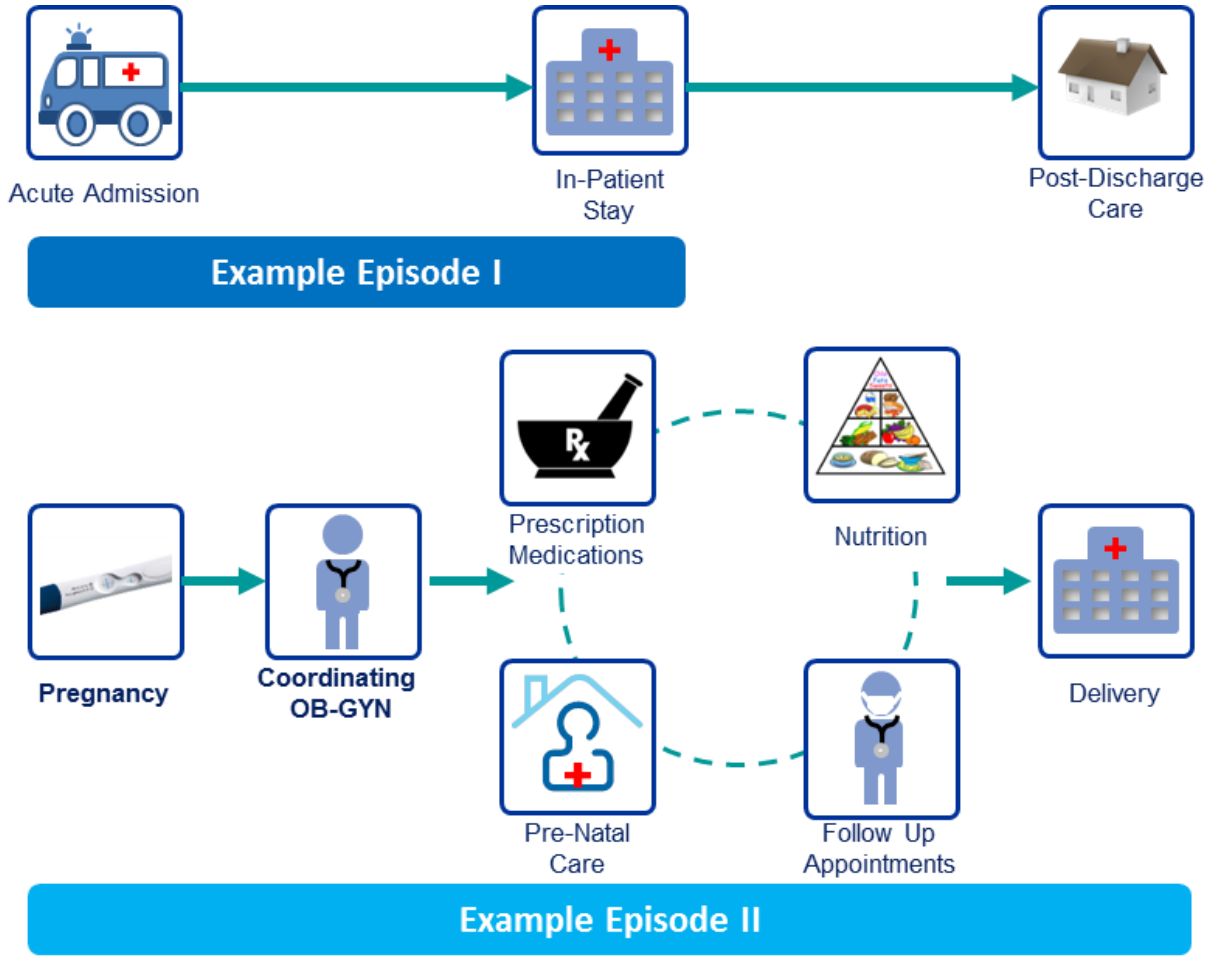
E.g., MD, DO, Pharm.D., Nurse, PA, Behavioral Health Specialist

- Two quality measure specialists, consultants, or experts
- One HIT/data reporting specialist
- One public health specialist
- One patient advocate
- One practice transformation consultant

**EPISODES OF CARE**

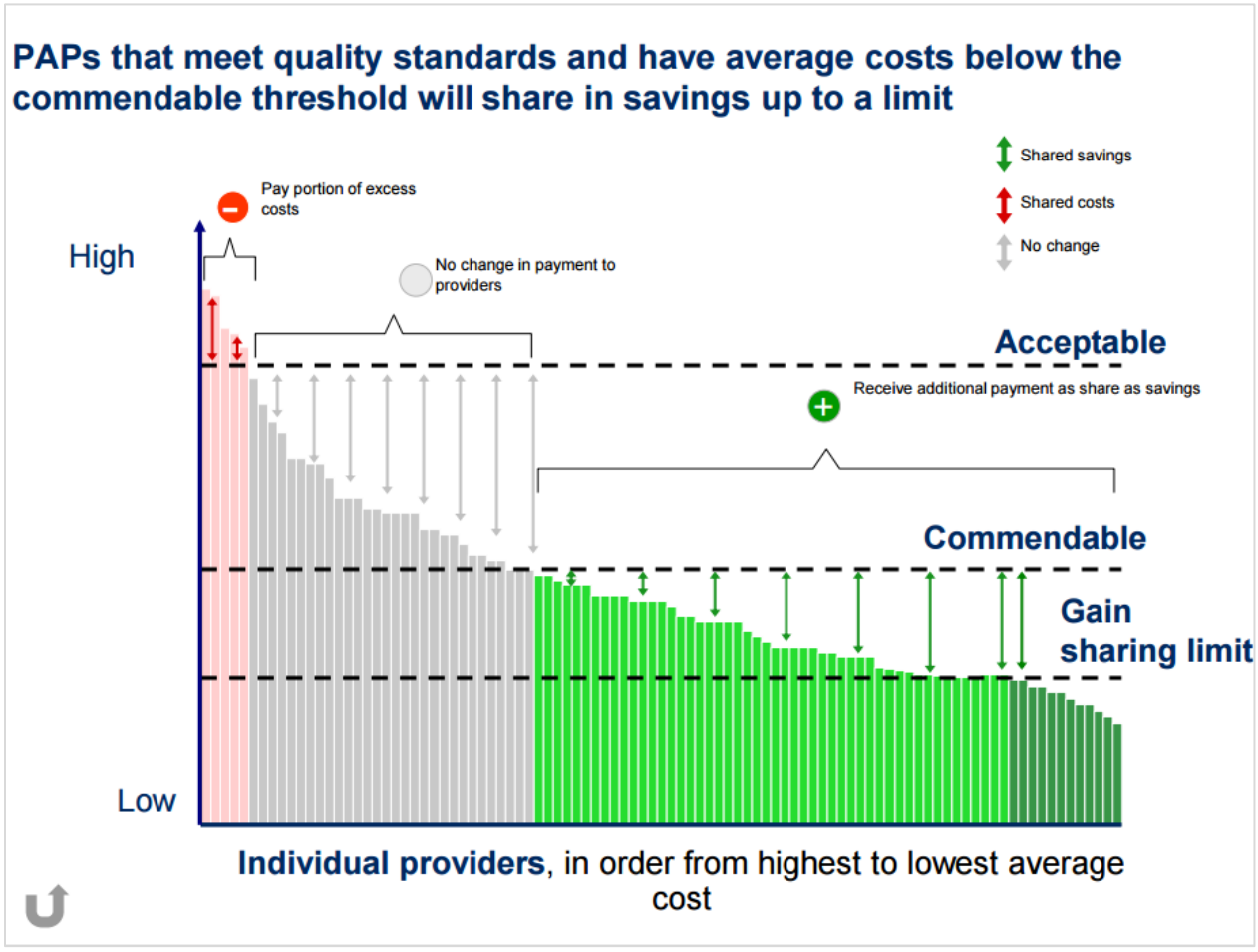
Episodes of Care (EOC) is a payment model in which related services that are provided to treat a specific condition over a specific period of time and are grouped into "episodes". The episodes can include acute, chronic, and behavioral health conditions and vary in length depending on the condition. The purpose of EOC as an alternative payment arrangement is to encourage provider collaboration, patient coordination, and service efficiency across various care delivery settings. By establishing clear accountability for both outcomes and the total cost of care for an episode, this model rewards high performing providers and reduces variance in cost and quality.

**Figure 34: Episode of Care Example**




The model requires that a Principle Accountable Provider (PAP) be designated as the provider responsible for quality outcomes and the total cost of care for a given episode over a given time. Factors for determining an episode of care include agreeing to an episode's time frame and triggering event, the services included within the episode, and situations or conditions that exclude some patients from being included in the episode. Patients who match the episode's criteria will be attributed to the episode, and PAPs will be evaluated on their performance for *all* patients attributed that episode. "Acceptable" and "commendable" cost benchmarks will be established for the episode, and quality measures are also used to ensure against the rationing of care. The PAP and all associated providers will be paid on a fee-for services basis and then evaluated retrospectively against those acceptable and commendable benchmarks. PAPs with costs below the commendable level for an episode can share in savings. Conversely, PAPs with costs above the acceptable level receive penalties. To be eligible for any savings, the PAP must also meet the quality measures set out for the episode.

**Figure 35: Episode of Care Payment Design**




The Oklahoma SIM project team proposes to introduce multi-payer EOC within both Medicaid and state-employee healthcare coverage offered through HealthChoice. Because EOC have modular features that could work in other private insurance, the Oklahoma SIM project team will work with its Oklahoma SIM participating carriers to have them incorporate EOC within their payment methodologies. EOCs are being proposed as a way to allow providers to become more familiar APAs and as a starting place for them to begin their journey along the continuum of value based payments. The more payers that participate with EOC will help to realize larger returns from the synergy created by aligning payment methodologies around distinct processes and situations.

**Episode Development and Methodology**

Implementing Episodes of Care in Oklahoma will require strategic planning to align currently disparate systems. Internal system changes and administrative functions will need to be addressed by both OHCA and EGID to operationalize EOC within state purchased healthcare. The State, though, recognizes the need to develop reporting tools, such as provider and CCO dashboards with timely episodic performance indicators, and a thorough evaluation process to assure providers they can self-monitor and redirect efforts midstream if they are failing to meet quality measures or cost benchmarks. By developing these types of tools, the State can engender trust and transparency with stakeholders who will be a part of this model. Private payers who wish to participate in EOC will also require internal operational reviews to

ensure EOCs can be implemented effectively and provider performance reporting can be done a timely and accurate manner.

EOC will also have to include numerous provisions to help expedite its implementation and effectiveness. Importantly, EOC requires a number of potential payment mechanisms to ensure participating providers are evaluated fairly and accurately. Numerous payment adjustments, including patient, provider, and regional adjustments and stop-loss provisions, will have to be included for the model to be equitable and sustainable. As well, by using the existing fee-for-service payment system instead of grouping services together into one bundled payment, PAPs will not have to enter into new fiduciary relationships with other providers to disseminate the payment components of the bundled payment. The retrospective methodology for evaluation will also limit the number of system enhancements the state will have to develop to reimburse providers, thereby potentially limiting cash flow disruption for providers.

***Episodes of Care Task Force***

Since the goal of EOC is to address fragmented care and cost and quality variance, provider feedback and expertise will be needed to develop the episodes in a feasible way. Mirroring the work of other states that have implemented EOC, Oklahoma will create an EOC Task Force (Task Force) for each of the episodes proposed in the SHSIP to ensure ongoing stakeholder participation for the episode's design. The Task Force will work collaboratively to institute best practices and guidelines for developing and implementing the EOC. Furthermore, based on previous feedback and research from other states that have used EOC, the State understands that episodes are not static and need ongoing evaluation. Technology and best practices can change over time, affecting the model's ability to reduce costs or improve care. Episodes must be recalibrated and reviewed annually to ensure they still effectively reduce costs and improve quality of care. The Task Force will be a vital resource for the state to use to make EOC sustainable in Oklahoma. Proposed members of the overarching taskforce are:

- A representative from each participating payer
- Provider representatives relevant to each episode of care (PAP)
- A data reporting specialist
- A patient advocate
- The Oklahoma Insurance Department

For each individual episode, the Task Force will, like the Oklahoma SIM workgroups, assign chairpersons and project managers that will be responsible for building consensus and developing the parameters for the episode. Once the episode's criteria are set, the Task Force will continue to meet to address implementation issues, recalibrate cost benchmarks or quality measures, and provide consultation to practitioners participating in the model. Working with both OHCA and EGID, the Task Force can also help evaluate the efficacy of each episode. From the outset, the Task Force will address such episodic issues as:

***Designating the PAP***

Each episode requires an engaged and informed provider who can best influence the quality and cost of the overall outcome of the episode. The type of PAP will likely vary based on the episode or based on guidance provided by the Task Force. While the PAP may not have to direct financial or managerial control over other providers that participate in the episode, the PAP will, however, be responsible for communicating and coordinating with other providers to improve the overall outcome of the episode.

Episode designated PAPs should be similar across payers but may vary some between state-purchased and private insurance based on the payer's network and accreditation process.

***Setting the Episode's Time Frame and Triggering Event***

Each episode has a triggering event that attributes the patient to the model and begins the episode. Following a triggering event, a time period is set in which the PAP is accountable for the related costs and quality of the care provided to that patient. While the triggering event and time period vary based on the episode type, the Task Force can use EOC models developed by other states to help guide the optimal triggering event and time period for the episode.

***Grouping Services by Episode***

Since each episode is a series of related services grouped together to treat one condition, the services included or excluded from the episode must be set out in advance to help providers coordinate optimal and efficient patient care. Using data provided by the OHCA and EGID, the Task Force must determine the services that should ideally be included within an episode following a triggering event. Other states have already developed this type of intricate detail necessary for Oklahoma SIM's proposed episodes. However, further analysis and collaboration is necessary to ensure the services included in the episode meet the need of Oklahoma's Medicaid and state employee population. The Task Force will be responsible for fine-tuning the various episodic algorithms to assure they are representative of Oklahoma.

***Episodic Risk and Gain Sharing***

The cost thresholds for each episode must be established to incent providers to delivery efficient care to patients and avoid unnecessary costs due to a lack of care coordination. While OHCA and EGID will set out benchmarks for commendable and acceptable cost levels for provider risk and gain sharing, both agencies must ensure those benchmarks are developed transparently to help the provider understand their role in reducing unnecessary costs. By providing an avenue for providers to give input into the development of risk and gain sharing levels through the Task Force, the State can potentially avoid burdening providers with unfeasible benchmarks while still reducing overall cost.

Gain and risk sharing will likely be different for private carriers than for state-purchased healthcare because of differences in reimbursement rates, networks, cost sharing, or other proprietary information related to cost. Each payer will need to establish benchmarks for acceptable and commendable levels based on its historic cost data for the episode. The percentage of gain sharing may also be different between each and payer and the PAP. The Task Force may act in advisory role for carrier-specific payment issues.

***Quality Measures***

Although reducing costs is a goal of EOC, the State must assure patients that they will still have equitable and timely access to the necessary services related to their condition. Through the introduction of quality metrics that measure patient access, screenings, and follow-up care for the episode, the Task Force can create quality measures that help reduce state healthcare expenditures while still providing high quality care for state employees and Medicaid beneficiaries.

***Provider Information***

Ideally, EOC requires providers to be highly engaged in the care of their patients as they move across care settings and providers. This level of coordination requires a large commitment from the State to disseminate timely information to the PAPs and other participating providers to help them better evaluate their performance and monitor patient activity. This commitment will include using the Task Force to

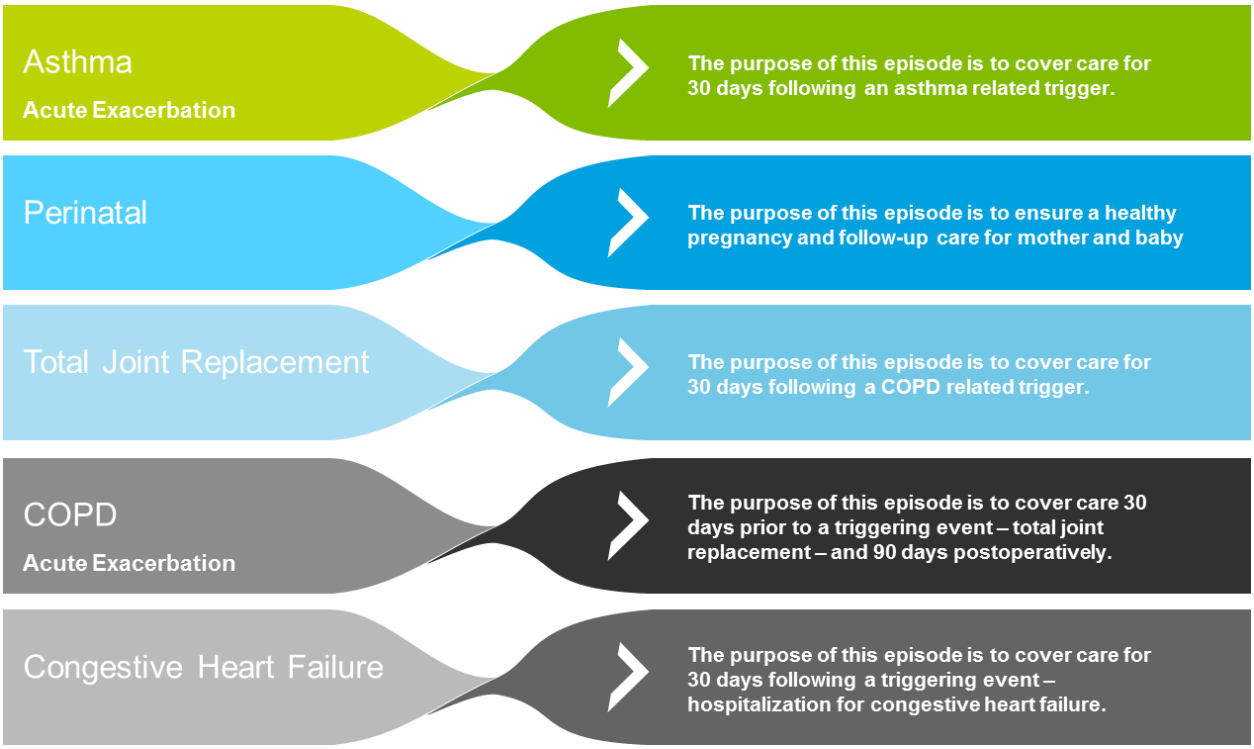
develop provider performance reports, alerts or notifications about recent patient activities, and best or evidence-based practices for treating the episode. Since the Task Force will include frontline providers and administrators who are intimately involved with the design and evaluation of the episode, this group can provide ongoing technical assistance and support to providers that may initially struggle to adapt to this payment model. Where possible, the State will work with private carriers participating in the model to determine the most efficient way to utilize interoperable HIT so providers can access performance reports for all payers in one centralized location.

By using the Task Force, the Oklahoma SIM project team will use technical assistance from CMS and other states to help with the design of each episode.

**Proposed Episodes**

Using previous research by other states that have implemented EOC, Oklahoma has proposed the following EOC that best align, where possible, with the Oklahoma SIM flagship issues. The Oklahoma SIM project team also considered other factors, such as high cost or high variance services from the Oklahoma SIM High Cost Services Report, in the choosing of the proposed episodes. The State will look to garner support from private payers to adopt the EOC to engender further payment alignment across Oklahoma's insurance market. A further justification and detail of the proposed episodes are provided below, and examples of the episode's criteria are included in Appendix C.

**Figure 36: Proposed Episodes of Care**




***Asthma, acute exacerbation***

Asthma exacerbation is more commonly known as an asthma attack and occurs when a person's airways become swollen and inflamed, the muscles in the airway contract, and breathing becomes difficult.[1] Although asthma is considered a chronic disease, an asthma episode occurs when a patient is treated in a

healthcare setting for the acute exacerbation of their chronic condition. For providers, an asthma episode allows for opportunities to improve the quality and cost of care by preventing emergency department visits and hospital admissions, assuring medication adherence by the patient and family members/care givers, and providing appropriate discharge instructions for proper follow-up care.

Asthma is a costly condition for the state of Oklahoma as it is one of the post prevalent conditions among members of both the Medicaid and EGID populations. The 2014 State of the State's Health Report indicates that 292,000 adults and 123,100 children in the state had asthma.[2] In 2012, Medicaid paid more than $23 million[3] on asthma related hospital stays, and in 2013 EGID spent almost $19 million for asthma related claims.[4] Asthma is often associated with smoking and exposure to secondhand smoke, so the inclusion of the EOC correlates with the Oklahoma SIM flagship issue of tobacco use reduction.

- Principal Accountable Provider**:** The PAP for an asthma acute exacerbation episode is typically the initial facility or hospital emergency department where the triggering event is diagnosed.

- Triggering Event and Episode Period**:** The episode is triggered by an asthma acute exacerbation diagnosis in a healthcare setting, typically an emergency department or inpatient facility, and covers 30 days following the trigger.

- Example of Services Included in an Episode**:** Services that may be included in the episode are: physician visits, medication, labs and diagnostics, care coordination, hospital readmissions, and post-acute care.

- Episode Quality Measures**:** Quality measures for the episode can include hospital readmissions, tobacco cessation counseling, and medication management.

***Perinatal***

Perinatal refers to the period immediately before and after a woman gives birth to a child. To be included as an episode of care, the pregnancy is typically low to medium-risk. The aim of a perinatal episode is to ensure a healthy pregnancy and follow-up care for mother and baby.

In Oklahoma, Medicaid paid for approximately 60% of all births in the state, and covered 31,000 births in state fiscal year 2015. The average costs for the 21,875 deliveries without complications was $2,106 and $3,203 for 6,459 deliveries with complications.[5]

- Principal Accountable Provider**:** The PAP for a perinatal episode is typically the physician or nurse midwife who performed the delivery.

- Triggering Event and Episode Period**:** The perinatal episode is triggered by a live birth and covers 40 weeks prior to delivery and 60 days after delivery.

- Example of Services Included in an Episode**:** Services typically included in this EOC are prenatal care, labs, ultrasounds, medication, labor and delivery, and postpartum care.

- Episode Quality Measures**:** Quality measures include rates of prenatal screenings for HIV, chlamydia, and Group B strep, rates of C-section deliveries, and gestational diabetes.

***Chronic Obstructive Pulmonary Disease (COPD), acute exacerbation***

COPD can describe a serious of lung diseases including emphysema, chronic bronchitis, refractory asthma, and some forms of bronchiectasis. An acute exacerbation of COPD is described as a flare-up of the disease where breathing worsens and is often linked to an infection.[6]

In Oklahoma, lower respiratory disease was the third leading cause of death in 2013, and Oklahoma has one of the highest death rates for these conditions in the nation.[2] Complications of COPD can cause high rates of preventable hospital admissions, and in 2012 there were 1,567 COPD-related hospital readmissions, accounting for 3.5 percent of all 30-day hospital readmissions.[3] For the EGID, COPD was among the top ten conditions for most claims paid in 2013.[4]

- Principal Accountable Provider**:** The PAP for a COPD acute exacerbation episode is typically the facility where and emergency department visit or inpatient admission took place.

- Triggering Event and Episode Period**:** The triggering event for a COPD episode is the diagnosis of an acute exacerbation for COPD in an emergency department or inpatient facility. They episode period is typically 30 days following the triggering event.

- Example of Services Included in an Episode**:** Services that may be included in this EOC are physician visits, medications, care coordination, hospital readmissions, and post-acute care.

- Episode Quality Measures**:** Quality measures for COPD episodes may include hospital readmissions, tobacco cessation counseling, and providing appropriate follow-up care.

***Total Joint Replacement***

A total joint replacement (TJR) covers the elective replacement of the hip or knee joint. A joint replacement is a surgical procedure where parts of a damaged joint are removed and replaced with an artificial joint, or prosthesis.[7] The aim of a TJR episode is to reduce duplication of services and costs through better care coordination.

- Principal Accountable Provider**:** For a joint replacement EOC, the PAP is most often the surgeon who performs the joint replacement procedure.

- Triggering Event and Episode Period**:** The triggering event for a joint replacement EOC is the actual joint replacement surgery and the episode typically includes 30 days prior to surgery and 90 days post-operatively.

- Example of Services Included in an Episode**:** For a joint replacement EOC, services typically included are all orthopedic-related costs during the episode time period.

- Episode Quality Measures**:** Quality metrics for this episode can include 30-day readmissions, fracture rates, infection rates, dislocations, and blood transfusions.

***Congestive Heart Failure***

Congestive Heart Failure (CHF) occurs when the heart muscle does not pump blood properly due to narrowed arteries or high blood pressure, which can gradually leave the heart too week or stiff to work efficiently.[8] In Oklahoma, heart disease accounted for one in four deaths in 2012 and was the leading cause of death in the state.[2] For just the EGID population, heart failure accounted for 19 percent of total claims paid in 2013.[4] Heart failure and heart disease are also correlated with several of the flagship health issues identified in the SHSIP including tobacco use, obesity, and hypertension. The goal of a CHF episode of care is to improve care coordination for patients in order to reduce costs, especially though preventable hospital readmissions.

- Principal Accountable Provider**:** The PAP for a heart failure episode of care is typically the hospital with the initial inpatient admission.

- Triggering Event and Episode Period**:** An episode of care for heart failure is triggered by a hospital admission for congestive heart failure and lasts for 30 days after admission.

- Example Services Included in an Episode**:** Facility services, inpatient services, emergency department visits, observation, post-acute care, and outpatient services like labs, diagnostics, and medication are covered under this episode.

- Episode Quality Measures**:** Providers responsible for CHF episodes report on measures related to medication management, ACE-inhibitor or Angiotension Receptor Blockers (ARB) therapy, and hospital re-admissions.

## CONCLUSION

(This section of the SHSIP will be updated at a future date.)


Health System Design and Performance Objectives
Value-Based Payment and Service Delivery Plan
Healthcare Delivery System Transformation Plan
Health Information Technology Plan
Workforce Development Strategy
Financial Analysis
Monitoring and Evaluation Plan
Operational And Sustainability Plan
State Healthcare Environment
Stakeholder Engagement Report
Population Health Improvement Plan
OKLAHOMA STATE HEALTH SYSTEM INNOVATION PLAN

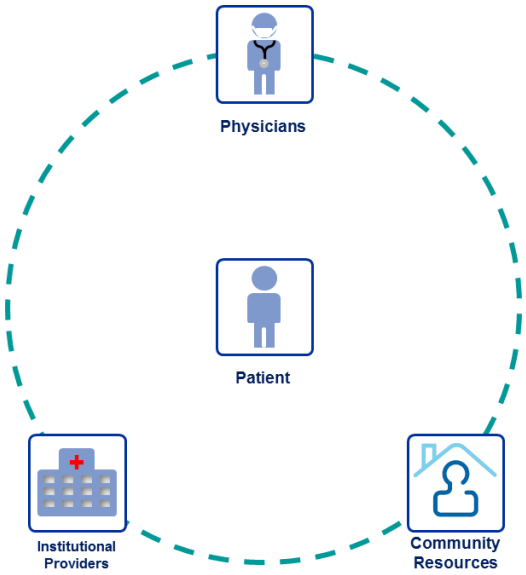
# F. Plan for Healthcare Delivery System Transformation

## INTRODUCTION

As mentioned in previous sections of the State Health System Innovation Plan (SHSIP), the goal of the Oklahoma State Innovation Model (SIM) project is to transform the state's healthcare payment and delivery system from a fee-for-service payment system to value-based payment system that emphasizes primary prevention strategies. Undergoing a carefully planned and executed transformation plan and successfully engaging patients, providers, and payers is essential to achieving this goal. The Oklahoma SIM project will use a phased implementation process that will enable patients, providers, and payers to have adequate time to adapt to each aspect of this healthcare system transformation.

The Oklahoma SIM project targets three primary stakeholder groups: physicians, institutional providers, and community resources. Figure 37, below, demonstrates how these stakeholder groups will be interconnected for patient care delivery under the new Oklahoma Model.

**Figure 37: Communities of Care Organization Network**




Within each phase of the transformation process, these stakeholder groups will be required to make a series of adaptations that incrementally move the state's healthcare system from the current fee-for-service model to a value-based model. As these changes represent a fundamental shift in delivering and paying for care, the Oklahoma SIM project is preparing to provide ample guidance and resources to ensure that stakeholders can meet the demands of this transformation. Many of the resources that the project will leverage are pre-existing entities within the state that have established capabilities and

relationships across the healthcare system. The Oklahoma SIM project will work with these entities to ensure that they are prepared to meet the needs of stakeholder groups during each phase of this transformation process. The project will also help coordinate and streamline the efforts of these entities.

For this fundamental shift to value-based purchasing to be successful, many primary and acute care facilities will have to undergo significant reporting, process, workflow, and quality improvement adaptations. These adaptions are sometimes referred to as "practice transformation". Oklahoma has several practice transformation efforts already underway. This transformation plan will incorporate each of these efforts and propose a new entity to help drive healthcare system transformation across the state.

It will be imperative to have a multi-payer organizational structure to implement and maintain these transformation efforts. This multi-payer structure could look very similar to the current multi-payer field teams employed by the Comprehensive Primary Care (CPC) Initiative and the Healthcare Extension Cooperative employed by the Healthy Hearts for Oklahoma initiative, as described in Section B. Additionally, the Oklahoma SIM project can leverage the practice facilitators and practice transformation networks employed by the Oklahoma Healthcare Authority (OHCA). All of these entities, as well as the providers they have trained, are helping to build a well-prepared workforce aligned to the Oklahoma SIM objectives and strategies.

## PHASED APPROACH TO HEALTHCARE SYSTEM TRANSFORMATION

Below is an overview of the phases of this transformation process:

1. **Phase I: Establishing the Foundation for Value-Based Care**
    a. All Payer Quality Measure Alignment
    b. Interoperable Health Information Technology (HIT)
    c. Practice Transformation Center
2. **Phase II: Enhancing the Delivery System**
    a. Episodes of Care
3. **Phase III: Integrating Communities of Care Organizations (CCOs)**
    a. CCO Implementation
        i. Behavioral Health Integration
        ii. CCO Quality Metrics
        iii. Board of Accountable Providers
        iv. Community Advisory Board

### Phase I: Establishing the Foundation for Value-Based Care

The initial phase of this transformation process includes system-wide changes that are needed to establish a strong foundation for value-based care delivery within the state. Due to the fundamental nature of these adaptations, they affect most system stakeholders in similar ways.

Foremost among these fundamental aspects is multi-payer alignment on a core set of metrics for monitoring and evaluating care delivery within the state. Quality metrics alignment is critical to a value-based healthcare system because such a system must have a method to compare and evaluate performance across providers and payers. If different stakeholders track and evaluate success disparately, aggregate monitoring and evaluation are difficult, if not impossible. The Oklahoma SIM project team will convene a multi-stakeholder committee to drive consensus on a core set of quality metrics that are both applicable to Oklahoma and palatable to all parties, providers and payers expressly.

The following is the Oklahoma SIM resource allocation plan to support stakeholders through Phase I:

***All Payer Quality Measurement Alignment***

All Payer Quality Measure Alignment refers to aligning a core set of multi-payer quality metrics among participating payers to support improved health, better care, and lower costs.

**Table 28: Phase I – All Payer Quality Measure Alignment**

| Target Group | Needs | Resources |
|---|---|---|
| **Providers/Practices** | • Education and training on new core set of quality metrics<br>• Clear delineation between current state and new metrics (customized to practices)<br>• Explanation of long-term evaluation process evolution (i.e., monitor and report, upside risk sharing, full risk) | <u>Private/Public Payer Communication Channels</u><br>• As most payers will adopt the core metrics, they can leverage their current channels to communicate with providers to inform them of the metrics and their evaluation and incentives, as applicable<br><u>Practice Transformation Resources</u><br>• Practice transformation resources differ statewide but are available through many channels as described below. Some measures will align with the goals of the transformation initiative; this initiative can be leveraged to assist providers in meeting those metrics<br>• Practice Transformation Center can provide resources to assist providers in achieving quality metrics<br><u>Quality Metrics Committee</u><br>• The committee will be a place where providers can participate in the selection of measures, receive education on the measures selected, and give feedback |
| **Hospitals/Institutions** | • Education and training on new core set of quality metrics<br>• Clear delineation between current state and new metrics (customized to practices)<br>• Explanation of long-term evaluation process evolution (i.e., monitor and report, upside risk sharing, full risk) | <u>Private/Public Payer Communication Channels</u><br>• As most payers will adopt the core metrics, they can leverage their current channels to communicate with providers to inform them of the metrics and their evaluation and incentives, as applicable<br><u>Practice Transformation Resources</u><br>• Practice transformation resources differ statewide but are available through many channels as described below. Some measures will align with the goals of the transformation initiative; this initiative can be leveraged to assist providers in meeting those metrics<br>• Practice Transformation Center<br><u>Quality Metrics Committee</u><br>• The committee will be a place where hospitals and institutions can participate in the selection of |

| Target Group | Needs | Resources |
|---|---|---|
| | | measures, receive education on the measures selected, and give feedback |

***Interoperable HIT***

Interoperability HIT refers to creating a system of interoperability within the state that allows for providers and patients to have the most complete information with which to meet quality metrics with.

**Table 29: Phase I – Interoperable HIT**

| Target Group | Needs | Resources |
|---|---|---|
| **Providers/Practices** | • Information about how HIT interoperability can be used to improve patient health outcomes<br>• HIT implementation and best practices use training (e.g. user interface, clinical process integration) | Practice Transformation Resources<br>• Many of the practice transformation resources provide information and training regarding HIT technology, interoperability, and functionality |
| **Hospitals/Institutions** | • Information about how HIT interoperability can be used to improve patient health outcomes<br>• Emphasis on institutional data timing (e.g. hospitals push data monthly)<br>• HIT implementation and best practices use training (e.g. user interface, clinical process integration) | Practice Transformation Resources<br>• Many of the practice transformation resources provide information and training regarding HIT technology, interoperability, and functionality |

**Phase II: Enhancing the Delivery System**

Phase II of the transformation process will focus on moving providers along the continuum of value-based purchasing and supporting them through initial programs in which they begin to share risk. The first step along the continuum will be to pursue episodes of care (EOC). The following section describes how providers will be supported in this transformation phase.

***Episodes of Care***

The five EOCs being proposed are for asthma, perinatal care, total joint replacement, chronic obstructive pulmonary disease, and congestive heart failure. These episodes are described in detail in Section E.

**Table 30: Phase II – Episodes of Care**

| Target Group | Needs | Resources |
|---|---|---|
| **Providers/Practices** | • Understanding the components of the episodes of care (period, diagnosis, procedures, provider types)<br>• Training on reporting, billing, and reimbursement<br>• Training on best practices including utilization of data analytics<br>• Ready new and existing practice transformation resources to be able to educate on episodes of care. This could be multi-payer effort to support practice transformation around selected episodes. | <u>Commercial Payer Support</u><br>• Payer-specific field support<br><u>OHCA/EGID Support</u><br>• SoonerCare Practice Facilitators<br>• EGID Practice Facilitators<br>• Payer communication channels to direct education<br><u>EOC Committee</u><br>• Committee workgroups for each episode will be established. This will be a resource for providers to engage in the selection and criteria of the episodes and find education resources |
| **Hospitals/Institutions** | • Communication plan for rollout and timing of episode based payments to appropriate institutions<br>• Explanation of long-term evaluation process evolution (i.e. monitor and report, upside risk sharing, full risk)<br>• Ready new and existing practice transformation resources to be able to educate on episodes of care. This could be multi-payer effort to support practice transformation around selected episodes. | <u>Commercial Payer Support</u><br>• Payer-specific field support<br><u>OHCA/EGID Support</u><br>• SoonerCare Practice Facilitators<br>• EGID Practice Facilitators<br><u>EOC Committee</u><br>• Committee workgroups for each episode will be established. This will be a resource for hospitals and institutions to engage in the selection and criteria of the episodes and find education resources |

## Phase III: Integrating CCOs

Phase III of the transformation process will focus on moving healthcare delivery into the CCOs. This will be a longer transition process with sustained provider resources to ensure a smooth and continuous transformation.

### *CCO Implementation*

The CCOs will be implemented over a six-year process, as described in Section K.

**Table 31: Phase III – CCO Implementation**

| Target Group | Needs | Resources |
|---|---|---|
| **Providers/Practices** | • Education on roles and responsibilities within the CCO and how those differ from current practice | <u>Board of Accountable Providers</u><br>• Provide an outlet for providers to voice input to shape CCO and implementation process within region<br><u>Regional CCO</u><br>• Education and support for network of providers<br><u>Practice Transformation Center</u><br>• Disseminate best practices and provide technical assistance to providers |
| **Hospitals/Institutions** | • Education on the roles and responsibilities of the hospitals and institution within the CCO | <u>Board of Accountable Providers</u><br>• Provide an outlet for providers to voice input to shape CCO and implementation process within region<br><u>Regional CCO</u><br>• Education and support for network of providers<br><u>Practice Transformation Center</u><br>• Disseminate best practices and provide technical assistance to providers |
| **Community Organizations** | • Education on role and responsibility within the CCO | <u>Community Advisory Board</u><br>• Provide an outlet for the community to voice input to shape the CCO and implementation process<br><u>Regional CCO</u><br>• Will establish relationships as well as processes for integrating community resources into the CCO model specific to the region<br>• Distill and share best practices among community<br><u>Turning Point/CHIOs</u><br>• Provide ongoing support regarding interventions at the community level and engage community partners on a more local level |

## OKLAHOMA SIM TRANSFORMATION RESOURCE INVENTORY

To ensure the successful coordination of practice transformation efforts, the Oklahoma SIM project team has created an inventory of all major system stakeholder resources. The project team will ultimately align these resources to support different stakeholders at appropriate times during the process, depending on stakeholder needs during each phase and resource availability. Below is a description of the categories used in the inventory, available in Appendix C.

- Description: A brief summary of the mission, aim, and scope of the initiative / program
- Geography: A determination of whether the resource is regionally bound or has state-wide reach
- Stakeholder Reach: An assessment of which system stakeholders the resource can support
- Financial Affiliation: A determination of the source of funding for the resource
- Timing / Duration: An assessment of whether the resource is time bound

The Oklahoma SIM project team has identified resources that will facilitate the transformation of the delivery system. This list is not exhaustive and may continue to grow as additional resources and needs are identified. Currently, these resources are providing practice transformation resources across system stakeholders at varying levels. The Oklahoma SIM leadership will need to assess whether these resources or others are necessary to provide adequate resources when examined at a more granular level. Additionally, it is incumbent upon the Oklahoma SIM project team to maintain this resource inventory and to re-evaluate whether resources are under- or overleveraged and aligned correctly as the SHSIP Operational Plan (see Section K) evolves and unfolds.

### Private Payer Communication Channels

As a required part of their business model, private payers have established communication channels and relationships with providers within Oklahoma required for ongoing business relationships. As the Oklahoma Model is a multi-payer initiative, many payers will be participating in its various aspects. As multiple payers often have relationships with the same provider, some level of coordination will be required to minimize confusion and the burden on providers during the transition processes.

### SoonerCare Practice Facilitators

As described in Section B, the OHCA currently employs practice facilitators that are available to any SoonerCare provider. These facilitators are available to assist with any quality improvement initiative that the practice may desire to implement. The Health Management Program at OHCA is currently using Telligen within the practices to help create chronic disease registries and report quality metrics. The Oklahoma SIM project will incorporate these practice facilitators to achieve transformation across the state.

### Practice Transformation Networks

As described in Section B, CMS recently announced the Transforming Clinical Practice Initiative award to 29 participants that will serve as Practice Transformation Networks (PTNs). PTNs are peer-based learning networks designed to coach, mentor, and assist clinicians in developing core competencies specific to practice transformation. The Iowa Healthcare Collaborative received an award to implement a six-state PTN in Iowa, Nebraska, South Dakota, Oklahoma, Kansas, and Georgia. Telligen, an Iowa-based organization, will partner with the Iowa Healthcare Collaborative to serve as the centralized data vendor. Telligen will provide consulting support for program management, data analysis, and measures and serve as quality improvement advisers providing direct technical assistance to practices in all aspects, including HIT. Oklahoma will leverage its participation in the PTN as part of the Oklahoma SIM practice

transformation effort. The Oklahoma SIM project team has already had a call with senior leadership on this project. Telligen and their partners will enable Oklahoma practice transformation across the state.

**Turning Point**

As described in Section B, Turning Point works as an independent statewide consortium focused on policy issues aimed at improving Oklahoma's health[6] and has partnered with communities all across Oklahoma to work on local innovations to transform public health in Oklahoma. Under the Oklahoma Model, the State Governing Body and the CCO will need to build upon and potentially expand this effort in order to make the strides in practice transformation that will support the new CCO model.

**Healthy Hearts for Oklahoma (H2O)**

As described in Section B, H2O is a grant from the Agency for Healthcare Research and Quality that aims to determine if a healthcare extension cooperative can spread the use of evidence-based primary care. The grant runs from 2015 to 2019 and will work with hundreds of practices with 10 physicians or less. These practices will receive one-on-one quality improvement help from a practice facilitator related to attaining and maximizing electronic health records (EHRs), practice workflow, and assisting with the transition to value-based payments.

The Oklahoma SIM project team and H2O team have set up biweekly meetings to coordinate their efforts and share information. The Oklahoma Model will leverage the H2O initiative with practice transformation across the state to help enable smooth transitions to value-based purchasing. To this end, the Oklahoma SIM project team is looking to align quality measures across payers with the measures that H2O has identified. The Oklahoma SIM project team will work with H2O to implement processes that support the CCO design.

**The CPC Initiative Field Team**

As described in Section B, the CPC Initiative is a four-year demonstration project that aims to provide comprehensive primary care for Medicare beneficiaries. In Oklahoma, the initiative operates in the greater Tulsa area with participation from Blue Cross Blue Shield of Oklahoma, CommunityCare, OHCA, Medicare, and Medicaid. The program runs through December 2016. Through the initiative it became evident that, in addition to an enhanced per member per month payment (PMPM), the participating practices also needed transformation assistance. The payers convened a "field team" that would visit practices and assist with reporting and creating new processes that would enable success within the CPC Initiative. Each payer contributed full-time employees to the team. When working with providers, the field team members represented the initiative, not their individual payer organizations. The Oklahoma SIM project is looking to capitalize on these efforts by incorporating best practices of the initiative into the SIM transformation plan, utilizing the lessons learned about effectively working with the payers to sustain this effort within the CCO model.

**The Oklahoma Foundation for Medical Quality (OFMQ)**

OFMQ has been the Regional Extension Center in Oklahoma and is an independent not for profit organization. OFMQ's mission is to be an expert consultant in quality improvement within the community to advance and improve healthcare in Oklahoma. OFMQ offers many services, including: analytics, case review, health information technology, quality improvement, national quality measures, and provider education.

**OU Health Sciences Center, Oklahoma Shared Clinical and Translational Resources Center**

The University of Oklahoma Health Sciences Center, a partner of the Oklahoma SIM initiative, provides resources to support healthcare delivery system research, education, and community engagement. Of particular relevance to Oklahoma SIM practice transformation efforts are their community outreach efforts. The Oklahoma Health Sciences Center houses the Oklahoma Shared Clinical and Translational Resources Center (OSCTR), which leads community outreach efforts. OSCTR divides its community outreach efforts into two programs: the Oklahoma Primary Healthcare Extension program and Practice-Based Research Networks. Each program emphasizes the value and benefits of provider practice-based research for the participants and the healthcare system overall.

The Oklahoma Primary Healthcare Extension Program aims to improve the quality of primary healthcare available to Oklahomans, reduce the cost of care and health insurance premiums, and improve the health of the population through greater visibility and alignment of local health improvement initiatives. The program has a state hub, extension center, and county health improvement organization, which work together to connect the community to resources that improve the delivery and quality of care.

The Practice-Based Research Networks aim to improve the quality of healthcare services available to Oklahomans by developing and sharing resources and by conducting relevant practice-based research. There are three networks under the auspices of the OSCTR which focus separately on physicians, pharmacists, and child health.

**OSU Center for Health Systems Innovation**

The vision of the Center for Health Systems Innovation at Oklahoma State University (OSU) is to discover and implement market-based solutions for the transformation of health and health systems through creativity, innovation and entrepreneurship. This center has shown special attention to the rural health providers and is located in Tulsa. The center has been made possible by Cerner Chief Executive Officer and OSU alum Neal Patterson.

**Planned Resources**

***Practice Transformation Center***

The Oklahoma SIM will establish a Practice Transformation Center (PTC) to support provider education and ongoing transformation efforts.

The major responsibilities of the PTC will include:

Consolidating and endorsing best practices in healthcare transformation in Oklahoma

- Coordinating practice transformation initiatives across stakeholder groups to ensure consistency in education and awareness
- Developing and maintaining an inventory of support services and resources that providers can access to facilitate their successful execution of new payment models

The PTC could grow out of existing resources should one organization be willing to take on these tasks or start as a new initiative in the state. It is envisioned the practice transformation would be a multi-payer effort that supports all payers to move to value-based purchasing as well as the multi-payer quality metrics. It will then serve as a hub for disseminating this information to providers in Oklahoma and will help to advance all transformation phases lined out above. The PTC may also provide grant and on-site training and support for eligible practices to enhance their delivery of services. One of the primary aspects for initial consideration is whether this center should facilitate or oversee a licensure process for transformation activities, which is a question that its initial membership can address upon inception.

Deliberations on the practice transformation center are ongoing and will be a part of the Oklahoma SIM 2016 agenda.

### CCO Practice Transformation Initiatives

A critical aspect of the SHSIP is the integration of community resources into care delivery. As detailed in previous sections, the CCOs will operate independently and will be regionally-bound entities that assume responsibility for the total costs of care and outcomes for their patients. Due to the geographic and socio-economic differences between regions in Oklahoma, the CCOs will need to have discretion as it relates to the design and operation of their specific systems and incentives for quality care delivery and care coordination.

Regional variations mean that each CCO will have slightly different practice transformation goals, and as such, may require slightly different methods to foster these transformations. The Oklahoma SIM project team has determined that it is best to leave these decisions in the hands of the CCO organizations. The CCO RFP process will require that successful application submissions include a detailed description of their practice transformation goals and concrete plans to achieve them. Prospective CCO applicants will have access to the Oklahoma SIM resource inventory in order to gain a better understanding of the prospective channels that they could leverage to achieve their transformation goals. Negotiating the use of these channels, and any appropriate compensation for their use, will be the responsibility of the CCO. The implementation of CCOs in Oklahoma occupies the majority of Phase III. Practice transformation will play a significant role in CCOs. This places significant emphasis on the Oklahoma SIM CCO selection committee to engage with prospective applicants to ensure that their transformation goals and plans are thorough and achievable.

## CONCLUSION

The efforts to support payment and delivery system transformation will be an ongoing, evolving process. The Oklahoma SIM project team will continue to update the resource inventory and revise their allocation to ensure that all healthcare system stakeholders receive sufficient support to make the transition towards value-based healthcare. The project team will also ensure that health transformation efforts continue to receive the attention and funding required to engender their success. It will be imperative that providers are supported through the initial transformation process, as well as for the future iterations that will be necessary to sustain a high functioning healthcare system.


Health System Design and Performance Objectives
Value-Based Payment and Service Delivery Plan
Healthcare Delivery System Transformation Plan
Health Information Technology Plan
Workforce Development Strategy
Financial Analysis
Monitoring and Evaluation Plan
Operational And Sustainability Plan
State Healthcare Environment
Stakeholder Engagement Report
Population Health Improvement Plan
OKLAHOMA STATE HEALTH SYSTEM INNOVATION PLAN

# G. Plan for Improving Population Health

## INTRODUCTION

This section of the State Health System Innovation Plan (SHSIP) discusses how overall population health will be improved through current statewide health initiatives and the proposed Oklahoma Model. Certain aspects of population health differentiate it from the traditional clinical perspective. For example, improving population health outcomes involves addressing social determinants of health and not just clinical health needs.[133] This plan uses the Oklahoma Health Improvement Plan (OHIP), State of the State's Health Report, Population Health Needs Assessment, and Community Health Improvement Plans (CHIP) to examine statewide data and set a baseline and framework for population health improvement. This plan also outlines how the Oklahoma Model will incorporate current statewide initiatives or otherwise use best practices and lessons learned to promote the health of all Oklahomans. Other areas of the plan describe how community members will actively participate, provide direction, and make decisions regarding how community health initiatives will be determined and managed through the Communities of Care Organization (CCO). The goal of the Oklahoma State Innovation Model (SIM) project is to provide statewide solutions to Oklahoma's healthcare challenges. The Oklahoma SIM project will help drive vital improvements by integrating primary prevention strategies for the Oklahoma SIM population health flagship issues into the state healthcare delivery system.

## LEVERAGING STATE HEALTH REPORTS AND ASSESSMENTS

Several reports were used to establish the baseline population health status in Oklahoma, including:

- The State of the State's Health Report (SOS);
- The Oklahoma Health Improvement Plan (OHIP),
- The Population Health Needs Assessment (PHNA), and
- Community Health Improvement Plans (CHIPs).

The 2014 SOS provides data on the leading causes of death, disease rates, risk factors and behaviors, and socioeconomic factors. It also outlines outcomes by county, providing a snapshot of how each county's health compares to national health outcomes. The OHIP is a plan for improvement of the physical, social, and mental well-being of all Oklahomans.[134] Both the OHIP and SOS were used to select criteria for the Oklahoma SIM flagship issues of: tobacco use, diabetes, hypertension, obesity, and behavioral health. All five issues are also identified as OHIP flagship issues or otherwise as key health indicators leading to poor health outcomes. The PHNA, which identifies populations that experience adverse health outcomes and account for a large part of state healthcare costs, was used to pinpoint what disparities exist and what resources are needed to address those disparities. Data from various sources including the SOS and the OHIP 2020 were used to complete the PHNA, and it was written to help with the development of the Oklahoma SIM. The CHIPs, which identify community health issues and prepare a strategic plan of action, will be used to ensure that community health needs across the state are addressed in the most efficient and effective way. The poor health outcomes that were identified within each CHIP were used as a rationale for the selection of certain statewide quality metrics and population health targets for the Oklahoma Model and for regional health outcome improvement. The Description of the State Healthcare

Environment profiled the CHIPs for Beaver County, Oklahoma County, McCurtain County, and Tulsa County. Though some common health issues existed across the counties, each county had a unique set of population health issues due to factors such as rural versus urban context, geography, wealth, resources, and other factors. This demonstrates that Oklahoma will have to be flexible in its approach to healthcare transformation to ensure that appropriate solutions are found for each county and region. The proposed CCO within the Oklahoma Model allow for this flexibility to address issues within the CHIP in ways that are unique to the region and populations served.

The Oklahoma SIM project aims to use research from these past reports and assessments to guide the development of multi-payer quality metrics and episodes of care for the Oklahoma Model. Together these reports will continue to be leveraged through the Oklahoma SIM process. Goals from OHIP and population level statistics from the SOS will be used to establish baseline and population health goals for the CCO to meet or improve. The CCO will also be involved in CHIPs across the state as active participants in community health improvement.

## ADDRESSING AREAS OF HIGH BURDEN AND COST

Oklahomans face serious health challenges, as highlighted by the state's health ranking of 45th in the nation in 2015 by the United Health Foundation's *America's Health Rankings*. Unhealthy behaviors such as tobacco use, physical inactivity, and low fruit and vegetable consumption contribute to the high prevalence of diseases such as cancer, heart disease, and diabetes. All of these health issues factor into Oklahoma's poor health outcomes and low national ranking. In order to improve the health of the state's population, the areas of highest cost and disease burden must be identified and included in the state's plan for healthcare transformation. It is important for the state not only to address primary healthcare delivery strategies but also to focus on prevention strategies and the social determinants of health to improve population health.

The Oklahoma SIM project specifically looked at these high-cost conditions, as described in Section B, and the associated burden to guide the selection of multi-payer quality metrics and episodes of care that would make the most impact on health outcomes, cost, and quality under the Oklahoma Model. The tables below detail the prevalence of major health conditions by insurance payer as well as the costliest conditions on a national level.

**Table 32: Condition Prevalence by Insurance Payer in Oklahoma[135]**

| Condition | Commercial Insurance | Medicare | Medicaid |
|---|---|---|---|
| **Obesity** | 29.9% | 28.9% | 28.9% |
| **Diabetes** | 5.2% | 25.9% | 4.5% |
| **Hypertension** | 14.2% | 70.6% | 9.8% |
| **Tobacco Use** | 23.7% | 9.9% | 36.7% |

**Table 33: National Costliest Conditions, 2010**

| Condition | Cost (in millions) | Highest Cost Service |
|---|---|---|
| **Heart Disease** | $107,186.40 | In-patient hospital |
| **Trauma** | $82,303.57 | Out-patient hospital |

| | | |
|---|---|---|
| **Cancer** | $81,734.62 | Out-patient hospital |
| **Mental Health Disorders** | $73,060.24 | Prescription Medication |
| **COPD/Asthma** | $63,782.99 | Prescription Medication |
| **Osteoarthritis** | $62,362.98 | Out-patient hospital |
| **Diabetes** | $51,310.57 | Prescription Medication |
| **Hypertension** | $42,943.38 | Prescription Medication |
| ***Source: Agency for Healthcare Research and Quality, 2010 Medical Expenditure Panel Survey*** | | |

***Heart Disease***

Heart disease is the primary driver of healthcare costs in Oklahoma, with over $2 billion ($2,133,719,629) in total charges for all payers in 2012.[136] Heart disease-related inpatient hospital costs were the highest cost condition among patients covered by Medicare, commercial insurance, Veterans Affairs and military insurance, and other payers, as well as patients that were uninsured/self-pay.136 Congestive heart failure was the second leading cause of all 30-day hospital readmissions in 2012. Combined with coronary atherosclerosis and other heart disease, this made up 6.8 percent of all 30-day readmissions.136

***Hypertension***

Hypertension, or high blood pressure, increases the risk for heart disease and stroke and can typically be controlled through medications, medical care, and lifestyle management. In Oklahoma, 37.5 percent of adults have hypertension, compared to the national rate of 31.4 percent.[137] Like other chronic conditions, hypertension can be controlled, but when it is not, a person can face serious health consequences. One of the most common consequences of uncontrolled hypertension is preventable hospitalization. In 2013, there was an estimated 1,275 blood-pressure related preventable hospitalizations in the state.137 If a 20 percent reduction in preventable hospitalizations for hypertension were achieved, there would be a healthcare cost savings of $1.8 million.137

***Cancer***

Oklahoma faces poorer health outcomes related to cancer compared to most other states and the nation. Overall, Oklahoma has the twelfth highest rate of death due to cancer. And while the national rates of cancer deaths decreased 16 percent between 1999 and 2010, Oklahoma's rate of death due to cancer decreased only seven percent during the same period.[138] It is also necessary to include tobacco cessation measures as a way to reduce the burden of cancer in the state. In Oklahoma, the leading cause of cancer deaths is from lung and bronchus cancers (cause for 30 percent of deaths).[138] In 2012, there were 11,300 hospital inpatient discharges for cancer (malignant neoplasm) for all insurance payers at a total cost of $714 million.136 Cancer was also the primary driver of average healthcare costs at $61,094 per discharge.136

***Stroke***

Much like heart disease, stroke – or cerebrovascular disease – is a prevalent and costly condition among Oklahomans that is impacted by other chronic conditions and lifestyle factors. Overall, Oklahoma has the fourth highest rate of stroke in the nation.138 In 2012, there were 12,068 hospital inpatient discharges for cerebrovascular diseases (all payers) at a total cost of over $437.7 million ($437,740,360).136

***Chronic Lower Respiratory Diseases***

In 2012, Chronic Lower Respiratory Diseases, which include both Chronic Obstructive Pulmonary Disease (COPD) and asthma, was the fifth leading cause of 30-day hospital readmissions in

Oklahoma.136 Nationally, Oklahoma has the highest death rate due to COPD. In 2013, an estimated 10,817 hospitalizations for COPD could have been prevented through outpatient care and community services. If even 10 percent of these hospitalizations had been prevented, an estimated $9,019,282 could have been saved.137

### *Diabetes*

Many complications from diabetes can be reduced through proper disease management. In Oklahoma, 11 percent of the population has diabetes, giving the state the 9th highest rate in the nation.138 In 2012, 7,007 inpatient hospital discharges were attributed to diabetes diagnoses at a total cost of over $206.6 million ($206,662,251).**Error! Bookmark not defined.**

### *Behavioral Health*

Mental health and substance abuse are a growing concern facing the health of Oklahomans. In 2014, 21.9 percent of adults in the state reported a mental health issue and 12 percent reported having a substance abuse issue. Data from the 2014 SOS ranked Oklahoma 42nd in average number of poor mental health days each month reported by adults.138 The rate of suicide in Oklahoma is 36 percent higher than the national rate and suicide is the 9th leading cause of death in Oklahoma. For each suicide prevented, Oklahoma could save an average of $1,097,763 total in medical expenses ($3,545) and lost productivity ($1,094,218).**Error! Bookmark not defined.**

### *Contributing Lifestyle Factors*

Many lifestyle factors can contribute to the development or exacerbation of chronic conditions that add to the overall disease burden for both patients and society. For example, healthcare costs associated with smoking in Oklahoma are approximately $1.62 billion per year, with $264 million covered by state Medicaid. Data from the 2014 SOS states tobacco use, obesity, physical inactivity, and poor diet are some of the most common behavioral and lifestyle factors driving poor health outcomes in the state. Many other factors are discussed in Section B. There are a number of reasons for the lack of physical activity and low consumption of healthy foods, and many of them are related to the social determinants of health – like access to healthy foods and safe places to exercise; transportation; and health literacy and education about proper nutrition and exercise. Because of the complex nature of all of these factors that contribute to risky lifestyle behaviors, the CCO will be encouraged to utilize their community boards and resources to help bridge the gap to accessing healthy food, transportation, places to exercise, and other social factors in order to improve the health of the members they serve.

## EXISTING CAPACITY AND EFFORTS AIMED AT POPULATION HEALTH

This section will review Federal, State, and some local initiatives that are currently in place to address the health of the population. This is not meant to be an exhaustive list of resources. However, this does demonstrate the community partners that the CCO will look to partner with to and existing efforts to be leveraged to improve population health in Oklahoma.

### Current State Healthcare Initiatives

The Oklahoma Model will leverage and build upon the many innovative payment, delivery, and public health models that are already in existence across the state. Most initiatives to date have been targeted at the Medicare population. These initiatives have aimed to improve population health through the innovative use of payment and reporting to incent coordination and proper screening and tests. A greater emphasis on multi-payer collaboration in recent years has produced a large enough revenue share to make the pursuit of healthcare transformation relevant for providers. The Oklahoma Model must complement

existing models in the state and allow for new ones to emerge by creating the necessary infrastructure. Currently, the Oklahoma SIM project has identified the following models and resources operating within Oklahoma to advance population health.

**Table 34: Current State Healthcare Initiatives**

| Name of Initiative | Incorporation into the CCO Model |
|---|---|
| **Accountable Care Organizations (ACO)** | Provide a foundation for CCOs on quality metric reporting, coordination of care, provider networks, etc.; a CCO may want to implement an ACO alternative payment arrangement for specific populations and/or may want to continue existing ACOs to meet Medicare requirements and qualify for Medicare incentive payments. |
| **Bundled Payments for Care Improvement Initiative** | Provide results and lessons learned to assist CCOs in adapting business and healthcare delivery practices for episodes of care, alternative payment arrangements, and bundled payments |
| **Comprehensive Primary Care Initiative** | Risk stratification, practice transformation, care coordination, shared savings (value-based purchasing) |
| **Healthy Hearts for Oklahoma** | Serve as an excellent model and potential partner as the CCO adapts a higher level of reliance on HIT, develops connections with community, implements care coordination, changes process to match value-based purchasing practices, and works with providers to transform practice to improve health outcomes, lower costs, and increase patient satisfaction. |
| **Federally-Qualified Health Centers** | Serve as valued partners that can provide needed guidance on the integration of primary care and behavioral health and how to approach and implement necessary practice transformations |
| **Free/Charitable Clinics and Pharmacy Programs** | Provide critical healthcare access in communities, and with better coordination of community resources, potentially enable better - continuity of care for members who over utilize public programs. |
| **Oklahoma Department of Mental Health and Substance Abuse Services (ODMHSAS) Health Homes** | Provide a foundation from which CCOs can build upon, including lessons learned, care coordination, network development, and adaptation to value-based payment |
| **State and Local Public Health Actions to Prevent Obesity, Diabetes, Heart Disease and Stroke (CDC 1422 Grant)** | Work with CCOs to identify evidence-based interventions, as CCOs and 1422 organizations share core goals for improving Oklahoma health outcomes |

***Accountable Care Organizations (ACOs)***

As described in Section B, ACOs are groups of doctors, hospitals, and other healthcare providers who voluntarily collaborate and accept collective accountability for the cost and quality of care delivered to a population of patients. Under the Oklahoma Model, the ACO model has laid the foundation for several of the components of the CCO. The ACO has influenced the decision to report of quality metrics, include

care coordination, and develop provider networks. It has also introduced many providers to value-based purchasing. Additionally, CCOs may want to implement an ACO as an APA for specific populations to allow for risk/gain sharing with providers. CCOs may also need to continue ACOs that include dual eligibles to meet CMS requirements and to qualify for Medicare incentive payments from CMS.

***Bundled Payments for Care Improvement Initiative***

As described in Section B, bundled payments are a reimbursement methodology in which providers receive payment for the expected costs of an episode of care to promote care coordination and integration and better outcomes. In Oklahoma, 39 sites are currently participating in the Bundled Payments for Care Improvement (BPCBPCI) Initiative. Under the Oklahoma Model, bundled payments will be an alternative payment arrangement option that can be used by hospitals within a CCO.

***Comprehensive Primary Care Initiative***

As described in Section B, the Comprehensive Primary Care (CPC) Initiative aims to support primary care practices with innovative payment models to implement, on a broader scale, a core set of five comprehensive primary care functions identified by CMS and stakeholders. Under the Oklahoma Model, the CPC Initiative will serve as a foundational model for the CCO in terms of risk stratification efforts and strategies, practice transformation, care coordination and adapting to value based purchasing practices, such as the shared savings employed by the CPC Initiative.

***Federally Qualified Health Centers***

As described in Section B, Federally-Qualified Health Centers (FQHCs) are designated by the Health Resources and Services Administration (HRSA) to provide healthcare services to medically underserved populations, regardless of ability to pay. Under the Oklahoma Model, CCOs must incorporate FQHCs into their model if they exist within the CCO's region. The CCOs will have the flexibility of determining how to incorporate FQHCs. FQHCs will also be incorporated into the Oklahoma Model's Practice Transformation Center. FQHCs will also serve as an important role model to the CCOs in terms of integration of primary and behavioral healthcare.

***Free/Charitable Clinics and Pharmacy Programs'***

As described in Section B, a total of 40 licensed charitable pharmacies and over 80 free clinics exist in Oklahoma. Examples include clinics supported by the Health Alliance for the Uninsured, the Sandy Park Clinic in Tulsa, and the Good Shepherd Community Clinic in McAlester County. Under the Oklahoma Model, the State will include these resources as part of the CCOs inventory of community resources that providers can access and reference for patient referrals.

***Healthy Hearts for Oklahoma***

As described in Section B, the Healthy Hearts for Oklahoma (H20) initiative is a four-year statewide cooperative, using a $15 million grant from the Agency for Healthcare Research and Quality (AHRQ), to test if a learning cooperative can improve the care of cardiovascular patients. Under the Oklahoma Model, H2O will serve as an excellent role model and could become a valuable partner as the CCO adapts a higher level of reliance on HIT, develops connections with community, implementations care coordination, changes process to match value-based purchasing practices and works with providers to transform their practice to improve health outcomes, lower cost and increase patient satisfaction.

***Health Homes***

As described in Section B, Health Homes are an optional Medicaid State Plan benefit through a collaboration of the Oklahoma Department of Mental Health and Substance Abuse Services (ODMHSAS) and Oklahoma Health Care Authority (OHCA). Health Homes provide an opportunity to build a person-centered system of care that achieves improved outcomes and better services and value for the Oklahoma SoonerCare program for individuals with complex needs. Under the Oklahoma Model, CCOs will use best practices and lessons learned from the Health Homes initiative for behavioral and physical healthcare integration. CCOs will learn from the health homes experiences with care coordination and quality improvement efforts

***State and Local Public Health Actions to Prevent Obesity, Diabetes, Heart Disease and Stroke (Centers for Disease Control and Prevention 1422 Grant)***

As described in Section B, the Chronic Disease Service and the Center for the Advancement of Wellness located within the OSDH are collaborating with local county health departments to develop and implement evidence-based interventions to combat obesity, diabetes, heart disease, and stroke. Local county health departments are currently performing care coordination related to these health conditions. The State will examine findings and best practices from these initiatives to determine how best to incorporate local health departments into the Oklahoma Model and incorporate appropriate representation of local health departments in the CCO governance and community board.

**Oklahoma Health Care Authority (OHCA) Programs**

As described in Section B, the OHCA, Oklahoma's state Medicaid Agency, serves over 818,000 adults and children through its plans.[13] The OHCA has implemented several initiatives aimed at improving the health of their member population to decrease costs. The Oklahoma Model will incorporate aspects of these initiatives and lessons learned into the CCOs, as described below.

**Table 35: Oklahoma Health Care Authority Initiatives**

| Name of Initiative | Incorporation into the CCO Model |
|---|---|
| **Health Access Networks** | Provide lessons learned and possibly contract with CCOs for care coordination, practice transformation, or other tasks. |
| **Primary Care Medical Homes** | Provide lessons learned for care coordination and quality improvement |
| **SoonerExcel Program** | Serve as a foundational model for the CCO in terms of how to implement and operationalize value based purchasing |

***Health Access Networks***

As described in Section B, Health Access Networks (HANs) are designed to increase access to care, quality of care, and cost effectiveness by providing a higher degree of care coordination support to HAN-affiliated Patient Centered Medical Home providers. Under the Oklahoma Model, HANs will be able to contract with CCOs to offer services for care coordination, practice transformation, and other needed resources that they offer in the current healthcare environment. CCOs will have the flexibility to determine how they will collaborate with HANs.

***Primary Care Medical Homes***

As described in Section B, SoonerCare Choice is a Primary Care Case Management (PCCM) program in which each member is assigned to a primary care medical home. Under the Oklahoma Model, the PCMH

model will serve as a foundational model for CCOs in terms of care coordination strategies, provider network building, and quality improvement efforts.

***SoonerExcel Program***

As described in Section B, SoonerExcel is a performance-based reimbursement component of SoonerCare Choice where providers are eligible for incentive payments if they meet certain quality-of-care benchmarks.[139] This program will be considered as an APA option for the CCOs. The measures that are used in the SoonerExcel Program are currently being reviewed by the Oklahoma SIM project team and will be required for use in the CCOs. CCOs will have the flexibility to determine the specific payment methodologies associated with this program for their region.

**Public Health and Community Organizations**

In addition to the healthcare models and initiatives going on across the state that were described in Section B, CCOs will include and leverage regional public health programs in order to best address health outside of the healthcare setting and to start addressing social factors that affect health. Although regions will differ in services available, CCOs will need to attest to how they will incorporate these ongoing efforts into their care delivery and payment design. The efforts listed below give an overview of some of the broader public and community health efforts occurring across Oklahoma.

**Table 36: Public Health and Community Organizations**

| Name of Organization | Incorporation into the CCO Model |
|---|---|
| **Alliance for Healthier Generation – Healthy Schools Program** | Serve as a community partner to address and prevent childhood obesity |
| **County Health Department Accreditation** | State will leverage this accreditation process to incorporate the CHIPs and community health needs assessments as part of the CCOs in each region |
| **Department of Human Services Aging Services Division** | Work in partnership with CCO to address social determinants and environmental concerns for CCO members age 65 and old |
| **Health Equity Campaign** | Serve as a State partner to provide resources to CCOs regarding health equity and the social determinants of health |
| **Mental Health Association of Oklahoma** | Serve as a community partner to address and provide resources for mental illness and homelessness |
| **Schools for Healthy Lifestyles** | Serve as a community partner to address and prevent childhood obesity |
| **Regional Food Bank** | Serve as a community partner to address social determinants related to nutrition and food insecurity |
| **Tobacco Settlement Endowment Trust** | Serve as a State partner to support the mutual goal to lower the rate of tobacco by 2020 by 2% |
| **Tulsa Area United Way** | Serve as a community partner to provide resources to address social determinants of health |
| **Turning Point Partnerships** | Continue to provide services and potentially expand to serve as |

| | |
|---|---|
| | partners with the State Governing Body and CCO on practice transformation |
| **United Way of Central Oklahoma** | Serve as a community partner to provide resources to address social determinants of health |

***Alliance for Healthier Generation – Healthy Schools Program***

As described in Section B, the Alliance for Healthier Generation Healthy Schools Program includes strategies to improve snack policies, add physical activity breaks in the classroom, start active afterschool programs, and start employee wellness programs. Under the Oklahoma Model, the alliance will serve as community partner of the CCOs to help address childhood nutrition and obesity.

***County Health Department Accreditation***

As described in Section B, the OSDH is currently accredited through the Public Health Accreditation Board (PHAB) and 32 of 68 county health departments are participating in some part of the accreditation process. Under the Oklahoma Model, the State will leverage this accreditation process to incorporate the CHIPs and community health needs assessments as part of the CCOs in each region.

***Department of Human Services Aging Services Division***

As described in Section B, the Department of Human Services (DHS) Aging Services Division contracts with 11 Area Agencies to provide services to residents age 60 and older. Under the Oklahoma Model, the division will serve as a community partner.

***Health Equity Campaign***

As described in Section B, the Health Equity Campaign (OHEC) is a statewide campaign alerting state and community leaders to socioeconomic and ethnic inequities in health and engaging leaders in conversations that result in actions to fight the effects of these inequities in Oklahoma. Under the Oklahoma Model, the State will incorporate the OHEC as a partner to the State Governing Body to provide resources to CCOs regarding health equity.

***Mental Health Association Oklahoma***

As described in Section B, Mental Health Association Oklahoma is an advocacy voice representing people impacted by mental illness and homelessness in communities throughout Oklahoma. Under the Oklahoma Model, the association will serve as a community partner of the CCOs to provide services and resources to address mental illness and homelessness.

***Regional Food Bank***

As described in Section B, the Regional Food Bank distributes food and other products through a network of more than 1,100 charitable feeding programs, including food pantries, homeless shelters, church pantries, soup kitchens, Food Resource Centers, and schools. Under the Oklahoma Model, the food bank will serve as community partners of the CCO.

***Schools for Healthy Lifestyles***

As described in Section B, Schools for Healthy Lifestyles is a program that provides health education to Oklahoma elementary students in five key areas: physical activity and fitness, nutrition education and awareness, tobacco use prevention, safety and injury prevention, and oral health. Under the Oklahoma

Model, the program will serve as a community partner of the CCOs to help address childhood nutrition and obesity.

***Tobacco Settlement Endowment Trust***

As described in Section B, the Tobacco Settlement Endowment Trust (TSET) is a grant-making state agency that focuses on preventing tobacco use, reducing tobacco use, and preventing obesity. Under the Oklahoma Model, both the State Governing Body and the CCO will need to work in partnership with TSET to meet the SHSIP goal of lowering Oklahoma's smoking rate by two percent by 2020.

***Turning Point Partnerships***

As described in Section B, Turning Point works as an independent statewide consortium focused on policy issues aimed at improving Oklahoma's health[6] and has partnered with communities all across Oklahoma to work on local innovations to transform public health in Oklahoma. Under the Oklahoma Model, the State Governing Body and the CCO will need to build upon and potentially expand this effort in order to make the strides in practice transformation that will support the new CCO model.

***Tulsa Area United Way***

As described in Section B, Tulsa Area United Way serves 505,000 people through 60 partner agencies in six counties of the Tulsa region: Tulsa, Creek, Okmulgee, Osage, Rogers, and Wagoner counties. Under the Oklahoma Model, the organization will serve as a community partner of the CCOs to address social determinants of health.

***United Way of Central Oklahoma***

As described in Section B, United Way of Central Oklahoma works to provide access and critical funding to over 127 results-oriented programs at 61 accountable nonprofits across central Oklahoma. Under the Oklahoma Model, the organization will serve as a community partner of the CCOs to address social determinants of health.

## SIM POPULATION HEALTH STRATEGIES AND ACTIVIES

### Oklahoma SIM Workgroup Structure

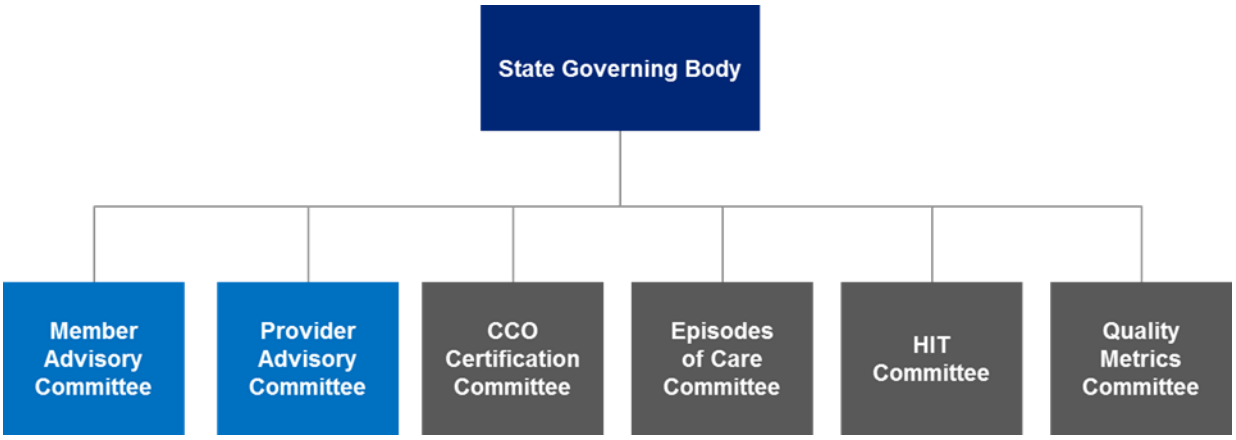
As described in Section B, the Oklahoma SIM project leveraged the workgroup structure that was established by the OHIP Coalition as a vehicle to accomplish the goals of the initiative. The workgroups participated in the planning and development of the SHSIP. The four workgroups included the:

- Health Efficiency and Effectiveness Workgroup;
- Health Workforce Workgroup;
- Health Information Technology (HIT) Workgroup; and
- Health Finance Workgroup.

Moving forward, the Oklahoma Model will retain some aspects of this workgroup structure for the State Governing Body to advise the body on population health matters for the CCOs. This may be done by infusing aspects of the Oklahoma SIM workgroups into the State Governing Body committees or by standing by new committees or subcommittees for the State Governing Body. For instance, aspects of the HIT Workgroup may be infused into the HIT Committee and aspects of the Health Workforce Workgroup

may be infused into the Provider Advisory Committee. The current proposed workgroup structure of the State Governing Body is displayed below. It is envisioned that other workgroups will be added.

**Figure 38: State Governing Body under the Oklahoma Model**




**Social Determinants of Heath**

The Oklahoma SIM project aimed to highlight health disparities and the impacts of social determinants on health status. CCOs will play an important role in addressing the social determinants of health that impact poor health outcomes. The section below outlines the proposed multi-payer quality measures and clinical approaches currently in use for these measures. All clinical approaches and suggested best practices were adapted from the American College of Physicians, National Committee for Quality Assurance, National Quality Forum, and the United States Preventive Services Task Force.[140,141,142,143]

As stated in Section B of the SHSIP, the social determinants of health that most impact Oklahomans are: access to care, affordable housing, access to fresh and affordable produce, walkability or access to a place to be physically active, literacy, employment, and transportation.134 CCOs will work with community members to address these barriers to promote the health of the population they serve, and in turn meet the cost and quality targets required of the CCO.

CCOs will formally identify and incorporate community resources in their region through their Community Advisory Board. The Community Advisory Board will assist with voicing concerns about barriers that members of the region face in achieving better health outcomes. This board will also bring knowledge of the resources that are available to address the issues that are inhibiting healthy behaviors and lifestyle. CCOs will be encouraged to use these boards and resources to help bridge the gap to accessing healthy foods, transportation, places to exercise, and other social factors in order to improve the health of their attributed members. Through this feedback, the CCO can determine the most effective way to support members and providers in promoting health. In light of the diverse needs and varying levels of resources in counties across the state, specific methods to address the social determinants of health will be left to the CCO. This will provide CCOs the flexibility to find best fit solutions for their region. CCOs will have to demonstrate how they have the necessary partnerships and community board membership to address the social determinants of health that impact healthcare costs. Once the CCO is operational, it will be a part of the CHIP process at the community level. CCOs will work with county coalitions and the CCO governing board to revise and develop the CHIP.

CCOs will also use "flexible spending" to address social determinants of health and improve health. Flexible spending refers to allowing the use of CCO funds for non-clinical services that are medically necessary. Historically, federal funds for Medicaid could not be used for anything besides direct patient care at the time of service. However, many states have been able to negotiate spending for services outside of the clinical setting that directly affect the health outcomes of patients. The scope of services that will be allowed with these funds will be determined through the state plan and waiver negotiation process with CMS. This will be a direct way that the CCO can support the provider and community to address the social determinants of health.

### Multi-Payer Quality Alignment

The Oklahoma SIM project aims to strategically align population-based health outcomes with clinical quality measures using National Quality Forum (NQF) Measures and Clinical Quality Measures (CQM) for the targeted areas of tobacco use, obesity, diabetes, hypertension, and behavioral health.

According to the PHNA, the state's mortality rate (941.9 per 100,000, age-adjusted) is 23 percent higher than the national rate. Several factors contribute to this high rate; the Oklahoma SIM flagship issues (tobacco use, diabetes, hypertension, obesity, and behavioral health) are some of the most influential factors. Oklahoma exceeds the national average in all areas of the flagship issues. Assigning and linking measures to incentive payments and penalties based on the flagship issues will ensure that providers are taking a more active role in screening patients for diseases, assisting patients with health improvement, and following up with patients. Adopting multi-payer quality measures will help to lower healthcare costs and improve quality, patient experience, and population health.

Quality measures will be aligned across payers and focus on addressing the leading causes of disease and disability within their patient population. All payers will be asked to use these common measures as reporting tools, and where possible, to improve health outcomes and evaluate them with these agreed upon measures. Multi-payer alignment of quality measures prevents an unnecessary workload from being placed on providers due to multiple measure sets from different payers. This alignment also helps to ensure that providers have a clear understanding of their responsibilities with regard to achieving high-quality patient health outcomes. Sophisticated analytics are the most common way providers (and payers) are able to determine how well they are doing in meeting quality measure targets. EHRs and tools within their EHR systems help providers identify where they need to improve. Many EHR systems also have clinical decision support tools that guide providers in referring patients to outside resources. Some EHR systems lack these resources for provider guidance and reporting. In such cases, the provider must have knowledge of what resources are available and how the patient can gain access to those resources.

Under the Oklahoma Model, CCO Board of Accountable Providers will advise CCOs on how to address traditional clinical approaches to meet quality metrics guidelines for attributed patients in their region.

## ADDITIONAL OPPORTUNITIES UNDER SIM

### Coordination with Tribal Public Health Efforts

Oklahoma is home to 38 federally recognized tribal nations[144] and has an American Indian population of almost 350,000 persons, comprising 9 percent of the state's population.[145] Along with being citizens of the state, tribal members are also citizens of their respective tribal nation that has its own inalienable self-governance of its citizens and territories, and possess unique culture, beliefs, value systems, and history as a sovereign nation. American Indian people suffer greater health disparities than other populations and

have higher rates of heart disease and diabetes than other Oklahomans. Due to the high rates of chronic disease and other health issues, it is important for the state to address the health needs of the American Indian population, but it must be done within the context of the tribal nation's sovereignty. As part of the Oklahoma Model, the State Governing Body will include representation from tribal nations. The CCO governance and advisory boards for each region will also include representation from tribal nations, as determined by the population of tribal nations in the region. As described in the Healthcare Environment, the OSDH has utilized two outlets for respectfully communicating and collaborating with the 38 federally-recognized tribal nations in Oklahoma to address public health issues: the Office of the Tribal Liaison and Tribal Public Health Advisory Committee.

## ROADMAP TO IMPROVE POPULATION HEALTH

The Centers for Disease Control and Prevention (CDC) has identified three approaches to improving population health: traditional clinical approaches, innovative patient-centered care and community linkages, and community-wide strategies. This section will review the Oklahoma SIM model components within each of these categories. These interventions leverage current initiatives to give a roadmap to population health improvement.

### Traditional Clinical Approaches

The healthcare environment is rapidly changing. Providers now have to meet quality standards in order to receive their payments from some health plans. Quality measures give providers a guideline/best practice to follow that is shown to improve the overall health of their panel or population. Sophisticated analytics are the most common way providers are able to determine how well they are doing on meeting quality measures. This section outlines the quality measures suggested for the multi-payer quality measures. These measures are discussed to show how quality measures impact clinical care. By converging on a set of multi-payer quality metrics there would be a synergy of effort to perform well on these evidence based metrics. Through this traditional clinical approach there would be the potential to show improvement in the related population health issue.[140,141,142,143]

**Table 37: Quality Measures**

| Measure | Health Condition |
|---|---|
| **NQF 0028** | Tobacco Use: Screening and Cessation Intervention |
| **NQF 0059** | Diabetes: Poor Control of Hemoglobin A1c |
| **NQF 0018** | Hypertension: Controlling High Blood Pressure |
| **NQF 0421** | Obesity: BMI Screening and Follow-Up |
| **NQF 0418** | Behavioral Health: Depression Screening |
| **NQF 0105** | Medication Adherence: Anti-Depressant Medication Management |
| **NQF 1932** | Behavioral Health: Diabetes Screening for People with Schizophrenia of Bipolar Disorder |
| **USPTF** | Abnormal Blood Glucose and Type 2 Diabetes – Adults Aged 40-70 Years Who Are Overweight or Obese |
| **NQF 0024** | Children's Health: Weight Assessment and Counseling for Nutrition and Physical Activity |

## INNOVATIVE PATIENT-CENTERED CARE AND COMMUNITY LINKAGES

In addition to addressing traditional clinical approaches for healthcare, CCOs will focus on how to incorporate innovative clinical approaches to meet quality measure targets and improve population health. CCOs will furthermore go beyond the provider's office for solutions to improving population health. For real healthcare transformation to occur in Oklahoma, healthcare strategies and interventions need not only to occur in traditional healthcare settings but also in the places where people live, work, and learn.

The Oklahoma Model will incorporate patient-centered care and community-based linkages to transform healthcare delivery by focusing on a more holistic approach to population health improvement. More specifically, CCOs will integrate physical and behavioral healthcare delivery; use care coordination to direct patients to the appropriate healthcare settings and resources once they leave the provider's office; and refer patients to community resources that address social needs that impact health. CCOs will also adhere to quality measures that align to the Oklahoma SIM flagship issues.

An example of how CCOs will deliver patient-centered care and community-based linkages is with diabetes treatment and management. Under the traditional clinical model, if a patient presents to a provider with diabetes complications, the normal clinical approach would be for the provider to modify the patient's medications, provide recommendations for diet and exercise modifications (typically though a pamphlet or health education materials), and schedule routine follow-up. In comparison, under the Oklahoma Model, the patient would receive traditional medical care that would also include care coordination with community programs. These community programs could include a disease self-management program and an in-person health education for nutrition and exercise. If needed, the community programs could include a referral to community resources for access to healthy foods and physical activities, assistance with transportation to medical appointments, and pharmacy resources for purchasing medications. Along with traditional provider reporting on quality measures related to patient health, the CCO would report on how providers' actions impact patient health. In this way, the State will

be able to examine both clinical and social outcomes of patient health to determine the priorities to include in future interventions to improve population health the most efficiently and effectively.

Another example of how CCOs will deliver patient-centered care and community-based linkages in with behavioral health treatment. Traditionally, behavioral health is overlooked or undiagnosed outside of mental health or emergent healthcare settings. Under the Oklahoma Model and CCOs, all providers will have to conduct behavioral health screenings for clinical depression and substance abuse disorders. If a patient receives a behavioral health or substance abuse diagnosis, the provider would immediately connect the patient to a care coordinator, who would organize a care plan to address both physical and behavioral healthcare needs. This could include referrals to mental health providers, substance abuse treatment providers and/or facilities, community support groups, and pharmacy support programs.

Overall, under the Oklahoma Model, integrating behavioral and physical healthcare and linking patients to care coordination and community resources will help to reduce health disparities and improve population health.

## COMMUNITY-WIDE STRATEGIES

Under the Oklahoma Model, the State will incorporate community-wide strategies into the decision-making process of the State Governing Body and Practice Transformation Center. The State Governing Body itself will serve as a resource for CCOs to disseminate best practices regarding public health practices and serve as an advocate for public health policy. Additionally, the public health sector will be represented in the membership of the State Governing body.

In addition to improving health through clinical care transformation and the incorporation of community initiatives that can address social determinants of health, the state will continue to pursue community wide strategies that aid communities in being healthy. For example, policies related to tobacco-free schools, workplaces, and communities can encourage tobacco users to quit and protect non-smokers from dangerous secondhand smoke. In Oklahoma, organizations like the (TSET) and coalitions like OHIP work to implement policies that help improve population health on a large scale. Both have garnered support from public and private entities, which has allowed them to saturate the state's health environment with comprehensive health policies.

### Tobacco Settlement Endowment Trust Community Grants

As aforementioned, (TSET) is a state agency that uses earnings from the Master Settlement Agreement to fund community grants through policies related to tobacco, physical activity, and nutrition. Policies related to tobacco include 24/7 tobacco-free schools, businesses, early childhood centers, restaurants, and local communities. Local grantees also work with community stakeholders to pass tobacco policies for smoke-free multi-unit housing and smoke-free local events. Local community coalitions work to pass policies related to obesity through increased physical activity and consumption of healthier foods. Schools, businesses, and communities work to pass policies related to healthy vending options, physical activity breaks, shared-use agreements between cities and schools for spaces to exercise, and promoting biking or walking to school or work. In addition to these local policies, TSET is working with the Free the Night Campaign, a statewide campaign to encourage bars and nightclubs to adopt smoke-free policies.

### Certified Healthy Oklahoma Program

As described in Section B, the Certified Healthy Oklahoma Program is a free, voluntary statewide certification for public and private entities that spotlights businesses, campuses, communities, congregations, early childhood programs, restaurants, and schools that are committed to supporting healthy choices through environmental and policy change. These entities are implementing policies and programs that will help Oklahomans eat better, move more, and be tobacco free.

**Oklahoma Health Improvement Plan/Community Health Improvement Plan**

As aforementioned, the OHIP is a comprehensive plan for improving the physical, social, and mental well-being of all Oklahomans. The OHIP is now in its second installation (OHIP 2020) and fifth year of implementation. At the county-level, the CHIP is a long-term, systematic effort to identify and address public health concerns with the input of community partners. A CHIP is critical for developing policies and defining actions to target efforts that promote health. As the plans are implemented, performance indicators are used to evaluate the effectiveness of the strategies and tactics related to each priority area.

Under the Oklahoma Model, the OHIP and CHIPs will serve as inputs into the State Governing Body for public health policies and goals for the CCOs. The CCOs will use the CHIPs to set priority areas for improving the health of the community served. The priority areas will be aligned with statewide priorities and quality measures to ensure key health issues are being addressed clinically and the communities' overall health improves.

## CONCLUSION

(This section of the SHSIP will be updated as a future date).


Health System Design and Performance Objectives
Value-Based Payment and Service Delivery Plan
Healthcare Delivery System Transformation Plan
Health Information Technology Plan
Workforce Development Strategy
Financial Analysis
Monitoring and Evaluation Plan
Operational And Sustainability Plan
State Healthcare Environment
Stakeholder Engagement Report
Population Health Improvement Plan
OKLAHOMA STATE HEALTH SYSTEM INNOVATION PLAN

# H. Health Information Technology Plan

## INTRODUCTION

The Oklahoma Health Information Technology (HIT) Plan identifies HIT objectives and strategies to support the Oklahoma State Innovation Model (SIM). These objectives and strategies address the deficiencies in electronic health information interoperability and exchange in Oklahoma and support Oklahoma in moving toward value-based payments to improve the health of all Oklahomans.

Studies have demonstrated the benefits of HIT in providing better care and improving outcomes. For instance, when healthcare providers have access to complete and accurate information, patients receive better healthcare.[146]

In 2005, a team at the RAND Corporation reported that properly implemented and widely adopted HIT would save money and significantly improve healthcare quality.[147] A 2012 national survey of doctors ready to comply with meaningful use revealed that 94 percent of providers reported that their electronic health records (EHRs) makes records readily available at the point of care; 88 percent reported that their EHR produces clinical benefits for the practice; and 75 percent reported that their EHR allows them to deliver better patient care.[1]

The drivers for HIT in Oklahoma include national-level initiatives such as:

- Meeting the Triple Aim Initiative
- Compliance with new Medicare payment regulations
- Meeting the CMS goal of moving Medicare payments to value based payment

HIT is also a critical component in meeting the goals of OHIP 2020. Furthermore, OHIP 2020 clearly identifies HIT as one of four core areas of work to support Oklahoma's health system transformation. Section D of the SHSIP describes the goals and objectives that HIT will support.

Through the evaluations completed by numerous Oklahoma SIM contractors and stakeholder input, Oklahoma has determined an optimal approach to support these HIT drivers and achieve the Triple Aim:

1. Partner with and support the existing private, nonprofit Health Information Exchanges (HIE);
2. Develop multiple levels of governance to ensure transparency, balance, and public/private stakeholder input; and
3. Establish technology and infrastructure to support statewide health information technology interoperability and state-level value-based analytics (VBA).

The Oklahoma HIT Plan leverages past experiences, existing public/private resources and relationships, and examples from other states to establish this technology infrastructure for the Oklahoma Model. This plan will serve as the roadmap for an HIT infrastructure to support the next phase of healthcare initiatives.

## CURRENT HIT ENVIRONMENT

To identify the changes needed in the Oklahoma HIT environment, it is necessary to evaluate the existing environment. Over the past five years, Oklahoma has made significant strides in improving health information technology: EHR utilization continues to improve, two Health Information Exchanges (HIEs) are thriving in an open-market environment, and the state has made significant decisions to support ongoing improvements through the development of a state-agency HIE and in supporting initiatives to improve the use of HIT. This section will describe the current EHR adoption and utilization, health information exchange, and past state HIT initiatives that have shaped the landscape today.

### EHR Adoption and Utilization

Oklahoma's EHR adoption and utilization continues to improve due to the CMS EHR Incentive Program, the efforts of the Oklahoma Regional Extension Center (REC) and other federally-funded initiatives. According to the Healthit.gov April 2015 Health IT Dashboard, 64 percent of Oklahoma physicians, 72 percent of Oklahoma nurse practitioners, 3.2 percent of physician assistants, and 91 percent of eligible and critical access hospitals had demonstrated Meaningful Use of Certified Health IT and/or Adopted, Implemented, or Upgraded any EHR.[148]

#### *EHR Incentive Program*

As described in Section B, the Medicaid Oklahoma EHR Incentive program provides a financial incentive to assist eligible providers in adopting (acquiring and installing), implementing (training staff, deploying tools, exchanging data), and upgrading (expanding functionality or interoperability) meaningfully use certified EHR technology. The Oklahoma Health Care Authority (OHCA), ,maintains monthly EHR Incentive Program statistics and provides information about the EHR vendors operating in the state. The following tables detail the number of eligible providers and hospitals and percent of participation with the percent increase from June 2014 to June 2015.

**Table 38: SoonerCare (Medicaid) EHR Program**

| Provider Type | June, 2014 | | | June, 2015 | | | |
|---|---|---|---|---|---|---|---|
| | Total Eligible * | Total Attested | Percent of Participation ** | Total Eligible * | Total Attested | Percent of Participation ** | Percent Increase |
| **Eligible Professional** | 10499 | 2329 | 22.18% | 11983 | 2725 | 22.74% | 2.51% |
| **Eligible Hospital** | 146 | 105 | 71.92% | 150 | 108 | 72.00% | 0.11% |
| *** Total Eligible represents the total number of SoonerCare Providers with a qualifying provider type (Physician, Nurse Practitioner, Certified Nurse-Midwife, Dentist, Physician Assistant in a PA led FQHR/RHC, Acute Care and Children's Hospitals).** | | | | | | | |
| **** Percent of Participation represents the total number of providers attested versus the total number of providers eligible.** | | | | | | | |

**Table 39: Oklahoma Medicare EHR Program**

| Provider Type | Total Attested | | |
|---|---|---|---|
| | June, 2014 | June, 2015 | Change |
| **Eligible Professional** | 2369 | 2869 | 500 |
| **Eligible Hospital** | 108 | 116 | 8 |
| **Source: OHCA Oklahoma EHR Incentive Program August, 2014 and June, 2015** | | | |

**Table 40: Top Ten EHR Vendors in Oklahoma among Eligible Professionals and Eligible Hospitals participating in the Medicaid EHR Incentive Program**

| Vendor | Count of Providers |
|---|---|
| **GE CENTRICITY** | 909 |
| **RPMS (Indian Health Service System)** | 410 |
| **NEXTGEN** | 185 |
| **E CLINICAL WORKS** | 183 |
| **ALLSCRIPTS** | 103 |
| **PRACTICE FUSION** | 93 |
| **ATHENA** | 85 |
| **EMDS** | 69 |
| **GREENWAY** | 64 |
| **SUCCESS EHS** | 63 |

The above EHR vendors are currently certified under the 2014 criteria which would enable providers utilizing these systems to easily interoperate and exchange electronic health records. Those providers that are utilizing a non-2014 certified system may still exchange electronic health records by setting up a one-way or bi-directional transaction through an HIE. Although having a certified EHR is not necessarily required to exchange electronic health records, further analysis will be conducted to identify specific barriers preventing the provider from interoperating and/or exchanging electronic health records.

The Oklahoma Electronic Health Record (EHR) Incentive program, one of the first in the nation, began January 3, 2011. It is funded by the Centers for Medicare and Medicaid Services (CMS). The rate of EHR adoption and utilization in Oklahoma continues to improve due to the EHR Incentive Program, efforts of the Oklahoma Regional Extension Center, and other federally-funded initiatives.

However, growth has been slow. Approximately 112 EHR systems are currently in use in Oklahoma. According to the Oklahoma Health Care Authority (OHCA), the state Medicaid agency, by June 2015, 22.18 percent of professionals and 71.92 percent of hospitals eligible for the EHR program had attested for Meaningful Use (MU) through the Oklahoma SoonerCare (Medicaid) EHR Program. In addition to the slow growth of EHR adoption, the vendor environment is unstable due to changing reporting requirements and the inability of the EHR vendors to meet those requirements. The top 10 EHR vendors used by eligible professionals and eligible hospitals participating in the Medicaid EHR Incentive Program

are currently certified under the 2014 criteria, which would enable providers utilizing these systems to interoperate and exchange electronic health records with ease.

***Regional Extension Center***

Oklahoma has developed resources to work with providers and hospitals to assist with new technology and improving workflows. The Oklahoma Foundation for Medical Quality (OFMQ) served as the Oklahoma REC beginning in 2011 continuing until April 2016 and has played an integral part in improving EHR utilization. The OFMQ has worked with over 2,000 physicians on projects for over 10 years with a major focus on quality improvement, Meaningful Use (MU) adoption and attestation, Patient Quality Reporting System (PQRS), HIE adoption, EHR workflow, practice workflow, and HIPAA (Health Insurance Portability and Accountability Act)Act)Act)Act). In addition to their role as the REC, OFMQ has served as a contractor for OSDH projects to assist in the optimization of data attestation and extraction processes. The OFMQ will be hosting the first Oklahoma HIT conference in 2016.

***Other EHR Support Initiatives***

Oklahoma has implemented federally-funded initiatives that have included requirements for HIT and provider support related to EHR utilization and quality reporting. The Oklahoma Department of Mental Health and Substance Abuse Services (ODMHSAS) established 88 Health Homes across 22 organizations to offer holistic care by physicians, social services, and behavioral healthcare specialists and all Health Homes are required to have a certified EHR and HIE connectivity and to leverage that connectivity to provide quality and value reporting.

OSDH has received two grants from the Centers for Disease Control and Prevention (CDC): 1305 - State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associate Risk Factors and Promote School Health; and 1422 - State and Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke. Both projects require the electronic exchange of health information and clinical quality reporting. Funds from the two CDC grants have been used to provide technical support for eligible providers in terms of EHR contracts, EHR implementation and utilization, workflow analysis, and quality reporting by utilizing the experience of the REC. Providers eligible for MU or Adopt/Implement/Upgrade (AIU) have been assisted with the attestation preparation and methods for extracting data from EHR systems. Future efforts surrounding data extraction of the specified elements for hypertension and HbA1C will be supplemented with:

- Review of provider documentation and tracking regarding Clinical Quality Measures to provide verification of data accuracy and integrity, education about how the measures are populated within the EHR and how to extract them, and appropriate use of measure(s) to improve patient panel management;

- Practice-specific education, either on-site or (when applicable) at the community level, at regional locations or through various other methods such as teleconferences and/or web-based trainings; and

- Access to web-based resources and links.

For the remaining cycles of both grants, OFMQ will assess healthcare provider skills, knowledge, and attitudes with EHR utilization and determine the level of optimization that can be met over the three year grant period. Project plans include utilization enhancements such as:

- Patient referral management;

- Clinical decision support;

- Patient portal utilization and engagement;
- Population health management reporting and registry functionality;
- Patient reminders and utilization of screening tools to identify high-risk patients;
- Standard treatment protocols or order sets; and
- Direct messaging and use of formulary function for Rx coverage.

The AHRQ-funded Healthy Hearts for Oklahoma (H2O) Project will develop Community Health Information Organizations to work with 300 primary care practices to advance care for cardiovascular disease. The project requires EHR utilization and clinical quality reporting to ensure information is available for care coordination and for evaluating the success of the project.

Under the recently announced Transforming Clinical Practice Initiative award, Oklahoma will be part of the Iowa Healthcare Collaboratives six-state Practice Transformation Networks (PTN), which will help the state to undergo largescale practice transformation. Telligen, the data vendor, will provide consulting support for program management, data analysis and measures and serves quality improvement advisers providing direct technical assistance to practices in all aspects including HIT.

Oklahoma will leverage its private nonprofit HIEs, Coordinated Care Oklahoma and MyHealth Access Network, as well as the state-agency interoperability system, Health-e Oklahoma, to support these initiatives and enable the exchange of health information across EHRs.

**Health Information Exchange (HIE)**

The evaluation included stakeholder interviews and research of HIE initiatives in other states. Oklahoma has two active private nonprofit HIEs, Coordinated Care Oklahoma and MyHealth Access Network, as well as a state-agency HIE under development. The business models of the nonprofit HIEs differ and each has established a client base that supports their respective models with governance that ensures they serve the interests of their customers.

To evaluate the existing Oklahoma HIE environment, the Oklahoma SIM project contracted with Milliman to deliver an HIE Statewide Environmental Scan. For more information, including the number of lives touched and the technology, see the complete Milliman report can be found in Appendix D.

Although the two private-nonprofit HIEs have a robust clientele that extends across and outside Oklahoma, interoperability among them does not exist. This forces providers and hospitals to look to both HIEs to receive complete patient information. In addition, with limited funding and resources, the state continues to struggle with interoperability for eligible professionals and eligible hospitals reporting public health measures resulting in duplicate data entry for immunizations and reportable disease case reports. Achieving statewide interoperability will be a significant improvement in reducing the burden on providers in Oklahoma.

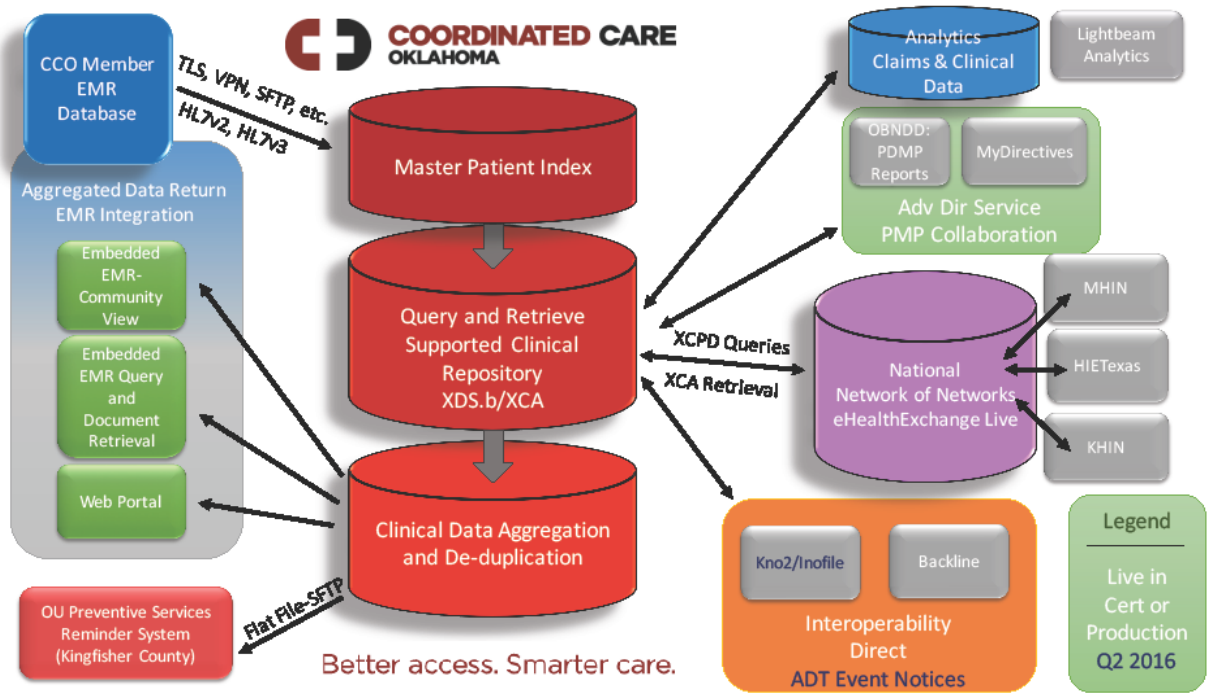
***Coordinated Care Oklahoma***

Coordinated Care Oklahoma is a non-profit organization that has been in operation in the Norman and Oklahoma City areas since 2014. Coordinated Care Oklahoma is governed by a board of directors comprised of health systems, small provider groups, large provider groups, rural hospitals, post-acute care, and community participants. Coordinated Care Oklahoma is managed by Yeaman and Associates with Dr. Brian Yeaman serving as Chief Executive Officer (CEO).). Coordinated Care Oklahoma's start-

up costs were funded by health systems and provider groups and have been sustained through subscription fees.

Coordinated Care Oklahoma provides tools that support patient transitions of care, presenting a complete medical record on demand at the point and time of care (see Figure 1). Coordinated Care Oklahoma has a hybrid centralized-federated data model. Users access the HIE via a Cerner Corporation technology-based single sign-on or via a web portal. Coordinated Care Oklahoma is developing analytics capabilities for risk stratification and reports for population health management, condition management, Health Effectiveness Data and Information Set (HEDIS) measures, and information on treatment and clinical quality. Coordinated Care Oklahoma also provides a multistate electronic repository for patients' portable advanced directives.

**Figure 39: Coordinated Care Oklahoma Technology Stack**

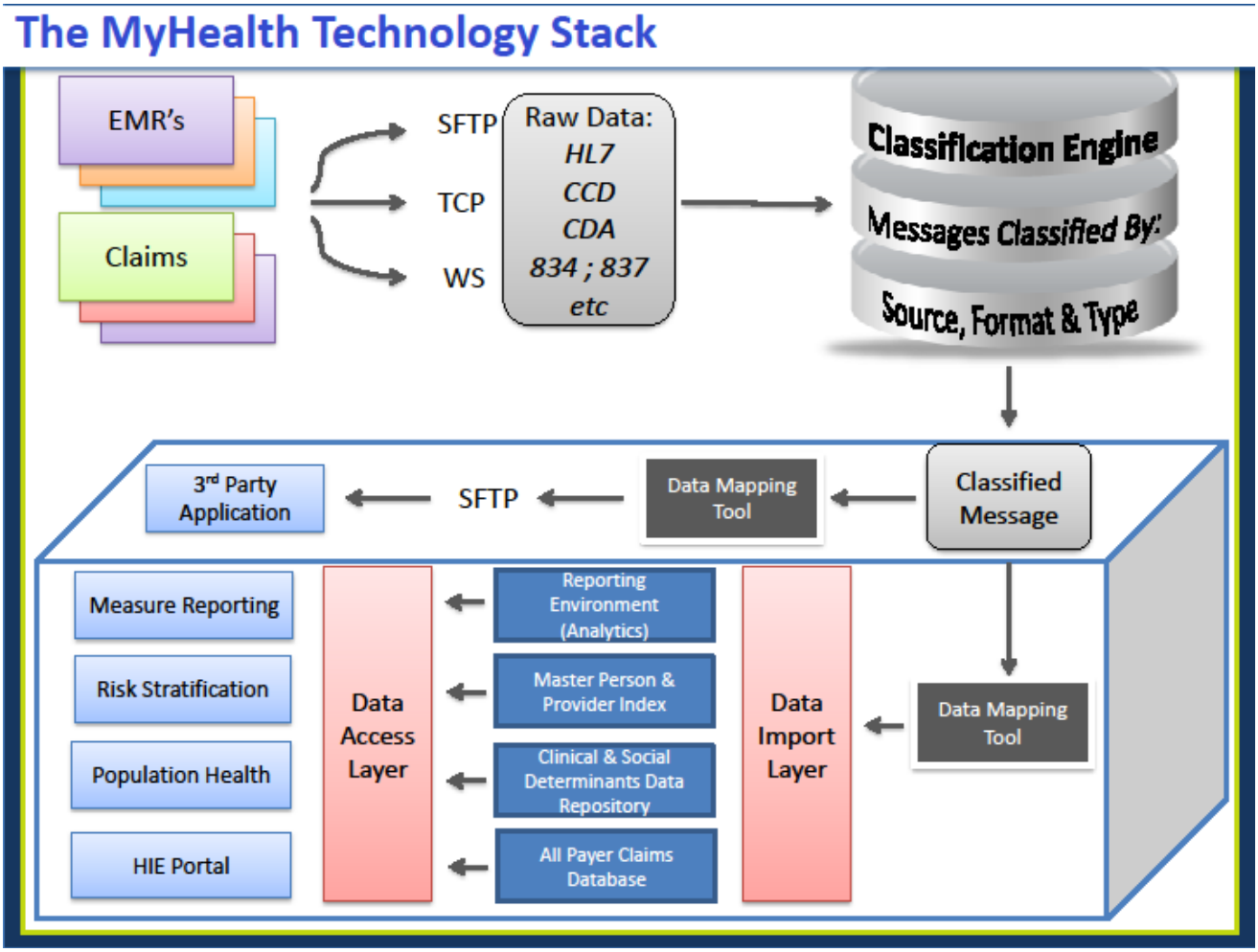



### *MyHealth Access Network*

MyHealth Access Network (MyHealth) is a nonprofit organization that has been in operation since 2009. MyHealth collects patient information to create opportunities for early intervention with at-risk patients, to assist in treating decisions during the patient visit and to enable population management programs through analytics and reporting tools. MyHealth is governed by a board of directors consisting of 20 members from health systems, tribal organizations, patients, universities, private payers, clinicians, representatives from the community, and public and allied health organizations. Dr. David Kendrick is the organization's CEO. MyHealth received funds through an Office of the National Coordinator for Health Information Technology (ONC) Beacon Community grant in 2010 to invest in infrastructure and technology. MyHealth is sustained through membership fees.

MyHealth supports care coordination through a consolidated Continuity of Care Document that summarizes and presents relevant point-of-care information. Authorized users may access patient data on-demand via the HIE by logging into a web portal from their EHR using single sign-on. As a participant in the Comprehensive Primary Care (CPC) Initiative, MyHealth is expanding their HIE data model to include claims data for value-based assessment of care. See the figure below for the MyHealth technology stack.

**Figure 40: MyHealth Access Network Technology Stack**




***Health-e Oklahoma***

Health-e Oklahoma is the Oklahoma Health and Human Services (HHS) interoperability system currently under development. In 2014, the Oklahoma HHS cabinet created the Deliver Interoperable Components Utilizing Shared Services (DISCUSS) committee with the mission to share technology resources among the HHS agencies. One of the first identified shared resources was to create the Health-e Oklahoma interoperability system. The purposes of Health-e Oklahoma are to share data within and across state health agencies, enable the consumption of health information from the two nonprofit HIEs, and support non-HIE participating providers submitting public health data. See Figure 43 for the Health-e Oklahoma HIE technology stack. Health-e Oklahoma is governed by the DISCUSS Committee and is managed by

the State HIE Director with support from the OSDH's Informatics Division and the Office of Management and Enterprise Services Information Services (OMES-IS) Division.

Health-e Oklahoma will initially receive public health data from 18 OSDH data systems, behavioral health data from ODMHSAS, and Medicaid claims data from OHCA with the potential to receive additional data from the Oklahoma Department of Human Services (DHS), Department of Rehabilitation (DRS) Services, and the Employee Group Insurance Division (EGID).

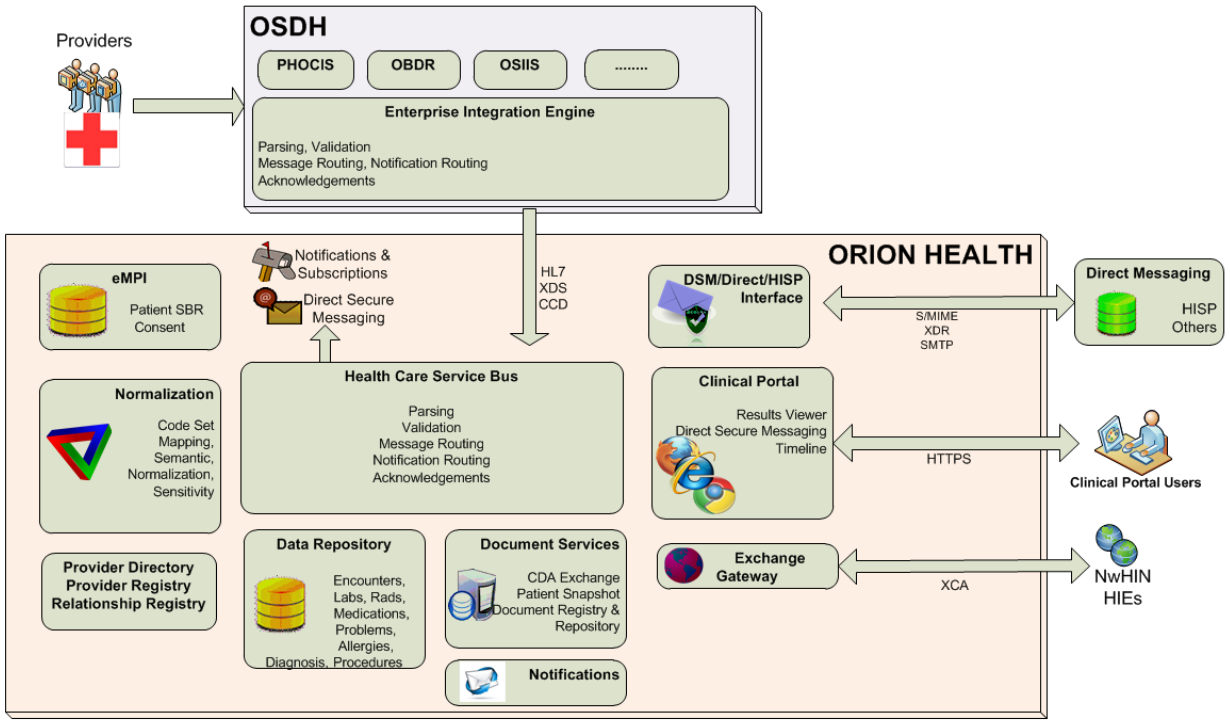
Health-e Oklahoma will provide numerous benefits related to public health data and state-level analytics. Included in the 18 OSDH data systems are the services data provided at the 86 county health department clinics located in 69 of the 77 Oklahoma counties. Table 4 contains the types of services and the unduplicated count of clients served in state fiscal year (SFY) 2014. Due to the lack of Certified Electronic Health Record Technology (CEHRT) within the county health departments, OSDH is unable to electronically exchange standardized data with other healthcare providers. Currently, paper records, encrypted thumb drives and other portable media are used to exchange information.

**Table 41: Unduplicated Clients for OSDH Programs for SFY 2014**

| Program | Client Count |
|---|---|
| **Adult Services** | 17,975 |
| **Child Health Services** | 22,803 |
| **Home Visitation Services** | 3,394 |
| **Dental Services** | 425 |
| **Early Intervention Services** | 7,744 |
| **Family Planning** | 55,473 |
| **Child Guidance** | 5,400 |
| **Immunization** | 208,582 |
| **Maternity** | 200 |
| **Sexually Transmitted Disease** | 25,775 |
| **Breast and Cervical Cancer Screening** | 8 |
| **Tuberculosis** | 8,750 |

In addition to exchanging treatment data through Health-e Oklahoma, the OSDH immunization information system will have the ability to receive standard immunization records submitted for meaningful use purposes and respond to queries returning immunization records and schedules. Additional use cases will be developed for newborn blood and hearing screening, lead reporting, birth defects reporting, and case reporting for reportable diseases. The implementation of Health-e Oklahoma provides Oklahoma state agencies with the ability to exchange data in a standardized, timely, and efficient format that has not been previously possible. This also provides state agencies with the ability to exchange data with other HIEs thereby reducing the reporting burdens on providers

**Figure 41: Health-e Oklahoma Technology Stack**




## Past HIT initiatives

Recognition of the need for statewide interoperability is not new, however. In 2010, Senate Bill 1373 created the Oklahoma Health Information Exchange Trust (OHIET) to support State Health Information Exchange Cooperative Agreement Program (SHIECAP) to achieve statewide interoperability. The purpose of OHIET was to foster and encourage the development and meaningful use of EHR technology throughout Oklahoma followed by ensuring complete coverage of the state by health information exchange through secure and appropriate transmission of electronic health information.

OHIET identified six major activities to fulfill its purpose:

- Develop a process to certify HIE organizations to ensure high quality health information services;
- Develop and operationalize grant programs that enhance an overall state strategy to assist providers in meeting MU requirements;
- Work to ensure cooperation and coordination at a high quality level in a 'network of networks' philosophy;
- Identify and shepherd policy and statutory changes to insure on-going, appropriate and secure health information exchange;
- Coordinate activities of the various entities established for information exchange; and

- Evaluate and monitor activities related to the OHIET Operational Plan.

OHIET expended the SHIECAP funds through a three-level voucher program to support eligible professionals and eligible hospitals in rural locations. The vouchers supported recipients in activities related to sending and receiving standard messages, connecting to an HIE, and implementing workflow enhancements.

An ONC Challenge Grant was awarded in 2011 as a sub-recipient under OHIET. Working through the Oklahoma-based healthcare professional services firm, Yeaman and Associates, OHIET used the Challenge Grant to conduct a pilot program aimed at facilitating care coordination between five long-term and post-acute care (LTPAC) facilities and the Norman Regional Health System. Through a combination of elements, the LTPAC pilot sites observed reductions in returns to the emergency department within 24 hours of discharge and in hospital readmissions within 30 days of discharge.

Following the conclusion of the SHIECAP, OHIET was eliminated through Senate Bill 516, effective January 1, 2016. Unfortunately, OHIET was unable to achieve statewide interoperability before it was eliminated.

***Current HIT Governances***

Governance for HIT in Oklahoma occurs at various levels. Each of the HIEs has a governance structures. However, with the elimination of OHIET, there is no state-level governance of HIT activities operating within the Oklahoma borders. The two nonprofit HIEs each have a Board of Directors responsible for governing their operations. Coordinated Care of Oklahoma's board is comprised of health systems, small provider groups, large provider groups, rural hospitals, post-acute care, and community participants. Coordinated Care Oklahoma has entered into an agreement with Yeaman and Associates, where Dr. Brian Yeaman serves as CEO, to provide organizational support, legal counsel, operations, finance and project management, and general oversight of the HIE. My Health's board is comprised of participants from health systems, tribal organizations, patients, universities, private payers, clinicians, community representatives, public and allied health organizations, and one individual appointed by the governor.

Health-e Oklahoma, the HHS interoperability system, has established governance through the HHS DISCUSS committee via the HHS DISCUSS Data Subcommittee. The DISCUSS committee is responsible for identifying and championing shared interoperability services efforts to support Oklahoma's health and human services agencies. The DISCUSS committee is chaired by the Deputy Secretary of Health and Human Services and includes five additional voting members from the largest HHS agencies: OSDH, OHCA, DHS, ODMHSAS, and DRS. The State Chief Information Officer (CIO), CIO for Health and Director for Enterprise Data Driven Services, and CIO for Human Services and Director of Technology Strategy provide guidance and subject matter expertise to support the DISCUSS committee. In addition to other shared-services identified by DISCUSS, the members agreed to create Health-e Oklahoma, the shared HHS interoperability system, to facilitate the sharing of the state's data across agencies and to link disparate systems. The DISCUSS Data Subcommittee consists of representatives from the DISCUSS agencies and Office of Management and Enterprise Services Information Services Division (OMES-ISD), is chaired by the OHCA Data Governance Director, and is responsible for establishing standard practices related to data shared among the HHS agencies. A Health-e Oklahoma stakeholder workgroup provides direct input into the design of the system and has representation from all data systems participating in the system.

There have been a number of attempts to achieve state-level HIT governance. Besides OHIET, the 2009 Senate Bill 757 created the Health Information Infrastructure Advisory Board (HIIAB) to support the OHCA in developing a strategy for adoption and use of electronic medical records and health information technologies that was consistent with emerging national standards and promotes interoperability of health

information systems. In 2013, the OHCA ceased the development of a state-agency HIE. HIIAB stopped all activities in 2014. Senate Bill 516, effective November 1, 2015, established OHIET and limited its authority until January 1, 2016.

Although there have been a number of attempts to achieve state-level governance of HIT activities, and specifically, interoperability between the various HIEs operating in the state, this has not been achieved. To address the lack of state-level governance, Mr. Bo Reese, the State Chief Information Officer, was recently appointed by Governor Mary Fallon as the State HIT Coordinator. A State HIE Director was recruited in October 2015 to support Mr. Reese and implement future initiatives. The State HIT Coordinator and State HIE Director co-Chair the SIM HIT Workgroup. They will continue to lead the workgroup in HIT-related initiatives and developing HIT governance for the Oklahoma Model.

## DRIVERS FOR HIT

The drivers for improved health information technology (HIT) occur in all levels of the healthcare, from primary care to specialty care and behavioral health. HIT is a vital component of optimal healthcare delivery. Patient-centered and patient-driven care must rely on HIT to improve traditional healthcare systems, expand the concept of healthcare through new services and tools, and give patients the ability to contribute to their care. Transitions of care among care teams rely on interoperability to provide a complete view of the patient's health issues. This requires complete, accurate and timely information. HIT offers opportunities to monitor the overall health of a population and reduce healthcare costs. HIT enables providers and payer the ability to manage and deliver efficient care to patients and is vital to new payment methodologies being pursued both at a state and national level.

## HIT OBJECTIVES

The HIT objectives included in this plan will support the OHIP 2020 HIT goals and the Oklahoma SIM goals and objectives. The 2015-2019 Oklahoma Health Improvement Plan (OHIP) established the HIT Workgroup. As a domain within the OHIP Access to Services the Health IT workgroup aims to create a robust interoperable IT ecosystem to improve the health of all Oklahomans. The HIT workgroup developed the following goals and tactics to achieve their five-year vision: "Within the next five years, the Health IT workgroup will develop an interoperable ecosystem capable of supporting the delivery of better health, better care at lower costs by ensuring availability and enabling the use of appropriate health data, promoting patient, families and caregivers engagement with their own health data, goals of care and plans, and fostering health innovation in Oklahoma."

### Oklahoma SIM HIT Goals and Objectives

The following Oklahoma SIM HIT goals and objectives represent an intersection of the OHIP 2020 goals and tactics, with additional objectives to support the Oklahoma Model. The HIT objectives are categorized into two separate goals and are addressed throughout the plan as two systems to support each of the following goals.

**Goal 1: Oklahoma has established statewide health information exchange.**

Objectives:

- Define and establish state-level governance to ensure transparency, inclusion, balance across participants, and authority over state-level health information exchange activities, and to advise the State HIT Coordinator.

- Review existing legislation; define and establish new legislation as needed to protect patient privacy and to improve health through the use of HIT and to protect patient privacy.

- Establish policies to address standards-based on interoperability across provider-based and HIE-based patient portals to allow patient's access and input into their health information.

- Identify and develop staff resources to support HIT including management, compliance, risk management, evaluation and technical support.

- Increase adoption and utilization of certified EHR technology.

- Increase adoption and utilization of HIEs.

- Establish and/or adopt metrics for EHR and HIE utilization, connectivity and performance

- Identify technology needs to support standards-based interoperability and the integration of data including retention, aggregation, and analysis and reporting.

- Facilitate statewide and cross-jurisdictional exchange of health information through HIE participation with the eHealth Exchange.

- Facilitate statewide exchange and consolidation of health information through a Health Information Network (HIN).).

**Goal 2: Oklahoma has a state-level solution for integrated clinical, claims, and social determinants of health data to support a value-based analytics (VBA) system.**

Objectives:

- Define and establish a state-level governance structure to ensure transparency, inclusion, and authority over the VBA system.

- Review existing legislation; define and establish new legislation as needed to support the VBA system.

- Establish a state data analytics system to support the VBA. The state data analytics system is to include data collection, data management, quality assessment and improvement, analyses, reporting, dissemination and ongoing quality improvement.

- Identify and develop staff resources to support the VBA system including staff and budget management, compliance, risk management, evaluation and technical support.

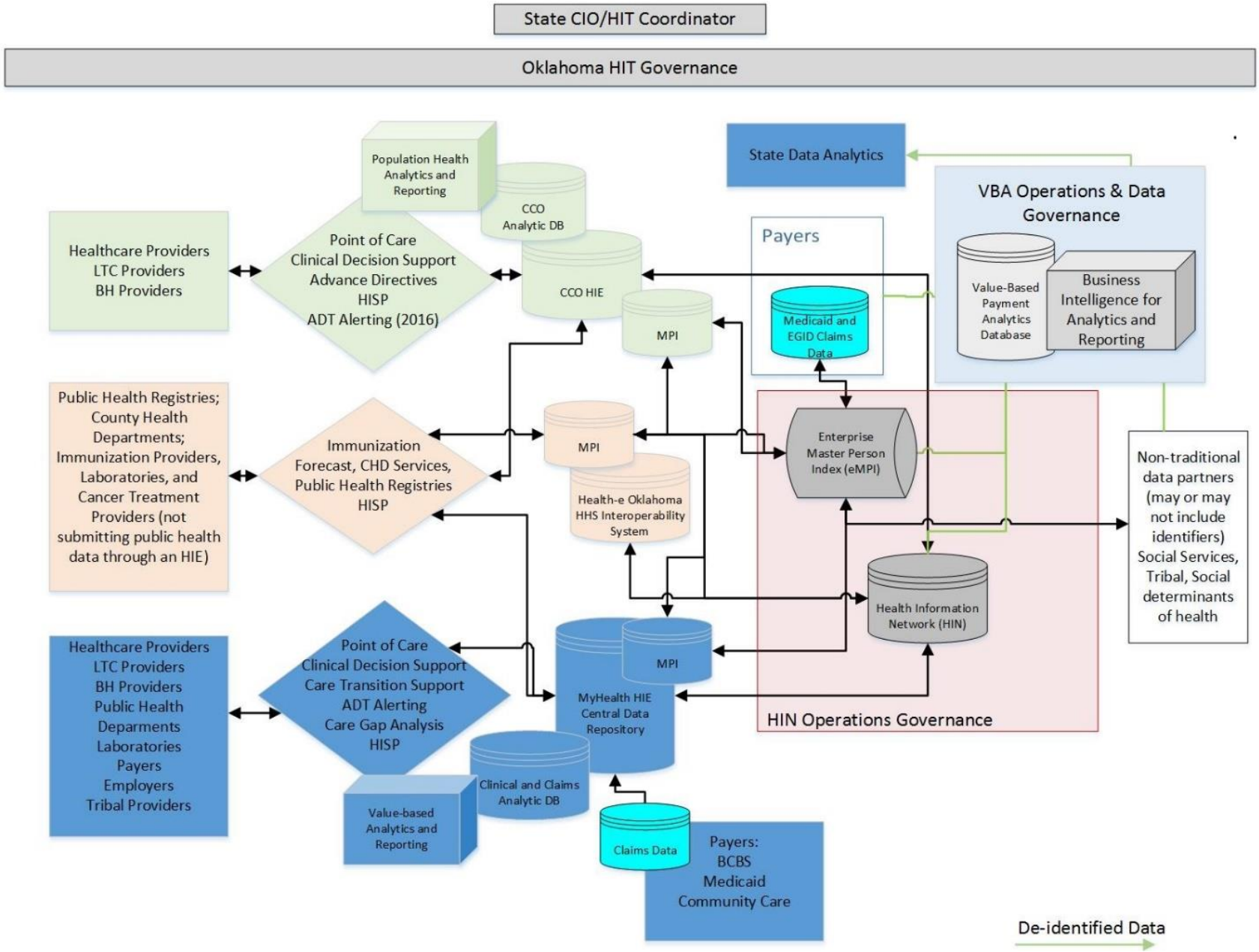
These goals and objectives are critical for the success of the Oklahoma SIM model. Without interoperability and a VBA system, the participants will not have the necessary information to support the model. The systems, in conjunction with the HIEs, will provide data to support the SIM model participation and model performance metrics as identified in the Round 2 Reporting Metrics Guidance. Through the stakeholder engagement process in developing this plan, the Oklahoma SIM project identified a critical component for success: the availability of electronic information to support provider and program decisions, support transitions of care, identify gaps in community resources, and encourage

patient engagement. All providers participating in Oklahoma SIM programs will be required to be utilize data from an HIE participating in statewide interoperability.

The proposed Oklahoma HIT design (see the figure below) is a conceptual framework that incorporates the existing HIEs and new state-agency HIE to meet the statewide interoperability needs, support the value-based payment model, and leverage existing resources. Public health data will be exchanged with the nonprofit HIES to the greatest extent possible to reduce connectivity burdens on providers and support the HIEs. Through the state-agency HIE, county health departments (CHDs) will have the unique opportunity to exchange electronic data with private providers. Each HIE will exchange data through the HIN using the Master Patient and Provider Index (MPI) under the Health Information Network (HIN) governance. Clinical data will be matched with Medicaid and EGID claims data and other patient-centric data through the HIN MPI to enable the linking of needed information in order to support the value-based payment model.

Patient engagement is a critical component of the HIT plan and objectives. Patients will be included in governance to provide input into the design and implementation of the systems and to assist in developing standards related to data sharing. In addition, patients will help determine when and where their healthcare data should be available to ensure they have the necessary information to engage in their healthcare decisions and to communicate necessary information to their providers.

**Figure 42: Proposed Oklahoma HIT Design**



## MEETING THE HIT OBJECTIVES

This section will review how each of the below areas will be leveraged or erected to support the above frame and meet the HIT objectives set out for the state of Oklahoma.

### EHR Adoption and Utilization

Unfortunately, many areas for improvement exist for certified EHR technology (CEHRT) adoption and utilization in Oklahoma. Information gaps exist regarding where CEHRT is implemented. The Oklahoma HIT environment is fragmented and incomplete. The percent of provider organizations using CEHRT is unknown. Among Oklahoma's physicians, nurse practitioners, and physician assistants, over 40 percent are reported to have not demonstrated Meaningful Use of Certified Health IT and/or Adopted, Implemented, or Upgraded any EHR (Health IT Dashboard). That estimate does not represent the number of Medicaid and/or Medicare organizations and does not include organizations that do not serve Medicaid and/or Medicare recipients.

Although there have been many initiatives across Oklahoma to expand CEHRT use, with 22.74 percent participation of eligible professionals and 72 percent participation of eligible hospitals for the Medicaid EHR Incentive Program at the end of June 2015 (Table 1), there remains a significant need to support further expansion of CEHRT adoption and utilization across the state. The HIT Workgroup will develop tasks to identify and implement methods for working with providers and CEHRT vendors to promote CEHRT adoption and utilization across all Oklahoma healthcare providers including those not eligible for the EHR incentive funds. The task domains will include contractual support, funding, training, and on-going on-site support. The HIT Workgroup will continue to collaborate with initiatives including the OSDH chronic disease projects, the AHRQ-funded Healthy Hearts Oklahoma project, the ODMHSAS Health Home project and the newly awarded PTN initiative with Telligen.

### Health Information Exchanges

Oklahoma's two nonprofit HIEs are robust and continuously improving and expanding services available to their participating providers. Although their business models differ, both HIEs have prioritized point of care and clinical decision support. Each HIE has developed additional services to meet the needs of their customers. MyHealth has established a referral service, Doc2Doc, and Coordinated Care.

Oklahoma has recently implemented an Advance Directive service. These HIEs cover a large geographic area across the state. However, neither covers the entire state. Therefore, as previously noted, the two HIEs are not interoperable. The OSDH is implementing Health-e Oklahoma to fill some of the information gaps related to public health services and reporting but there continues to be a critical need for statewide interoperability to improve the health of all Oklahoma citizens.

### Statewide Interoperability

Two options exist for establishing statewide standards-based interoperability: the federal health information exchange network, eHealth Exchange, and the establishment of an Oklahoma Health Information Network (HIN). Each of the options has benefits and limitations. It will ultimately be the responsibility of a governing board to determine the best solution(s) for Oklahoma.

### *eHealth Exchange*

The eHealth Exchange is operated by The Sequoia Project, previously Healtheway, a nonprofit organization that supports interoperability and HIE initiatives. The eHealth Exchange is a rapidly growing network of exchange partners who securely share clinical information via the web using a standardized approach. Currently, 110participants are active in eHealth Exchange, including the Oklahoma HIE, Coordinated Care Oklahoma; HIEs from four border states including the Colorado Regional Health Information Organization (CORHIO),Kansas Health Information Network (KHIN), New Mexico Health Information Collaborative (NMHIC), and Texas Health Services Authority (HITTexas )four federal agencies are participating, including Department of Defense, Veteran's Affairs, Centers for Medicare and Medicaid Services, and Social Security Administration. Participation in the eHealth Exchange will support interoperability across all participants and provide critical information at the point of care for Oklahoma citizens receiving care in Oklahoma and for those receiving care in surrounding four surrounding states. It is expected that Oklahoma SIM HIEs will be required to participate with eHealth Exchange to improve health information exchange across the state and with other eHealth Exchange participants.

As noted in Milliman's Statewide Environmental Scan Findings, (Appendix D), there are limitations to eHealth Exchange for value-based payment models. Healthcare data shared across eHealth Exchange will be limited to point-of-care clinical information as the federated connection inhibits use of analytics or aggregation of information for reporting purposes. To address those limitations, Oklahoma could establish a HIN to support statewide interoperability of critical systems and the value-based payment and analytics system.

### *Health Information Network*

The Oklahoma HIN will be similar to eHealth Exchange through a common set of standards, legal agreements, and governance. To prevent additional burdens on the Oklahoma HIEs, the Oklahoma HIN will deviate as little as possible from eHealth Exchange standards and policies. To support value-based analytics, the Oklahoma HIN will differ in terms of the data model. Data from all Oklahoma HIN participants would be centralized to provide the ability to link with claims data and other data identified to support the Oklahoma value-based payment model. The Oklahoma HIN will include a privacy and security layer with consent management, a Master Patient Index to identify providers and patients, a provider directory, a notification system for ADT alerts, and solutions for data extraction, data transport, and load. In addition, it will develop and implement to developing data retention policies to support the value-based payment model analytics. The Oklahoma HIN governing board will determine the best way to enable electronic clinical quality measure (eCQM) reporting for providers submitting data through HIEs.

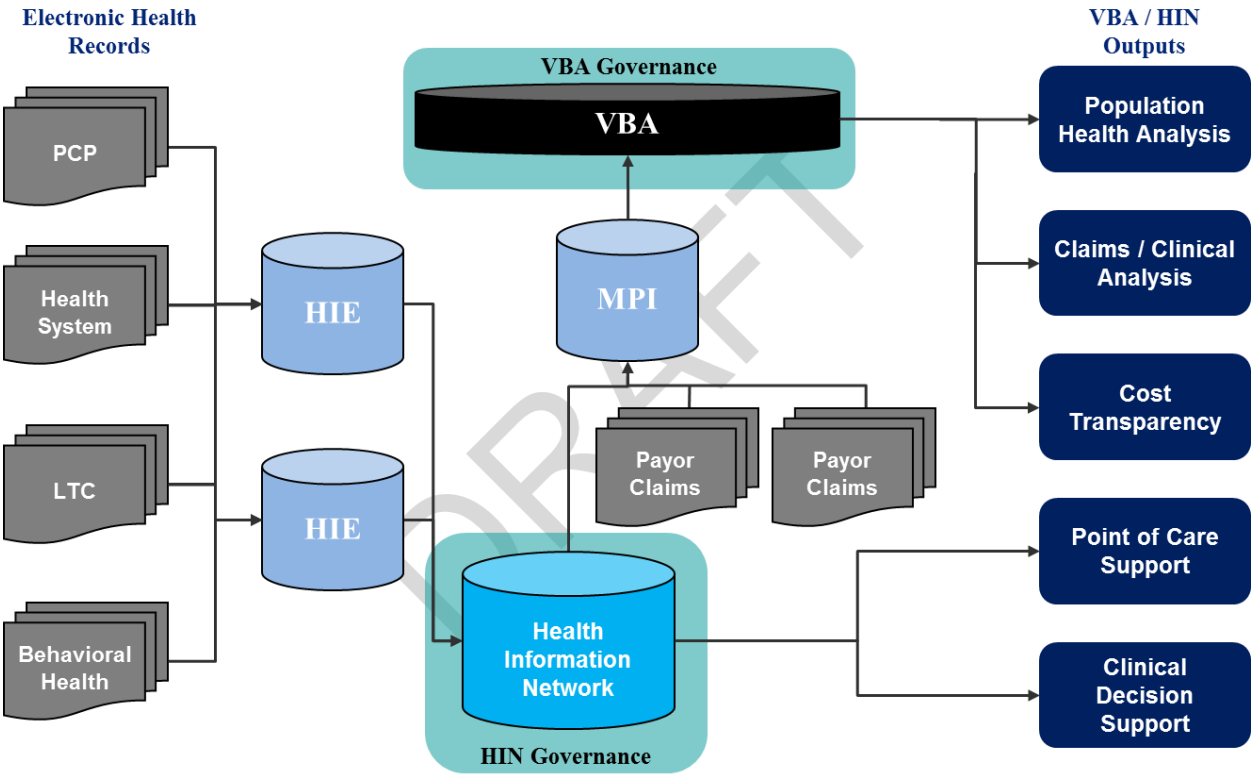
Regardless of the solution to support statewide HIE interoperability, statewide HIE interoperability is critical to the improvement of healthcare, health, and cost reduction in Oklahoma. In addition, the clinical data exchanged across the state would feed into the VBA system to provide clinical information important to quality and outcome measures that cannot be obtained from claims or public health data.

### Value-based Analytic System

The VBA system will consist of platforms that include a structured database for storing integrated data and a business intelligence solution. The VBA database will contain integrated clinical, claims, public health, and social determinants health data. To protect the privacy of the plan participants, the data contained within the database will be de-identified following assignment of an encrypted unique identifier

using an MPI included in the HIN. The unique identifier will then be used to link clinical, claims, and other data determined to be critical to support the value-based payment model.

**Figure 43: VBA System**






***Data Sources***

Clinical data will be obtained from the HIEs via the Oklahoma HIN and from non-HIE participants including, but not limited to, tribal health services, long-term care services, and behavioral health services. Claims data for state-purchased healthcare will be obtained from the Medicaid Managed Information System (MMIS) and the Oklahoma Office of Management and Enterprise Services, Employees Group Insurance Department (EGID). As the system expands, additional private-payer claims data, state-funded behavioral health data, and prescription and social determinants of health data will be added to support the analytics required to better inform activities to support the Oklahoma SIM value-based payment model and the Triple Aim.

***Business Intelligence***

Business intelligence (BI) is a technology-driven process for analyzing data and presenting actionable information. The BI encompasses a variety of tools, applications, and methodologies that will enable the Oklahoma SIM analytics team to:

- Collect data from internal and external sources;
- Prepare it for analysis;
- Develop and run queries against the data; and
- Create reports, dashboards and data visualizations to make the analytical results available to Oklahoma SIM stakeholders.

With the inclusion of clinical, behavioral health, claims, and social determinants of health data in the VBA system, there will be significant opportunities for analyses to measure episodes of care, population health outcomes, social determinants of health (e.g., education, employment, income, and access to services), and performance and quality metrics; and to conduct risk-adjustments using multiple regression methods. The VBA will be used to monitor and report clinical, population health, and quality measures across providers, payers, employers, and patients. As noted in Milliman's Oklahoma Value-Based Analytics Roadmap (Appendix E), questions related to screenings and test results, impact of demographics such as education and employment on treatment compliance and outcomes, provider performance, interventions and innovations related to outcomes will be available.

Reporting will be available through dashboards, standard reports, and user-defined queries. Standard reports will include, but are not limited to, characteristics of patients receiving care coordination services by physician and payer and characteristics of patients by outcomes.

### HIT Metrics

HIT metrics will be established through the governance of the HIN and the VBA. The HIT metrics will include measures for performance, security, and quality. In addition, metrics will be developed to ensure the goals and objectives have been met and maintained, and to support the measures identified for the value-based payment model including state-level clinical quality and model adherence measures.

## CRITICAL SUCCESS FACTORS AND STRATEGIES FOR SUCCESS

### HIT Governance

A body of governance for the technology and data needed to support the Oklahoma Model will establish standards and consistency to protect the privacy of Oklahoma citizens. The HIT Plan governance model will ensure that decisions are made and authority is exercised with inclusiveness and accountability for all partners. This will in turn establish transparency and trust. The HIT Plan governance model will also incorporate governance over the Oklahoma HIN and VBA. The governance bodies will have authority over planning, designing, purchasing, implementing, and ongoing operations of all HIT components.

#### *Governance Models in Other States*

Three states that are similar to Oklahoma in terms of population characteristics, economics, and politics were evaluated to identify existing HIT structures and governance models. Those states were Arkansas, Kansas, and Texas. Additionally, the New York eHealth Collaborative policy and governance structure was evaluated due to its success and similarity to the proposed Oklahoma governance model.

*Arkansas*

In 2011, Arkansas Act 891 established the Arkansas Office of Health Information Technology (OHIT) and authorized OHIT to form a nonprofit to be known as the State Health Alliance for Records Exchange (SHARE), the official state HIE. This was supported through a Federal Grant authorized by the American Recovery & Reinvestment Act (ARRA) of 2009. The purpose of SHARE and OHIT are to increase the use of HIT and improve the quality of health for Arkansas citizens by reducing the potential for medical errors, reducing the incidence of redundant tests and procedures, improving patient safety, and making the delivery of healthcare services more efficient and affordable. OHIT and SHARE adhere to privacy and security requirements under the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and Health Information Technology for Economic and Clinical Health of 2009 (HITECH) that cover access to and use of health information. The duties of OHIT and SHARE include:

- Coordinate Health IT initiatives of the state with relevant executive branch agencies, including state boards, commissions, nonprofit corporations, and institutions of health education
- Assure the effective coordination and collaboration of Health IT planning, development, implementation, and financing
- Review all Health IT-related grant applications before submission to funding entities
- Accept, receive, retain, disburse, and administer any state special or general revenue funds or federal funds specifically appropriated for health information technology
- Make contracts and execute all instruments necessary or convenient for carrying out its business
- Adopt rules necessary to carry out the policies and objectives of this chapter
- Establish reasonable fees or charges for the use of the SHARE to fund operational costs

*Kansas*

In 2013, Kansas established the Kansas Health Information Technology Act (KHITA). The law amended the 2011 Kansas Health Information Technology Exchange Act, renaming it the Kansas Health Information Technology Act. Both acts promote the electronic sharing of health information among providers and regulate health information organizations (HIOs) in Kansas; transferred oversight and management from a private corporation, Kansas Health Information Exchange, Inc. (KHIE), to the Kansas Department of Health and Environment (KDHE); and established the Advisory Council on Health Information Technology. The Advisory Council on Health Information Technology serves in an advisory role to the Secretary of Health and Environment and resides within the Division of Health, Department of Health and Environment. KHITA adheres to nationally recognized standards for:

- Interoperability;
- Adoption and adherence to rules promulgated by the Department regarding access to and use and disclosure of protected health information maintained by or on an approved HIE; and
- Development of procedures for entering into and enforcing the terms of participation agreements with covered entities, which satisfy the requirements established by KDHE.

The act established the following requirements to be used by approved HIOs in participation agreements with covered entities:

- Specifications of procedures by which an individual's protected health information will be disclosed by covered entities, collected, and shared with other participating covered entities and with the Department as required by law for public health purposes;

- Specification of procedures by which an individual may elect that protected health information be restricted from disclosure by approved health information organizations to covered entities; and

- Specifications of purposes for, and procedures by which a covered entity can access an individual's protected health information from the approved health information organization, including access to restricted information by a covered entity in an emergency situation when necessary to properly treat the individual.

KHITA states that protected health information in the possession of an approved HIOHIOHIOHIO cannot be subject to discovery, subpoena, or other means of legal compulsion for the release of such information to any person or entity. KHITA states that an approved HIO cannot be compelled by a request for production, subpoena, court order, or otherwise, to disclose protected health information relating to an individual.

*Texas*

The Texas Health Services Authority (THSA) was established through legislation in 2007 as a state-level non-profit corporation governed by a board of gubernatorial appointees. In 2010, THSA created the Texas State HIE Plan, which included three key strategies: general state-level operations, a local HIE grant program, and the white-space program. The White Space program provides Texas counties that are not served by a local community-based HIE assistance with electronic exchange of medical information. In 2013, Texas purchased a system for the development and implementation of the following shared services: Clinical Document Exchange (treatment), Federated Trust Framework (security/confidentiality/accuracy), patient consent management and eHealth Exchange. THSA's State-Level Shared Services or HIE Texas is a private secure network that spans the entire state and supports the exchange of information between Texas HIEs and other data sources.

The Texas HIE collaborative process involves a wide variety of stakeholders. It also includes local HIEs and WhiteSpace HISPs, the HHSC Office of e-Health Coordinator, THSA Board of Directors, collaboration council, and Task Forces. The THSA Board of Directors considers proposed policies and other recommendations developed through the collaborative process by the THSA Collaboration Council. The Collaboration Council serves as the THSA steering committee and helps provide oversight of statewide HIE implementation. The collaboration council also issues Statewide Policy Guidance to local HIEs and other contractors as necessary to support a common and consistent technical, privacy and security and legal framework for HIE in Texas.

The THSA has formed stakeholder taskforces to monitor ongoing developments in HIE in subject areas including data standards and technical architecture, privacy and security, and healthcare provider and consumer engagement. The role of the task force is to solicit advice from multi-disciplinary, multi-stakeholder experts on planning and implementation questions regarding statewide HIE. The THSA developed interoperability guidance, privacy and security guidance, a state-level trust agreement and a model business associate agreement (BAA). The Texas Model BAA is provided as an aid for use between Texas physicians and hospitals and the state's grant funded health information exchange or HIE. The Texas State-Level Trust agreement was developed by the THSA through a collaborative stakeholder process to serve as a contractual agreement between the THSA, the state's grant funded local HIEs, applicable state agencies and others who want to participate in the shares services.

*New York*

New York State developed a Statewide Health Information Network of New York (SHIN-NY) to connect the many different stakeholders around the state and facilitate the communication of vital health information. The New York eHealth Collaborative (NYeC) is charged with development and operation of SHIN-NY and coordinates efforts among and between key stakeholders, including but not limited to the New York State Department of Health, qualified health IT entities, providers, and the public.

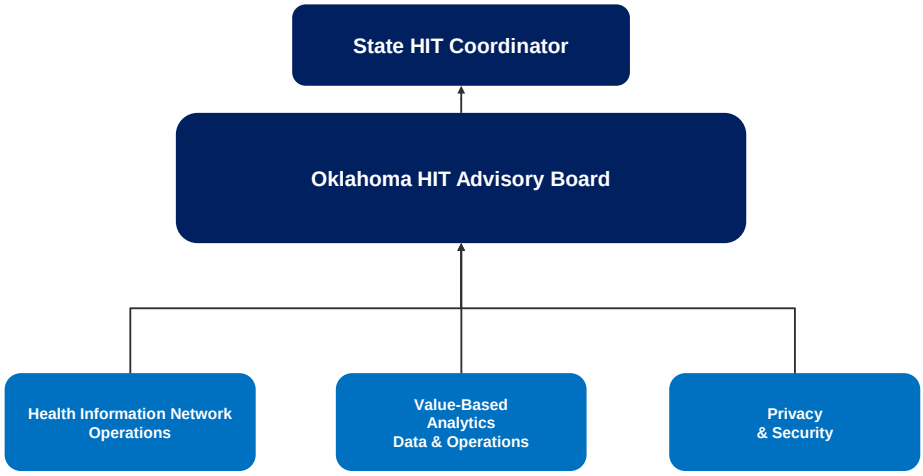
The SHIN-NY governance model provides the structure necessary to ensure accountability and trust in the implementation of the SHIN-NY. The *Commitment to Fair Information Sharing Principles* outline practices that ensure a robust HIE and trust framework among patients, healthcare providers, and other healthcare organizations participating in the SHIN-NY. Qualified Health IT Entities have two options utilize a set of SHIN-NY core services established by NYeC, either through a "connect" or a "service" agreement relationship. Qualified Entities have input into SHIN-NY service development and implementation via a SHIN-NY Operations Committee that provides ongoing guidance on the SHIN-HY services roadmap and release plan.

Oklahoma is proposing a multi-tiered governance structure due to the distinction between the Oklahoma HIN and the VBA systems. Differences exist in the types and levels of data contained within each system and proposed uses of the two systems. Therefore, the proposed governance model includes three governing bodies:

1. HIN Governance Committee;
2. VBA Governance Committee, and an
3. Overarching HIT Oversight Board.

The HIT Oversight Board will be responsible for advising the State HIT Coordinator and will be supported by OMES-ISD. Figure 5 shows the multiple layers of governance included in the plan.

**Figure 44: Proposed Oklahoma HIT Governance Structure**




***Oklahoma HIN Governance***

To establish state-level authority over the Oklahoma HIN and requirements for participating HIEs, an Oklahoma HIN Governance Committee will be created. The committee will consist of public and private stakeholders including providers and organizations submitting data, users of the data, and patient representatives. Membership will include representatives from a mix of rural and small providers and Native American tribes. The HIN Governance Committee will be responsible for establishing a vision for health information exchange in Oklahoma, determining the purpose and use of the HIN, and defining and publishing use cases to describe the manner in which users interact with the system.

Healthy Oklahoma 2020 established the HIT Workgroup. As a domain within the OHIP Access to Services – Infrastructure area, the Health IT workgroup aims to create a robust interoperable IT ecosystem to improve the health of all Oklahomans. Although not an official governing body, the HIT Workgroup provides guidance and direction for all HIT activities and as such developed the aforementioned goals and tactics to improve statewide health information exchange shown in Table 4. Table 5 contains the members of the HIT workgroup and shows representation from many of the same organizations that would be included in the HIN Governance Committee.

**Table 42: HIT Workgroup Members**

| Workgroup Member | Title/Organization |
|---|---|
| **Chair: Bo Reese** | State Chief Information Officer/State HIT Coordinator<br>Office of Management and Enterprise Services,<br>Information Services Division |

| | |
|---|---|
| **Vice-Chair: Rebecca Moore** | State HIE Director<br>Office of Management and Enterprise Services,<br>Information Services Division |
| **Dr. Rodolfo Alvarez del Castillo** | Chief Medical Officer<br>Yeaman & Associates |
| **Erika Anderson** | Humana |
| **Jesse Anderson** | Sr. Clinical Applications Coordinator<br>Chickasaw Nation |
| **Mario Cruz** | Chief Information Officer,<br>Oklahoma Foundation for Medical Quality |
| **Dr. Paul Darden** | Chief, section of General and Community Pediatrics, University of Oklahoma College of Medicine |
| **Lisa Gifford** | Chief Information Officer,<br>Oklahoma Health Care Authority |
| **Dr. David Kendrick** | Chief Executive Officer<br>MyHealth Access Network |
| **Tracy Leeper** | Policy Analyst<br>Oklahoma Department of Mental Health and Substance Abuse Services |
| **Patsy Leisering** | Director of IT – Health Agencies<br>Office of Management and Enterprise Services |
| **Cynthia Scheideman-Miller** | Executive Director<br>Heartland Telehealth Resource Center |
| **David Thompson** | Senior VP and COO<br>Global Health |
| **David Wharton** | Health Services Program Manager<br>Choctaw Nation |
| **Lindsey Wiley** | Health Information Technology Manager<br>Oklahoma Foundation for Medical Quality |
| **Dr. Brian Yeaman** | Chief Executive Officer<br>Yeaman & Associate |

***Oklahoma VBA Governance***

The VBA will operate under a separate governance body due to the inclusion of additional data and the need to establish oversight over analytics and reporting. There will be overlap between the HIN and VBA governance committees due to the inclusion of clinical data. Unlike the HIN membership, the VBA Governance Committee will include representatives from health plans and care-coordination organizations. With input from the VBA Governance Committee, the committee chairperson will be

responsible for establishing a vision for the Oklahoma Model VBA system, determining the purpose and use of the system, and defining and publishing use cases to describe the manner in which users will interact with the system, thereby defining the system's required capabilities. To assist in the development of the design, the VBA Governance Committee will seek guidance from experts in developing multi-payer claims database systems and in value-based model evaluation.

One alternative to establishing a new governing body is the Health Care Information Advisory Committee The Oklahoma Health Care Information System Act, 63 O.S. § 1-115, established the Oklahoma Health Care Information System responsible for the development and operation of a method for collecting, processing and disseminating healthcare data, including but not limited to quality, expenditure and utilization data. The Health Care Information Advisory Committee, 63 O.S. § 1-122, was established to advise and assist the Division of Health Care Information with determinations related to data elements to be collected, reporting requirements, and the release and dissemination of information to the public. The membership of the advisory committee is appointed by the State Commissioner of Health. The membership shall include but is not limited to the Administrator of OHCA, or a designee and the presidents, or their designees, of the following organizations:

- The Oklahoma State Chamber of Commerce;
- The Oklahoma Hospital Association;
- The Oklahoma State Medical Association;
- The Oklahoma Osteopathic Association;
- The Oklahoma AFL-CIO;
- A statewide healthcare consumer coalition;
- The Association of Oklahoma Life Insurance Companies;
- The Oklahoma Health Care Authority;
- The Oklahoma Pharmaceutical Association;
- The Oklahoma Dental Association;
- The Oklahoma State Chiropractic Association;
- The Oklahoma Optometric Association;
- The Oklahoma Physical Therapy Association;
- The Oklahoma Podiatric Medical Association;
- The Oklahoma Psychological Association; and
- The Oklahoma Association of Home Care.

***Privacy and Security - Oklahoma HIT Oversight Board***

The Oklahoma HIT Advisory Board will be responsible for advising the State HIT Coordinator. The board will be supported by the State HIE Director. The Board will develop and adopt policies for recommendation to OMES-ISD regarding:

- Policies and procedures for protecting the confidentiality of the personal and health information of Oklahoma citizens regarding their healthcare information;
- Standards related to health information exchange and security;
- Evaluation and selection of technology to support statewide interoperability;
- Internal procedures for adoption of policies that assure compliance with federal and state regulations;
- Planning and monitoring investments to maintain sustainability of HIT systems

***Organizational Capacity***

The State HIE Director, under the supervision of the State HIT Coordinator and HHS Deputy Secretary of Health and Human Services, will provide leadership and management support for the HIN Governance Committee. The State HIE Director, with assistance from the OSDH Center for Health Innovation and Effectiveness, Planning Manager for the Office of Health Innovation Planning, will provide support through meeting facilitation, document management, pursuit of funding opportunities, and outreach to garner membership and additional resources. The VBA Governance will be supported by the Health Care Information Division Director in collaboration with assistance from the OSDH Center for Health Innovation and Effectiveness, Planning Manager. The Office of Health Innovation Planning will provide support through meeting facilitation, document management, pursuit of funding opportunities, and outreach to garner membership and additional resources. The HIT Oversight Board will be supported by the State HIE Director with assistance from OMES-ISD. The State HIE Director will be responsible for meeting facilitation, document management, staff management, and pursuit of funding opportunities

***Project Management***

Project Management will be required for all aspects of governance and during all phases of the project. Project managers will assist in the development of tasks, assignment of responsibilities, and be responsible for maintaining adherence to commitments and timelines. Project managers skilled in agile methodology, project lifecycles, and system lifecycles will be included from the beginning of the projects. They will be responsible for developing regular status reports, risk and mitigation plans, and communication plans. The project managers will be responsible for ensuring that each team member is accountable and will escalate issues when they arise.

***Leveraging Shared Solutions***

The HHS DISCUSS Committee is committed to identifying and leveraging shared solutions when a need is identified. As part of the governance structure, the DISCUSS Committee will make recommendations related to state solutions that could be leveraged as part of the HIT plan. To ensure transparency, all procurement will meet requirements under the Oklahoma Central Purchasing Act. Therefore, shared solutions will be evaluated under the same rigorous processes and must meet the same criteria as other potential solutions identified during the planning and design phases of the HIN and VBA projects.

### *Leveraging Existing Health Information Exchanges*

Existing HIEs will be leveraged in terms of both knowledge and exchange of data. Both HIEs have highly skilled and experienced staff members who have offered to provide guidance and technical assistance in the design and implementation of the systems and data management, quality and reporting. The HIEs will support the HIN through data submissions and will partner with the state to support their participating providers in public health reporting. The HIEs are represented on HIT Workgroup and have input into the HIT plan.

### *Timelines*

The timelines for all HIT activities will be developed to support the Oklahoma SIM timeline. The HIT timelines will be developed through agile project management methodology following the development of user stories which will include time-oriented SIM objectives. To monitor the activities and adherence to the timelines, tasks will be assigned and daily status reports will be produced by the project manager and provided to the project leadership.

## Policy

Policies for HIT will be established by the governance bodies of the HIN,VBA and privacy and security committee. The policies will provide guidelines under which the systems will operate and will establish rules for each layer including privacy and security, consent management, identify management, data extraction, data management, data aggregation, data quality and provenance, analytics, notifications and reporting.

The Oklahoma SIM project will pursue policy levers such as grants and incentives to enable success of the model. Oklahoma will pursue CMS funding through an HIE Advance Planning Document and ONC funding through interoperability grants. Oklahoma will also seek legislative support to establish the HIT Oversight Board. Oklahoma will continue to support existing HIE networks and focus on statewide interoperability and adoption of standards-based HIT interoperability with a focus on protecting the privacy of Oklahoma citizens.

### *SIM Alignment with Existing HIT Efforts*

The Oklahoma SIM activities closely align with existing HIT efforts that support EHR and HIE adoption and utilization and data collection and reporting. As previously described, Oklahoma has received federally-funded grants that include HIT requirements, private health plans are requiring HIE participation, and the legislature has established regulations for collecting and disseminating data.

For claims and clinical data reporting, the Oklahoma Model aligns directly with the Oklahoma Health Care Information System Act, 63 O.S. § 1-115, which establishes the policies to support the VBA including collecting, processing and disseminating clinical and claims information. Under the Health Care Information System Act, the Oklahoma Health Care Information System is responsible for the development and operation of a method for collecting, processing and disseminating healthcare data including, but not limited to, quality, expenditure and utilization data.

### *Transparency*

The establishment of the public/private HIN and VBA Governance Committees in collaboration with the public/private collaborations through the OHIP Steering Committee and OHIP HIT Workgroup will provide all stakeholders the opportunity to be informed of any decisions related to the Oklahoma SIM

project. In addition, all procurement activities will be required to meet the state purchasing requirements as defined by the Oklahoma Central Purchasing Act (74 O. S. §85.1, et seq.).

***Patient Engagement and Shared-Decision Making***

Patient engagement will be done through the inclusion of patients in the governance committees. Both the HIN and VBA governance committees will include clinical and behavioral health patient representatives and a mix of public and private representation. The final decisions regarding the information to be shared, design of the systems, the process for de-identifying data, access to the system, and management of the systems will be shared across all stakeholder groups.

***Infrastructure***

Existing program and technical infrastructure will be utilized where available. During the design phase, as needs are identified, additional infrastructure will be established to support HIT activities in terms of technology for the HIN and VBA; technical assistance related to EHRs, HIEs, and clinical quality reporting; and staff resources to support governance, technology, and data management, analytics and reporting.

***Technology***

Statewide interoperability will be achieved through the eHealth Exchange and Oklahoma HIN. The HIN will include an MPI and database to store health information. Analytics and reporting will be achieved through the VBA which will include a data warehouse and BI solution. The specifications of the technology stack for the HIN and VBA will be determined during the requirements and design phases of the project.

A timeline for the HIT activities will be developed to coincide with the timeline for the SIM initiatives. It will be critical to ensure the technology and infrastructure is established and tested prior to implementation of SIM activities.

***Technical Assistance***

The need for technical assistance will be determined at the initiation of the project and re-evaluated periodically. Potential technical assistance will provide direct support to organizations in the selection of and contracting with EHR vendors, to providers to better utilize their EHRs for patient management and in developing eCQMs and reporting to the Physician Quality Reporting System (PQRS), and to organizations in understanding and utilizing HIEs.

***Staff Resources***

As aforementioned, the State HIE Director will lead the Oklahoma HIN and VBA and develop a staffing plan to support all activities. Staff responsibilities will include project management, compliance, and technological support including design, development, implementation, and maintenance of the system. General administrative support will be provided by OMES-ISD.

The OSDH Health Care Information Division in the Center for Health Statistics was established under the Oklahoma Health Care Information System Act. The Health Care Information Division has staff experienced in collecting and evaluating vital statistics, inpatient discharges, outpatient and ambulatory surgery procedures, and survey data. A VBA evaluation team will be established within the Division and will partner with the Oklahoma SIM management team to determine the types of analytics needed to support the care coordination model and to inform the development of policies.

Project Management will be required at the beginning of the both the HIN and VBA projects to assist in the development of tasks, assignment of responsibilities, and to maintain adherence to commitments, budget and timelines. Project managers skilled in agile methodology, project lifecycles, and system lifecycles will be included from the beginning of the projects and will be responsible for developing regular status reports, risk and mitigation plans, and communication plans.

***Funding***

Initial seed funding will be obtained through grants, CMS HIE Advance Planning Documents, Medicaid waivers, and private contributors. On-going maintenance will be funded with a to-be-determined percentage hold out from the capitated payment or by charging the plans fees designated for HIT maintenance. All of the Oklahoma Model governing groups will be responsible for identifying and pursuing funding to support Oklahoma's innovation activities.

## CONCLUSION

Through the evaluations completed by Milliman and public input, Oklahoma has determined the best approach to success is to partner with and support the existing private, non-profit HIEs; develop multiple tiers of governance to ensure transparency, balance, and public/private input; and establish technology and infrastructure to support statewide interoperability and state-level value-based analytics.

The Oklahoma HIT Plan leverages past experiences, existing public/private resources and relationships, and examples from others states to establish a technology infrastructure to support the drivers for the Oklahoma SIM. Lessons learned from the SHIECAP and OHIET will be considered with both governance and infrastructure. The plan incorporates the two existing HIEs, Coordinated Care Oklahoma and MyHealth, as critical and required components to the model, to support the goal that providers have access to their patient's comprehensive medical information, and to provide patients with options for accessing their healthcare information through patient portals. Existing partnerships through OHIP, the Tribal Public Health Advisory Council, SIM and DISCUSS provide a strong foundation for collaboration and transparency. As the governance is defined and established those relationships will help guide the final outcome.

Oklahoma believes that supporting the multiple HIEs as shown in Kansas, Texas, and New York provides the necessary environment for providers to have a choice based on their priorities and establishes the network-of-networks as originally planned through the SHIECAP. The network-of-networks enables necessary redundancies for statewide sustainability and scalability as requirements change and new approaches to healthcare are established. Oklahoma looks forward to the next phase in healthcare initiatives and will develop an HIT infrastructure to support those initiatives.


Health System Design and Performance Objectives
Value-Based Payment and Service Delivery Plan
Healthcare Delivery System Transformation Plan
Health Information Technology Plan
Workforce Development Strategy
Financial Analysis
Monitoring and Evaluation Plan
Operational And Sustainability Plan
State Healthcare Environment
Stakeholder Engagement Report
Population Health Improvement Plan
OKLAHOMA STATE HEALTH SYSTEM INNOVATION PLAN

# I. Workforce Development Strategy

**INTRODUCTION**

One of the hallmarks of Oklahoma Governor Mary Fallin's tenure in office has been her innovative efforts to build a stronger workforce and more prosperous state. A goal outlined in the governor's inaugural address is to increase educational attainment in order to produce a more educated workforce that is prepared to meet the needs of the 21st century. In pursuit of this goal, the "Oklahoma Works" initiative was created, which seeks to increase the wealth of all Oklahomans by aligning and elevating the state's education and workforce training systems with the needs of the state economy. Oklahoma's health workforce development strategy for the State Health System Innovation Plan is aligned and integrated with the "Oklahoma Works" initiative.

Strong gubernatorial leadership in workforce development resulted in the 2015 passage of Senate Bill 612 by the Oklahoma State Legislature, which created a Health Workforce Subcommittee of the Governor's Council for Workforce and Economic Development. The Council on Workforce and Economic Development is one of the main state bodies charged with implementing Oklahoma Works. The establishment of the Subcommittee was the culmination of efforts of many stakeholders: the governor's administration, a Core Leadership team appointed by the governor to participate in the National Governors Association (NGA) Health Workforce Policy Academy, the Oklahoma State Department of Health, the Oklahoma Health Care Authority, the Oklahoma Health Improvement Plan Coalition (OHIP), and members of the OHIP/Oklahoma State Innovation Model (SIM) Health Workforce Workgroup. Once seated, the Health Workforce Subcommittee will be the guiding entity for Oklahoma's health workforce efforts.

Throughout 2014 and 2015, key stakeholders worked to move Oklahoma forward in the shared goals of a well-trained, flexible, and evenly distributed health workforce. Technical assistance and support from the OHIP Coalition, the NGA Policy Academy, and the SIM design grant enabled collaborative opportunities in which consensus was achieved around a statewide mission and vision for Oklahoma's health workforce. These efforts culminated in the development of a Health Workforce Action Plan and the SIM Workforce Strategy, both designed to support a transformed system of care. The promotion by the governor of this Oklahoma Health Workforce Action Plan will launch the initiation and implementation of the four core areas of the health workforce strategy:

1. Health Workforce Data Collection and Analysis;
2. Statewide Coordination of Workforce Development Efforts;
3. Health Workforce Redesign; and
4. Pipeline, Recruitment, and Retention.

Table 43 details a summary of Oklahoma health workforce activities and outcomes.

## Table 43: Oklahoma Health Workforce Activities and Outcomes

| Participants | Outputs | | Outcomes | | |
|---|---|---|---|---|---|
| | Activities | | Short-term | Medium-term | Long-term |
| **OHIP Workforce Workgroup**<br>**Licensure Boards** | Establish Minimum Data Sets (MDS) That Align with HRSA Recommendations<br>Centralize Healthcare Workforce Data Management and Analysis<br>Evaluate Health Workforce Composition Vis-À-Vis Community/ Health Needs Assessments | ➤ | Licensure Renewal Incorporates MDS Elements<br>Ensure CHNAS Assessment Responses Reflect Demographic Profile of Community | OHIP Workforce Workgroup Publishes MDS Enhanced Data<br>Standardized Key Workforce Questions Across Survey Instruments | Improve Healthcare Workforce Data in Oklahoma<br>Health Workforce Is Aligned with Community Needs |
| **Professional Societies**<br>**Oklahoma Office of Rural Health**<br>**Oklahoma Regents For Higher Education** | Evaluate Current Primary Care Provider Training Initiatives in The State<br>Evaluate Primary Care Provider Recruitment and Retention Initiatives<br>Evaluate The Roles of Physicians Assistants and Nurse Practitioners in The Delivery of Primary Care | ➤ | Better Understanding of Program/Training Effectiveness | Adjustments to Training Initiatives | Increase Primary Care Workforce |
| **Oklahoma Careertech**<br>**Oklahoma State Department of Health** | Evaluate The Effects of State Sponsored Financial Incentive Programs on The Recruitment and Retention of Primary Care Providers to Rural and Underserved Areas<br>Increase Primary Care Graduate Medical Education Positions in Rural and Underserved Areas | ➤ | More Primary Care Providers Are Recruited to Rural & Underserved Practice Locations<br>More Physicians Complete GME in Rural and Underserved Areas | More Providers Practice in Rural & Underserved Areas | Reduce Maldistribution of Primary Care Workforce |
| **Governor's Office of Workforce Development** | Assess Alternative Models of Care Delivery That Incorporate Mental Health Professionals and Oral Health Professionals into Value-Based Reimbursement | ➤ | Better Comprehensive Health Care For Vulnerable Populations | Improved Health Outcomes and Cost Savings | Integrate Mental Health and Oral Health into Primary Care |
| **Tribal Health/IHS**<br>**Telehealth Alliance of Oklahoma**<br>**Oklahoma Hospital** | Develop Registry of Providers Using Telehealth<br>Monitor Proposed and Newly Enacted Telehealth Regulations For Effects on Access to Care Through Clinician Participation | ➤ | Telehealth Alliance of Oklahoma & Licensure Boards to Identify Relevant Survey Question | Surveys Questions Are Incorporated into Licensure Renewal Process | Comprehensive List of Providers Using Telehealth<br>Regulation Updates Are Disseminated to Providers<br>Communicate Rural Provider |

| | | | | | |
|---|---|---|---|---|---|
| **Association**<br><br>**Oklahoma Health Care Authority**<br><br>**Oklahoma Physician Manpower Training Commission**<br><br>**MyHealth Access Network**<br><br>**Coordinated Care Oklahoma**<br><br>**Insurers**<br><br>**Legislature** | Evaluate The Demand For Distributed Clinical Consultations Among Rural-Based Providers | | Survey Instrument Development | Compile and Prioritize Clinical Consultation Needs | Clinical Consultation Needs to Academic Health Centers |
| | Expand Health Information Technology Training | ➤ | Number of HIT Training Programs Increase | Better Integration of HIT Workforce into Care Delivery Teams | Develop Adequate Health Information Technology Workforce |
| | Assess Alternative Models For Changing Scope of Practice Laws and Regulations | | Improved Process For The Evaluation of SOP Changes | More Effective Use of Primary Care Workforce (Practicing At Top of Their License) | Optimize Workforce For Value-Based Healthcare Delivery |
| | Create Standardized Credentials For Community Health Workers | | Develop Competency-Based CHW Training | Increased Number of Certified CHWs | |
| | Develop Community Paramedicine Pilot Projects in Rural Communities | ➤ | Identify Pilot Project Communities | Train Community Paramedics for Program Implementation | |
| | Assess How The Emerging Healthcare Workforce Is Currently Utilized in Care Delivery | | Enhanced Workforce Data Provides Information on Emerging Workforce Roles | Align Workforce Development to Accommodate Emerging Workforce Roles | |

## HEALTH WORKFORCE DATA COLLECTION AND ANALYSIS

During the Oklahoma SIM design planning process, the OSDH Office of Primary Care and Rural Health Development (OPC) and OHIP stakeholders worked in tandem to develop a comprehensive plan to improve the quality and availability of comprehensive health workforce data. As an initial step to establish the OPC as a centralized state health workforce data center, the OPC initiated outreach efforts with a broad range of stakeholders to collect and catalog reliable workforce data that will be used to inform health workforce policy and program decisions.

Additional revisions to the data collection and analysis process initiated in 2015 will significantly improve the quality and availability of state health workforce data. The OPC has secured agreements from the medical, nursing, behavioral health, social work, and drug and alcohol counselor licensing boards to share data on a consistent basis and to collaborate on the adoption of minimum data sets for the purpose of monitoring and research. Agreements with the dental licensure board and the Oklahoma Bureau of Narcotics and Dangerous Drugs are being pursued. In May 2015, the OPC produced its first statewide health workforce data book, and is in the process of pioneering a statewide report on Graduate Medical Education. In addition, in 2015 the OPC revised its health professional shortage designation process and updated the survey design and procedure to include Advanced Practice Registered Nurses and Physician Assistants. In January 2016, the OPC will work with OHIP partners to revise the state's healthcare service areas to reflect workforce investment areas and healthcare markets. This new process will provide the information necessary to best identify health professional shortage areas and in turn, develop targeted strategies that will meet the needs of Oklahoma's unique and diverse regions.

The Health Workforce Action Plan includes additional strategies to further enhance health workforce data analysis:

- The Oklahoma Office of Workforce Development is leading the development and implementation of an interoperable health workforce data system that will integrate data from the Oklahoma Department of Commerce, Oklahoma Employment Security Commission, and the Oklahoma State Regents for Higher Education. This data will be used to inform health workforce supply planning efforts.
- The OHIP Workforce Workgroup, chaired by the Oklahoma Deputy Secretary of Workforce Development, will produce a forecast of the state's 25 critical health occupations that reflect integration of the current workforce along with economic indicators and value statements based on the predicted demands of a transformed health system. New and emerging health professions required for care coordination, health informatics, and the integration of a focus on social determinant strategies into healthcare will be included. The Workforce Workgroup will use this forecast to identify existing gaps and recommend evidence-based strategies to ensure an adequate supply of traditional and emerging health professionals.
- The OSDH Office of the Tribal Liaison has initiated a collaborative effort for a Data Community of Practice that will ultimately enable the sharing of both health workforce and population health data of Oklahoma's Tribal health systems. This initiative aligns with the Health Workforce Action Plan and will allow the state to fully integrate health workforce data from private and public entities and Tribal nations.

## STATEWIDE COORDINATION OF WORKFORCE DEVELOPMENT EFFORTS

Health workforce data alone is not sufficient to inform statewide health workforce policy and planning. The engagement and input of state leaders from public, private, and academic sectors is needed to successfully pursue a statewide vision of health workforce. The OPC and the Workforce Workgroup will provide the newly-created Health Workforce Subcommittee with high quality health workforce research and recommendations. Specific coordination strategies include:

- The Health Workforce Subcommittee will ensure alignment of health workforce efforts with state and regional economic and workforce development initiatives. This alignment will include consideration of strategies to leverage and integrate health workforce initiatives into regional Workforce Investment Board priorities.
- The Workforce Workgroup will develop a comprehensive set of health workforce research questions that will be used to develop a policy agenda for the Health Workforce Subcommittee. The OPC and the Workforce Workgroup will identify research partners and establish memorandums of agreement for data sharing, collaborative research, and accountabilities of information dissemination.
- Housed in the OSDH Center for Health Innovation and Effectiveness, the OPC is well-suited to serve as a neutral coordinating entity. OSDH leadership has committed resources that augments federal health workforce funding and supports robust research capacity. Therefore, the Workforce Workgroup will submit a recommendation to the Health Workforce Subcommittee to officially designate the OPC as the state health workforce data resource center.

## HEALTH WORKFORCE REDESIGN

The Workforce Workgroup and the NGA Health Workforce Policy Academy created an avenue for genuine interdisciplinary dialogue on the health workforce needs of the state. Over the past 18 months, a broad range of health professional disciplines, program administrators, health informatics specialists, and other representatives of the health workforce offered their expertise and affirmed their commitment to refining their ability to work in teams focused on coordinated, patient-centered care. Stakeholders have evaluated and considered workforce implications of state efforts, to include, but not limited to, the Medicaid Primary Care Medical Home Model, Health Access Networks, the Comprehensive Primary Care Initiative, Community Health Improvement Organizations, and the Centers for Disease Control and Prevention's Million Hearts Initiative.

In September 2015, over 40 stakeholders participated in a strategic planning session to develop recommendations for the transition to the practice of interdisciplinary care. Consensus was achieved as to the imperative of increasing care coordination efforts to manage healthcare costs and better respond to the social and environmental needs of patients but not to the optimal composition of healthcare teams. The dialogue highlighted the need for increased provider education and the development of robust technical assistance and support for healthcare organizations and providers as the state transitions to a value-based care delivery system.

Based on dialogue throughout this process, it is clear that "workforce redesign" is already occurring, particularly in Oklahoma's rural areas. It is also apparent, however, that policy and programs to address health workforce redesign vary widely. Aligning and prioritizing state health workforce initiatives with OHIP health system transformation will support the transition of the existing healthcare workforce to one that functions in a value-based delivery system.

Similar to other states, in Oklahoma, attempts to address the issue of scope of practice remains a challenge. Recommended work redesign strategies reflect not only pathways for developing new health professionals but also incorporate scope of practice concerns and the need for increased support throughout the health system transformation process:

- Oklahoma will develop strategies for training and development for emerging health professions, including care coordinators, health informatics specialists, and practice facilitators. The Workforce Workgroup will define positions and propose standard descriptions for new health professionals. This effort will focus first on Community Health Workers, Care Coordinators, and Health Informatics Specialists. Working with the health profession associations, provider organizations, Oklahoma Foundation for Medical Quality, Oklahoma's State Regents for Higher Education, and Career and Technical Training Centers, the Workforce Workgroup will recommend the adoption of certification standards for identified "emerging professions" as well as the establishment of training programs and career pathways for these health professions. These efforts will contribute to the goal of an optimized workforce for value-based healthcare delivery.
- In collaboration with Healthy Hearts for Oklahoma (H2O), the Workforce Workgroup will develop a standard definition of practice facilitators and will work with stakeholders to identify strategies to support and promote practice facilitation for health transformation.
- A subcommittee of the Workforce Workgroup will recommend a process to the Health Workforce Workgroup for thoughtful evaluation of scope of practice issues. The subcommittee will conduct research and develop a recommendation for a collaborative, informed process in which to address scope of practice and competencies for traditional, new, and emerging health professions. Priority will be placed on assessing barriers to health workforce flexibility and optimization, including those that prevent healthcare providers from fully utilizing their training and competencies. Suggested models under consideration include the establishment of an interdisciplinary board or ad hoc committee tasked with the development of a holistic, balanced approach to scope of practice considerations and decision-making. Research and work in this area will continue throughout 2016.
- The Workforce Workgroup will collaborate on current efforts to better incorporate behavioral health and substance use disorder prevention and treatment into primary care settings. Currently, 69 out of 77 counties are federally designated as Mental Health Professional Shortage Areas. The Workforce Workgroup will develop strategies that ensure an adequate supply of behavioral health professionals, such as pipeline, recruitment, and retention strategies as well as continuing education and support for the integration of existing behavioral health providers. Additional strategies will address policy and reimbursement barriers to integration.
- The Workforce Workgroup will collaborate with the Telehealth Alliance of Oklahoma to develop an evidenced-based plan for optimizing telehealth capabilities.
    - The plan will include the utilization of technology to increase statewide opportunities for training and professional development of health professionals on health transformation innovation, including practicing team-based and goal-directed care. The plan will seek to establish virtual communities of practice aimed at increasing support and the financial viability of rural practice. The telehealth strategy will also incorporate "provider to provider" strategies that will connect rural primary care providers with academic medical centers and specialists to provide consult services through video and teleconferencing. Additional components of the plan will include using telehealth to deliver distance learning, Grand Rounds, and other educational content to clinical and residency training sites.
    - The Workforce Workgroup will evaluate and recommend additional telehealth strategies that may include remote patient monitoring, direct to consumer telehealth services, emergency room triage, and telepsychiatry.

## PIPELINE, RECRUITMENT, AND RETENTION

The United Health Foundation ranks access to care in Oklahoma as the 45th worst in the nation, and the Commonwealth Fund ranks Oklahoma's health system performance as the 50th worst in the nation. A shortage of primary care physicians is expected to exacerbate this situation. Oklahoma will need to identify and overcome barriers to the creation of an effective health professional pipeline that aligns with a redesigned healthcare system, that pursues evidence-based strategies for recruitment and retention of healthcare professionals, and that develops new programs and secures adequate funding for health professional education and training. Ensuring an adequate supply of healthcare providers in Oklahoma will require a multi-pronged strategy that includes a high functioning, coordinated "K-20" pipeline, rural and community-based residency and clinical education opportunities, and coordinated recruitment and retention programs that not only include scholarship and loan repayment but also local economic and community development to ensure high quality, financially viable communities of practice.

In 2012, the Oklahoma State Legislature authorized the Oklahoma Hospital Residency Training Program (OHRTP). Initial plans were to fund the Oklahoma State University Foundation to establish rural residency programs in Oklahoma's medium-sized hospitals that serve rural areas. Ultimately, no additional state funds were appropriated. The Oklahoma State University Center for Health Sciences, however, pursued private funding for start-up activities with hospitals and developed a plan to train rural physicians in Oklahoma. Oklahoma's challenge will be to facilitate cooperation between academic medical centers to ensure a sufficient supply of physicians that can be trained and retained.

The Oklahoma SIM strategies for pipeline, recruitment, and retention reflect the consensus on the critical need for a coordinated state approach to health workforce training, recruitment, and retention that increases the supply of healthcare providers and assures the state achieves an even distribution of well-trained, flexible health professionals:

- Oklahoma has established a statewide Graduate Medical Education (GME) Committee to provide the Health Workforce Subcommittee of the Governor's Council on Workforce and Economic Development with recommendations for strategies to address the supply and distribution of well-trained physicians and ancillary healthcare providers. The GME Committee has agreed to develop a state GME plan to address physician shortages, which includes the development of a statewide GME report, the sustainability of current state GME initiatives, and the identification of areas for statewide collaboration between academic medical centers, the Physician Manpower Training Commission, the State Chamber of Commerce, and other stakeholders. The plan will aim to leverage the OHRTP to increase the number of physicians trained and retained in Oklahoma by expanding the number of GME slots, increasing the number of teaching health center GME slots, and providing additional community-based training opportunities. The plan will be submitted to the Health Workforce Subcommittee for consideration.
- The GME Committee will explore ways in which GME can be supported through innovative strategies to maximize Medicaid matching funds. It will also consider state plan amendments, demonstration project waivers, or other methods to increase state-supported GME.
- Oklahoma will examine existing state statutes that provide state resources for loan repayment and scholarship programs and will carefully construct business plans to leverage federal or private funds. Initial plans include conducting analysis and feasibility studies of several Health Resources and Services Administration programs, to include the National Health Service Corps State Loan Repayment.

## CONCLUSION

Health workforce redesign efforts are ongoing in Oklahoma. Through state leadership many initiatives have begun work to assess and address the current and emerging health workforce issues. The Oklahoma SIM process in conjunction with the NGA has led to four areas of focus to create an agile, well-distributed workforce capable of meeting the demands of a value-based healthcare environment.


Health System Design and Performance Objectives
Value-Based Payment and Service Delivery Plan
Healthcare Delivery System Transformation Plan
Health Information Technology Plan
Workforce Development Strategy
Financial Analysis
Monitoring and Evaluation Plan
Operational And Sustainability Plan
State Healthcare Environment
Stakeholder Engagement Report
Population Health Improvement Plan
OKLAHOMA STATE HEALTH SYSTEM INNOVATION PLAN

# J. Monitoring and Evaluation Plan

(This section of the SHSIP will be updated at a future date.)


Health System Design and Performance Objectives
Value-Based Payment and Service Delivery Plan
Healthcare Delivery System Transformation Plan
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Population Health Improvement Plan
OKLAHOMA STATE HEALTH SYSTEM INNOVATION PLAN

# K. Operational Plan

A high-level timeline is below for the implementation of the Oklahoma Model. Further components of this section will be completed at a later date.

**Year 1 – CY 2016**

- Develop and gain federal approval through State Plan and/or waiver
- Develop and gain approval for Coordinated Care Organizations (CCOs) in state law
- Begin work on Practice Transformation Center
- Work with hospitals, primary and specialty care health systems, behavioral health care systems and long term services and supports systems
- Establish Oklahoma Health Information Technology (HIT) governance
- Establish the State Governing Body and its committees, board rules, membership, chairperson, etc.
- Begin to develop Community Health Workers program
- Describe multi-payer quality metrics
- Conduct stakeholder engagement activities to share information about the episodes of care, multi-payer quality metrics and CCO development

**Year 2 – CY 2017**

- Develop draft CCO contract
- Determine rate setting process, risk adjustments, incentive pool contribution attribution and award, withhold amounts, schedule and payments to develop the CCO RFP
- Develop and gain approval for CCOs in administrative rule
- Continue working with hospitals, primary and specialty care health systems, behavioral healthcare systems and long term services and supports systems
- Implement the Health Information Network, including interoperable EHR, collection of quality metrics from multiple payers and episodes of care
- Begin collecting data about multi-payer quality metrics and episodes of care
- SBG is formed and begins tasks associated with supporting CCO development and alignment activities
- Identify, schedule and begin necessary operational changes to state systems
- Implement EOC
- Develop the CCO RFP
- CCOs begin to form and set up their networks
- Begin FFS to CCO Transition Planning
- Issue the RFP for CCOs

**Year 3 – CY 2018**

- Evaluate CCO proposals and award contracts (allow time for appeals) (January 2018)
- Begin collecting multi-payer quality metrics
- Collect necessary data and set baselines/targets for CCO quality metrics

- Sign CCO contracts (March 2018)
- Continue and finish CCO network preparation, including provider training, setting up data systems, etc.
- Practice transformation begins
- Operational readiness test of CCOs and state systems (Summer 2018)
- CCO Enrollment (10/1/18 to 12/31/18)

**Year 4 – CY 2019**

- Begin providing services through CCO
- Begin rapid cycle feedback begins (January 2019)
- 1st capitated payment (January 2019)
- 1st withhold quality payments made (Monthly)
- 1st risk incentive pool awards made (Quarterly / Semi-annual)
- Implement monthly dashboard for SBG and CCO
- CCOs provide provider dashboard for their network

**Year 5 – CY 2020**

- First Annual Report (CY19)

**Year 6 – CY 2021**

- Evaluation completed and delivered (6/30/21)

# Appendix A: CCO Certification Criteria

Entities wishing to form a CCO must submit an application to the State Governing Board describing their capacity and plans for meeting the goals of the Oklahoma State Innovation Model initiative, including being prepared to enroll and deliver services to all eligible individuals within the CCO's service area on the "go-live" date. Applicants must describe their demonstrated experience and capacity for:

1) Managing financial risk and establishing financial reserves
2) Meet minimum financial requirements set by the State Governing Body (e.g., maintaining a level of restricted reserves and net worth)
3) Operating within a fixed global budget
4) Utilizing best practices in the management of finances, contracts, claims processing, payment functions, and provider networks
5) Assembling an adequate network of providers to deliver timely, quality care to enrolled individuals
6) Coordinating and integrating the delivery of physical healthcare, mental substance abuse services, and other required services delineated by the State Governing Body
7) Developing and implementing alternative payment methodologies that are based on healthcare quality and improved health outcomes
8) Rewarding providers for achieving quality outcome benchmarks
9) Engaging community members and healthcare providers in improving the health of the community, including through the coordination, use, and development of social service resources
10) Participate in statewide interoperability through connecting to a Health Information Exchange that is participating with the eHealth exchange and sharing data for CCO participants within the Health Information Network. The CCO will also demonstrate having the ability to report timely on standardized outcome and quality measures required by the State Governing Body to participating providers.

CCOs will also be required to implement policies and procedures that protect member rights and assure each member receives integrated person-centered care and services designed to provide choice, independence, and dignity. To meet this requirement, a CCO application must describe, a minimum, the following:

1) A mechanism to monitor and protect against underutilization of services and inappropriate denials
2) Planned or established policies and procedures that protect member rights
3) Planned or established mechanisms for a complaint, grievance, and appeals resolution process, including how that mechanism will be communicated to members and providers
4) A strategy for ensuring health equity and elimination of avoidable gaps in healthcare quality and outcomes, as measured by gender, race, ethnicity, language, disability, sexual orientation, age, mental health and addiction status, geography, and other cultural and socioeconomic factors

Governance of the CCOs will be crucial to their success and ensure key stakeholders from the community are given an opportunity to direct their care. CCO applicants must have a plan in place to meet governance requirements that, at minimum:

1) Clearly describe how the governance structure makeup reflects community needs and supports the goal of health transformation, the criteria used to select governance structure members, and how it will assure transparency in governance

2) Identify key leaders who are responsible for successful implementation and sustainable operation of the CCO
3) Describe how its governance structure will reflect the needs of members with high healthcare needs, such as those with severe and persistent mental illness and multiple chronic conditions

The CCO will be governed by a CCO Board, along with a Board of Accountable Providers and Community Advisory Board as described previously. CCO applicants must identify a governing body for the CCO that includes:

1) Persons that share in the financial risk of the organization, and who must constitute a majority of the governing body
2) The major components of the healthcare delivery system
3) At least three healthcare providers in active practice, including an Oklahoma licensed physician, a nurse, and a mental health or substance abuse treatment provider
4) At least two members from the community at large, to ensure the organization's decision-making is consistent with the values of the members and the community
5) At least one member of the Community Advisory Board

Each CCO must convene a Community Advisory Board and describe how it will be administered to achieve the goals of community involvement and development, the integration of social and environmental determinants of health to improve health outcomes, adoption and participation in updating of the community health assessment and community health improvement plan. The CCO Community Advisory Board must include representatives from:

1) Consumer and patient advocates, forming a majority of the membership
2) Non-profit community organizations
3) County health departments from the counties served by the CCO
4) Tribal nations in the CCO service area
5) FQHCs operating within the service area

# Appendix B: EOC Certification Criteria

The section that follows details criteria for the five EOCs selected for the Oklahoma Model:

- Asthma
- Perinatal Care
- Total Joint Replacement
- Chronic Obstructive Pulmonary Disease
- Congestive Heart Failure

| Asthma Algorithm Summary | |
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| **Trigger** | A trigger for an asthma episode is an emergency department, observation room, or inpatient visit for treatment of an acute exacerbation of asthma |
| **PAP** | The PAP is the inpatient or outpatient facility where the acute exacerbation that starts the episode is treated |
| **Episode exclusions** | Episodes meeting one or more of the following criteria will be excluded:<br>• Inconsistent enrollment (i.e. not continuously enrolled) during the episode<br>• Claims during the episode that are covered by a third party<br>• Dual coverage of primary medical services by Medicaid and Medicare<br>• PAP is a FQHC<br>• PAP's practice location is outside AR, LA, MO, MS, OK, TN, or TX<br>• Billing provider ID of the PAP is not available<br>• Claims information during the episode is missing or miscoded<br>• Younger than five (<5) years of age |

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| | • Left against medical advice or discontinued care<br>• Dies in the hospital during the episode<br>• Comorbidities for which the medical risk cannot be reliably understood or measured[1] (e.g., HIV, cystic fibrosis, lung cancers) |
| **Episode window** | Episodes begin on the first day of a trigger and end 30 days after discharge or until the end of a readmission where the patient had entered the hospital within the 30 day post-discharge period |
| **Claims included** | All claims for the trigger hospitalization are included in the calculation of episode spend. During the 30 day post-trigger window, inpatient, outpatient, professional, and pharmacy claims that are related to the acute exacerbation are included in the calculation of episode spend |
| **Quality measures** | <u>Quality measures "to pass":</u><br><br>Percent of valid episodes where the patient has a follow-up visit with a physician during the post-trigger window. The minimum threshold is 38%<br><br>Percent of valid episodes where the patient receives an appropriate medication determined by a filled prescription for an asthma controller medication during the episode window or within 30 days before the episode. The minimum threshold is 59%. |

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| | Quality measures "to track":<br><br>Percent of valid episodes with a repeat acute exacerbation during the 30-day post-trigger window |
| **Adjustments** | For the purpose of determining a PAP's performance, the episode spend is adjusted to reflect risk and/or severity factors of the patient |
| **Example trigger codes** | Diagnosis codes include*: range of asthma-related codes (e.g. 493.00, 493.10, 493.20, 493.90, 493.20)<br>Diagnosis codes contingent upon a diagnosis with asthma in the 365 days preceding the trigger include[1]: select codes (e.g. 786.00, 786.05, 786.07, 786.09) |
| **Example episode exclusion codes** | Diagnosis codes include*: 042.0, 042.1, 042.2, 042.9, 162.0, 162.2, 162.3, 162.4, 162.5, 162.8, 162.9, 277.00, 277.01, 277.02, 277.03, 277.09, 273.4, 343.0, 343.1, 343.2, 343.3, 343.4, 343.8, 343.9, 494.0, 494.1, 586, V42.1, V42.6, V42.7<br>Procedure codes include*: 31500, E0424, E0425, G8569<br>Revenue codes: 0200, 0201, 0202, 0203, 0206, 0209<br>Discharge status: 07, 20<br>Provider type (if provider type is PAP): 49<br>PAPs with business address in state other than: AR, LA, MO, MS, OK, TN, TX |
| **Example included** | Diagnosis codes include*: 460, 465.8, 465.9, 466.0, 491.20, 491.21, 491.22, 493.00, 493.01, 493.02, 493.10, |

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| **claims codes** | 493.11, 493.12, 493.90, 493.91, 493.92, 518.81<br><br>Procedure codes include*: 71010, 71034, 71035, 71275, 71550, 71551, 71552, 82003, 82800, 82803, 82810, 8744, 9215, 9390, 9391, 9393, 9394<br><br>HIC3 codes include*: A1D, B3K, B4X, B6M, J5D, P5F, Q7E, W1W |

*Not an exhaustive list.

Source: AR Healthcare Payment Improvement Initiative

## Perinatal Care Algorithm Summary

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| **Triggers** | A live birth on a facility claim |
| **PAP assignment** | For each episode, the Principal Accountable Provider (PAP) is the provider or provider group that performs the delivery. |
| **Exclusions** | Episodes meeting one or more of the following criteria will be excluded:<br>A. Limited prenatal care (i.e., pregnancy-related claims) provided between start of episode and 60 days prior to delivery<br>B. Delivering provider did not provide any prenatal services<br>C. Episode has no professional claim for delivery<br>D. Pregnancy-related conditions: amniotic fluid embolism, obstetric blood clot embolism, placenta previa, severe preeclampsia, multiple gestation ≥3, late effect complications of pregnancy/childbirth, puerperal sepsis, suspected damage to fetus from viral disease in mother<br>E. Comorbidities: cancer, cystic fibrosis, congenital cardiovascular disorders, DVT/pulmonary embolism, other phlebitis and thrombosis, end-stage renal disease, sickle cell, Type I diabetes |
| **Episode time** | Episode begins 40 weeks prior to delivery and ends 60 days after delivery; for the initial performance period, only deliveries on |

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| **window** | or after Jan 1, 2013 will be eligible for episodes |
| **Claims included** | All medical assistance with a pregnancy-related ICD-9 diagnosis code is included. Medical assistance related to neonatal care is not included. |
| **Quality measures** | Quality measures "to pass":<br><br>1. HIV screening – must meet minimum threshold of 80% of episodes<br>2. Group B streptococcus screening (GBS) – must meet minimum threshold of 80% of episodes<br>3. Chlamydia screening – must meet minimum threshold of 80% of episodes<br><br>Quality measures "to track":<br><br>1. Ultrasound screening<br>2. Screening for Gestational Diabetes<br>3. Screening for Asymptomatic Bacteriuria<br>4. Hepatitis B specific antigen screening<br>5. C-Section Rate |

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| **Adjustments** | For the purposes of determining a PAP's performance, the total reimbursement attributable to the PAP is adjusted to reflect risk and/or severity factors captured in the claims data for each episode in order to be fair to providers with high-risk patients, to avoid any incentive for adverse selection of patients and to encourage high-quality, efficient care. Episode reimbursement attributable to a PAP for calculating average adjusted episode reimbursement are adjusted based on these selected risk factors. Over time, Medicaid may add or subtract risk factors in line with new research and/or empirical evidence. |
| **Trigger codes** | Each episode is anchored around a live birth. The live birth is identified by a claim with either of the following procedure codes and a ICD-9 V-code for live birth<br><br>CPT procedure codes: 59618, 59620, 59622, 59514, 59515, 59510, 59610, 59612, 59614, 59409, 59410, 59400<br><br>ICD-9 procedure code: 74, 74.1, 74.2, 74.4, 74.99, 72, 72.1, 72.21, 72.29, 72.31, 72.39, 72.4, 72.51-72.54, 72.6, 72.71, 72.79, 72.8, 72.9, 73.5, 73.59<br><br>ICD-9 V-code for live birth: v270, v272, v273, v275, v276 |
| **Exclusion codes** | List of prior diagnoses and meds that would disqualify a patient from the episode<br><br>ICD-9: 250.01, 250.03, 250.11, 250.13, 250.21, 250.23, 250.31, 250.33, 250.41, 250.43, 250.51, 250.53, 250.61, 250.63, 250.71, 250.73, 250.81, 250.83, 250.91, 250.93, 282.6x, 277.0x, 641.0x, 641.1x, 642.5x, 648.5x, 651.1x, 651.2x, 651.4x-651.9x, 652.6x, 655.3x, 670.2x, 670.3x, 671.3x-671.5x, 673.1x, 673.8x, 674.0x, 677.7x, 585.6, 228.x, 209.7x, 209.0x-209.3x, 209.7x, 140.x-208.x, 230.x-239.x<br><br>These codes represent the set of business and clinical exclusions described previously |

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| **Codes to assign PAP** | CPT codes for delivery: 59409, 59410, 59514, 59515, 59612, 59614, 59620, 59622<br><br>ICD9 procedure codes for delivery: 74, 74.1, 74.2, 74.4, 74.99, 72, 72.1, 72.21, 72.29, 72.31, 72.39, 72.4, 72.51, 72.52, 72.53, 72.54, 72.6, 72.71, 72.79, 72.8, 72.9, 73.5, 73.59<br><br>CPT codes for global bundle: 59400, 59510, 59610, 59618, 59425-59426 |
| **Reporting codes** | CPT codes associated with each reporting metric<br><br>CPT codes for HIV test: 80055, 84181, 84182, 86701, 86702, 86703, 87300, 87390, 87391, 87534, 87535, 87536, 87537, 87538, 87539<br><br>CPT codes for GBS test: 86403, 87070, 87071, 87075, 87077, 87081, 87147, 87149, 87449, 87653, 87797, 87798, 87800, 87801, 87802<br><br>CPT codes for Chlamydia test: 87110, 87270, 87320, 87451, 87490, 87491, 87492, 87797, 87798, 87799, 87800, 87801, 87810<br><br>CPT codes for bacteriuria test: 81002, 87086<br><br>CPT codes for gestational diabetes test: 82950<br><br>CPT codes for Hep B test: 80055, 80074, 86704, 86705, 86706, 86707, 87340, 87341, 87350, 87515, 87516, 87517<br><br>CPT codes for ultrasound: 76801, 76802, 76810, 76811, 76812, 76813, 76814, 76815, 76817, 76805, 76816, 76818, 76819, 76825, 76826, 76827, 76828<br><br>CPT codes for C-section: 59510, 59514, 59515, 59618, 59620, 59622 |
| **Included claim codes** | List of ICD-9 and AHFS codes that should be included in episode |

ICD-9: 640-648, 650, 652, 655, 656, 659, 661, 670, 677, 6410-6413, 6418-6427, 6429-6432, 6438-6442, 6450-6453, 6460-6489, 6522, 6555, 6557, 6563, 6568, 6595, 6597, 6598, 6612, 64000, 64001, 64003, 64080, 64081, 64083, 64090, 64091, 64093, 64100, 64101, 64103, 64110, 64111, 64113, 64120, 64121, 64123, 64130, 64131, 64133, 64180, 64181, 64183, 64190, 64191, 64193, 64200-64204, 64210-64214, 64220-64224, 64230-64234, 64240-64244, 64250-64254, 64260-64264, 64270-64274, 64290-64294, 64300, 64301, 64303, 64310, 64311, 64313, 64320, 64321, 64323, 64380, 64381, 64383, 64390, 64391, 64393, 64400, 64403, 64410, 64413, 64420, 64421, 64500, 64501, 64503, 64510, 64511, 64513, 64520, 64521, 64523, 64600, 64601, 64603, 64610-64614, 64620-64624, 64630, 64631, 64633, 64640-64644, 64650-64654, 64660-64664, 64670, 64671, 64673, 64680-

64684, 64690-64694, 64700-64704, 64710-64714, 64720-64724, 64730-64734, 64740-64744, 64750-64754, 64760-64764, 64780-64784, 64790-64794, 64800-64804, 64810-64814, 64820-64824, 64830-64834, 64840-64844, 64850-64854, 64860-64864, 64870-64874, 64880-64884, 64890-64894, 64900-64904, 64910-64914, 64920-64924, 64930-64934, 64940-64944, 64950, 64951, 64953, 64960-64964, 64970, 64971, 64973, 64981, 64982, 65100, 65101, 65103, 65110, 65111, 65113, 65120, 65121, 65123, 65130, 65131, 65133, 65140, 65141, 65143, 65150, 65151, 65153, 65160, 65161, 65163, 65170, 65171, 65173, 65180, 65181, 65183, 65190, 65191, 65193, 65200, 65201, 65203, 65210, 65211, 65213, 65220, 65221, 65223, 65230, 65231, 65233, 65240, 65241, 65243, 65250, 65251, 65253, 65260, 65261, 65263, 65270, 65271, 65273, 65280, 65281, 65283, 65290, 65291, 65293, 65300, 65301, 65303, 65310, 65311, 65313, 65320, 65321, 65323, 65330, 65331, 65333, 65340, 65341, 65343, 65350, 65351, 65353, 65360, 65361, 65363, 65370, 65371, 65373, 65380, 65381, 65383, 65390, 65391, 65393, 65400-65404, 65410-65414, 65420, 65421, 65423, 65430-65434, 65440-65444, 65450-65454, 65460-65464, 65470-65474, 65480-65484, 65490-65494, 65500, 65501, 65503, 65510, 65511, 65513, 65520, 65521, 65523, 65530, 65531, 65533, 65540, 65541, 65543, 65550, 65551, 65553, 65560, 65561, 65563, 65570, 65571, 65573, 65580, 65581, 65583, 65590, 65591, 65593, 65600, 65601, 65603, 65610, 65611, 65613, 65620, 65621, 65623, 65630, 65631, 65633, 65640, 65641, 65643, 65650, 65651, 65653, 65660, 65661, 65663, 65670, 65671, 65673, 65680, 65681, 65683, 65690, 65691, 65693, 65700, 65701, 65703, 65800, 65801, 65803, 65810, 65811, 65813, 65820, 65821, 65823, 65830, 65831, 65833, 65840, 65841, 65843, 65880, 65881, 65883, 65890, 65891, 65893, 65900, 65901, 65903, 65910, 65911, 65913, 65920, 65921, 65923, 65930, 65931, 65933, 65940, 65941, 65943, 65950, 65951, 65953, 65960-65964, 65970, 65971, 65973, 65980, 65981, 65983, 65990, 65991, 65993, 66000, 66001, 66003, 66010, 66011, 66013, 66020, 66021, 66023, 66030, 66031, 66033, 66040, 66041, 66043, 66050, 66051, 66053, 66060, 66061, 66063, 66070, 66071, 66073, 66080, 66081, 66083, 66090, 66091, 66093, 66100, 66101, 66103, 66110, 66111, 66113, 66120, 66121, 66123, 66130, 66131, 66133, 66140, 66141, 66143, 66190, 66191, 66193, 66200, 66201, 66203, 66210, 66211, 66213, 66220, 66221, 66223, 66230, 66231, 66233, 66300, 66301, 66303, 66310, 66311, 66313, 66320, 66321, 66323, 66330, 66331, 66333,

66340, 66341, 66343, 66350, 66351, 66353, 66360, 66361, 66363, 66380, 66381, 66383, 66390, 66391, 66393, 66400, 66401, 66404, 66410, 66411, 66414, 66420, 66421, 66424, 66430, 66431, 66434, 66440, 66441, 66444, 66450, 66451, 66454, 66460, 66461, 66464, 66480, 66481, 66484, 66490, 66491, 66494, 66500, 66501, 66503, 66510-66512, 66514, 66520, 66522, 66524, 66530, 66531, 66534, 66540, 66541, 66544, 66550, 66551, 66554, 66560, 66561, 66564, 66570-66572, 66574, 66580-66584, 66590-66594, 66600, 66602, 66604, 66610, 66612, 66614, 66620, 66622, 66624, 66630, 66632, 66634, 66700, 66702, 66704, 66710, 66712, 66714, 66800-66804, 66810-66814, 66820-66824, 66880-66884, 66890-66894, 66900-66904, 66910-66914, 66920-66924, 66930, 66932, 66934, 66940-66942, 66944, 66950, 66951, 66960, 66961, 66970, 66971, 66980-66984, 66990-66994, 67000, 67002, 67004, 67010, 67012, 67014, 67020, 67022, 67024, 67030, 67032, 67034, 67080, 67082, 67084, 67100-67104, 67110-67114, 67120-67124, 67130, 67131, 67133, 67140, 67142, 67144, 67150-67154, 67180-67184, 67190-67194, 67200, 67202, 67204, 67300-67304, 67310, 67311, 67312, 67313, 67314, 67320-67324, 67330-67334, 67380-67384, 67400-67404, 67410, 67412, 67414, 67420, 67422, 67424, 67430, 67432, 67434, 67440, 67442, 67444, 67450-67454, 67480, 67482, 67484, 67490, 67492, 67494, 67500-67504, 67510-67514, 67520-67524, 67580-67584, 67590-67594, 67600-67604, 67610-67614, 67620-67624, 67630-67634, 67640-67644, 67650-67654, 67660-67664, 67680-67684, 67690-67694, 67800, 67801, 67803, 67810, 67811, 67813, 67900-67904, 67910-67914, ex. 464, V1321, V1329, V1521, V1522, V220-V222, V230-V234, V2341, V2342, V2349, V235, V237, V238, V2381- V2389, V239-V242, V260-V262, V2621 , V2622, V2629, V263, V2631-V2635, V2639, V2641, V2642, V2649, V265, V2651, V2652, V2681, V2682, V2689, V269-V277, V279, V28, V280-V286, V2881, V2882, V2889, V289, V617, V6511, V7240-V7242, V824, V8901-V8905, V8909

AHFS: 040000, 040404, 040408, 040412, 040416, 040420, 040492, 040800, 049200, 080800, 081202, 081206, 081207, 081208, 081212, 081216, 081218, 081220, 081224, 081228, 081404, 081408, 081416, 081428, 081432, 081492, 081600, 081604, 081692, 081804, 081808, 081820, 081824, 081828, 081832, 081840, 081892, 082000, 082400, 083004, 083008, 083092, 083600, 084000, 089200, 100000, 120400, 120804, 120808, 121200, 121204, 121208, 121212, 121600, 121604, 121608, 122000, 122004, 122008,122012, 122020, 122092, 129200, 160000, 200404, 200408, 201204, 201214, 201218, 201220, 201600, 202400, 202808, 202816, 240400, 240404, 240408, 240492, 240600, 240604, 240605, 240606, 240608, 240692, 240800, 240816, 240820, 240832, 240892, 241200, 241208, 241212, 241292, 241600, 242000, 242400, 242800, 242808, 242892, 243204, 243208, 243220, 243240, 260000, 280400, 280404, 280416, 280492, 280804, 280808, 280812, 280892, 281000, 281204, 281208, 281212, 281216, 281220, 281292,281604, 281608, 282000, 282004, 282092, 282404, 282408, 282492, 282800, 283228, 283604, 283608, 283612, 283616, 283620, 283632, 284000, 289200, 320000, 340000, 360000, 360400, 361800, 362600, 363000, 363200, 363400, 363600, 363800, 364000, 364400, 365200, 365600, 365800, 366000, 366100, 366600, 366800, 367000, 368400, 368800, 368812, 368820, 368824, 368828, 368840, 380000, 400400,

400800, 401000, 401200, 401800, 401817, 401818, 401819, 401892, 402000, 402400, 402800, 402808,402810, 402812, 402816, 402820, 402824, 402828, 402892, 403600, 404000, 440000, 480000, 480404, 480800, 481008, 481024, 481032, 481600, 482400, 483200, 483600, 489200, 520200, 520404, 520416, 520420, 520492, 520808, 520820, 520892, 521200, 521600, 522400, 522800, 523200, 523600, 524004, 524008, 524012, 524020, 524028, 529200, 560400, 560800, 561000, 561200, 561400, 561600, 562000, 562200, 562208, 562220, 562292, 562400, 562812, 562828, 562832, 562836, 563200, 563600, 564000,569200, 600000, 640000, 680400, 680800, 681200, 681604, 681612, 681800, 682002, 682003, 682004, 682005, 682006, 682008, 682016, 682020, 682028, 682212, 682400, 682800, 683004, 683008, 683200, 683604, 683608, 720000, 760000, 780000, 800400, 800800, 801200, 812120, 812200, 812240, 840404, 840406, 840408, 840412, 840416, 840492, 840600, 840800, 841200, 841600, 842000, 842400, 842404, 842408, 842412, 842416, 842800, 843200, 845004, 845006, 848000, 849200, 861200, 861600, 880400,880800, 881200, 881600, 882000, 882400, 882800, 920000, 920400, 920800, 921200, 921600, 922000, 922400, 922800, 923200, 923600, 924000, 924400, 925600, 929200, 940000, 960000

Note:

- Medicaid Perinatal Care episode v1.0
- Last Modified: 10/18/2012

| Total Joint Replacement Algorithm Summary | |
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| **Triggers** | A surgical procedure for total hip replacement or total knee replacement. |
| **PAP assignment** | For each episode, the Principal Accountable Provider (PAP) is the orthopedic surgeon performing the total joint replacement procedure. |
| **Exclusions** | Episodes meeting one or more of the following criteria will be excluded:<br><br>A. Beneficiaries who are under the age of 18 at the time of admission<br><br>B. Beneficiaries with the following comorbidities diagnosed in the period beginning 365 days before the episode start date and concluding on the date of admission for the joint replacement surgery: 1) select autoimmune diseases, 2) HIV, 3) End–Stage Renal Disease, 4) liver, kidney, heart, or lung transplants, 5) pregnancy, 6) sickle cell disease, 7) fractures, dislocations, open wounds and/or trauma<br><br>C. Beneficiaries with either of the following discharge statuses: 1) left against medical advice or 2) expired during hospital stay<br><br>D. Beneficiaries who do not have continuous Medicaid enrollment for the duration of the episode |
| **Episode time window** | Episode begins 30 days prior to date of admission for the inpatient hospitalization for the total joint replacement surgery and end 60 days after the date of discharge. |

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| **Claims included** | 1. From 30 days prior to the date of admission to the date of the surgery: All evaluation and management, hip- or knee-related radiology and all labs/imaging/other outpatient services<br>2. During the triggering procedure: all medical, inpatient and outpatient services<br>3. From the date of the surgery to 30 days after the date of discharge: All cause readmissions, non–traumatic revisions, complications, all follow–up evaluation & management, all emergency services, all home health and therapy, hip/knee radiology and all labs/imaging/other outpatient procedures<br>4. From 31 days to 90 days after the date of discharge: Readmissions due to infections and complications as well as hip or knee–related follow–up evaluation and management, home health and therapy and labs/imaging/other outpatient procedures |
| **Quality measures** | Quality measures "to track":<br>1. 30-day, all cause readmission rate<br>2. Frequency of use of prophylaxis against post–op Deep Venous Thrombosis (DVT) / Pulmonary Embolism (PE) (pharmacologic or mechanical compression)<br>3. Frequency of post–op DVT/PE<br>4. 30-day wound infection rate |
| **Adjustments** | For the purposes of determining a PAP's performance, the total reimbursement attributable to the PAP is adjusted for total joint replacement episodes involving a knee replacement to reflect that knee replacements have higher average costs than hip replacements. Additionally, over time, Medicaid may add or subtract additional risk or severity factors in line with new research and/or empirical evidence. |

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| **Trigger codes** | Each episode is triggered by a surgical procedure for total hip replacement or total knee replacement. The procedure is identified by a claim with either of the following procedure codes and ICD–9 diagnosis codes.<br><br>Hip Replacement: CPT codes 27130, 27447; ICD–9 codes 81.51, 81.54<br><br>Knee Replacement: CPT code 27447; ICD–9 code 81.54<br><br>Exclusion from Hip or Knee Replacement (disqualifying triggers): ICD–9 codes 800.xx–829.xx, 860.0–869.1, 850.0–854.1, 925.x–929.x, 170.x, 996.xx, V52.xx |
| **Exclusion codes** | List of prior diagnoses and meds that would disqualify a patient from the episode<br><br>Comorbidity codes for exclusion: ICD–9 codes 279, 042, 585.x, V45.1, V56.xx, 630–669.94, V22–V24.99, V27–V27.99, V42.0, V42.1, V42.6, V42.7, 718.35, 718.38, 820.00–920.9, 827.0–827.1, 835.0–835.13, 928.01, 928.11, 959.7, 282.6<br><br>These codes represent the set of business and clinical exclusions described previously |
| **Codes to assign PAP** | PAP is the orthopedic surgeon performing the joint replacement surgery and is identified by the triggers outlined above |
| **Reporting codes** | 30-day wound Infection rate: any claim in the 30 day period following the date of discharge with code for wound infection – CPT codes 10180; ICD–9 codes 998.59, 038.0–038.9 |

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| | Revisions: any claim following the date of discharge with a code for revision – CPT codes 27134, 27137, 27138, 27486, 27487, 27488<br><br>Complications: any claim in the 90 day period following the date of discharge with code for complications – CPT codes 10180, 12020, 12021, 13160, 35860; ICD–9 codes 998.30–998.81, 998.83–998.9, 996.40–996.49, 997.32–997.39, 038.0–038.9<br><br>All-cause readmissions: any hospitalization in the 30 day period following the date of discharge |
| **Included claim codes** | List of ICD–9 and CPT codes that should be included in episode are as follows:<br><br><u>ICD–9 Codes</u><br><br>Hip Replacement: 81.51, 81.54<br><br>Knee Replacement: 81.54<br><br>Osteoarthritis and joint degeneration after care: 710–721, 725–733, 736, 738, 739, 755, V54.81, V58.31, V58.32, V58.78, V43.64, V43.65<br><br>Complications / Wound Infections / Sepsis: 998.30–998.81, 998.83–998.9, 996.40–996.49, 997.32–997.39, 038.0–038.9<br><br>DVT and PE: 451.0–451.2, 453.4–453.42, 454.0–454.9, 444.22 |

CPT Codes

HIP Replacement: 27130, 27447

Knee Replacement: 27447

Hip / Knee Radiology: 73500–73550, 73560–73580, 73700–73702, 73721–73723

Home Health: T1021, T1021-TD (modifier), T1021-TE (modifier)

Personal Care: T1019-U3 (modifier)

Physical Therapy: 97001, 97110, 97150, 97110-UB (modifier), 97150-UB (modifier), S9131, S9131-UB (modifier)
Occupational Therapy: 97003, 95530, 97150-U2 (modifier), 97530-UB (modifier), 97150-UB-U1 (modifiers 1,2)
Revisions: 27134, 27137, 27138, 27486–27488

Complications / Wound Infections / Sepsis: 10180, 12020, 12021, 13160, 35860

Note:

- Medicaid TJR episode v1.0
- Last Modified: 11/13/2012

| Chronic Obstructive Pulmonary Disease Algorithm Summary | |
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| **Trigger** | A trigger for a COPD episode is an emergency department, observation room, or inpatient visit for treatment of an acute exacerbation of COPD |
| **PAP** | The PAP is the inpatient or outpatient facility where the acute exacerbation that starts the episode is treated |
| **Episode exclusions** | Episodes meeting one or more of the following criteria will be excluded:<br>A. Inconsistent enrollment (i.e. not continuously enrolled) during the episode<br>B. Claims during the episode that are covered by a third party<br>C. Dual coverage of primary medical services by Medicaid and Medicare<br>D. PAP is a FQHC<br>E. PAP's practice location is outside AR, LA, MO, MS, OK, TN, or TX<br>F. Billing provider ID of the PAP is not available<br>G. Claims information during the episode is missing or miscoded<br>H. Younger than thirty five (<35) years of age<br>I. Left against medical advice or discontinued care<br>J. Dies in the hospital during the episode<br>K. Comorbidities for which the medical risk cannot be reliably understood or measured (e.g., HIV, cystic fibrosis, lung cancers). Comorbidities are identified during the episode or during 365 days before the episode unless noted otherwise. |
| **Episode window** | Episodes begin on the first day of a trigger and end 30 days after discharge or until the end of a readmission where the patient had entered the hospital within the 30 day post-discharge period |

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| **Claims included** | All claims for the trigger hospitalization are included in the calculation of episode spend. During the 30 day post-trigger window, inpatient, outpatient, professional, and pharmacy claims that are related to the acute exacerbation are included in the calculation of episode spend |
| **Quality measures** | Quality measures "to pass":<br><br>Percent of valid episodes where the patient has a follow-up visit with a physician during the post-trigger window. The minimum threshold is 36%.<br><br>Quality measures "to track":<br><br>Percent of valid episodes with a repeat acute exacerbation during the 30-day post-trigger window |
| **Adjustments** | For the purpose of determining a PAP's performance, the episode spend is adjusted to reflect risk and/or severity factors of the patient |
| **Example trigger codes** | Diagnosis codes include*: range of asthma-related codes (e.g. 491.0, 491.1, 491.2, 4912.0, 4912.1, 4912.2) |
| **Example episode exclusion** | Diagnosis codes include*: 042.0, 042.1, 042.2, 042.9, 162.0, 162.2, 162.3, 162.4, 162.5, 162.8, 162.9, 277.00, 277.01, 277.02, 277.03, 277.09, 273.4, 343.0, 343.1, 343.2, 343.3, 343.4, 343.8, 343.9, 494.0, 494.1, 586, V42.1, |

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| **codes** | V42.6, V42.7<br><br>Procedure codes include*: 31500, G8569<br><br>Revenue codes: 0200, 0201, 0202, 0203, 0206, 0209<br><br>Discharge status: 07, 20<br><br>Provider type (if provider type is PAP): 49<br><br>PAPs with business address in state other than: AR, LA, MO, MS, OK, TN, TX |
| **Example included claims codes** | Diagnosis codes include*: 465.8, 465.9, 466.0, 491.20, 491.21, 491.22, 493.00, 493.01, 493.02, 493.10, 493.11, 493.12, 493.90, 493.91, 493.92, 518.81<br><br>Procedure codes include*: 71010, 71034, 71035, 71275, 71550, 71551, 71552, 82003, 82800, 82803, 82810, 8744, 9215, 9390, 9391, 9393, 9394<br><br>HIC3 codes include*: A1D, B3K, B4X, B6M, J5D, P5F, Q7E, W1W |

*Not an exhaustive list.

Source: AR Healthcare Payment Improvement Initiative

## Congestive Heart Failure Algorithm

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| **Triggers** | Inpatient admission with a primary diagnosis code for heart failure |
| **PAP assignment** | For each episode, the Principal Accountable Provider (PAP) is the admitting hospital for the trigger hospitalization |
| **Exclusions** | Episodes meeting one or more of the following criteria will be excluded:<br>A. Beneficiaries do not have continuous Medicaid enrollment for the duration of the episode<br>B. Beneficiaries under the age of 18 at the time of admission<br>C. Beneficiaries with any cause inpatient stay in the 30 days prior to the triggering admission<br>D. Beneficiaries with any of the following comorbidities diagnosed in the period beginning 365 days before the episode start date and concluding on the episode end date: 1) End-Stage Renal Disease, 2) organ transplants, 3) pregnancy, 4) mechanical or left ventricular assist device (LVAD) or 5) intra-aortic balloon pump (IABP)<br>E. Beneficiaries with diagnoses for malignant cancers in the period beginning 365 days before the episode start date and concluding on the episode end date. The following types of cancers will not be criteria for episode exclusion: colon, rectum, skin, female breast, cervix uteri, body of uterus, prostate, testes, bladder, lymph nodes, lymphoid leukemia, monocytic leukemia.<br>F. Beneficiaries who received a pacemaker or cardiac defibrillator in 6 months prior to the start of the episode or during the episode<br>G. Beneficiaries with any of the following statuses upon discharge: 1) transferred to acute care or inpatient psych facility, 2) left against medical advice or 3) expired |
| **Episode time** | Episodes begin at inpatient admission for heart failure. Episodes end at the latter of 30 days after the date of discharge for |

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| **window** | the triggering admission or the date of discharge for any inpatient readmission initiated within 30 days of the initial discharge. Episodes shall not exceed 45 days post-discharge from the triggering admission. |
| **Claims included** | 1. Inpatient facility and professional fees for the initial hospitalization and for all cause readmissions<br>2. Emergency or observation care<br>3. Home health services<br>4. Skilled nursing facility care due to acute exacerbation of CHF (services not included in episode for patients with SNF care in 30 days prior to episode start)<br>5. Durable medical equipment |
| **Quality measures** | <u>Quality measures "to pass":</u><br>1. Percent of patients with LVSD who are prescribed an ACEI or ARB at hospital discharge – must meet minimum threshold of 85%.<br><br><u>Quality measures "to track":</u><br>1. Frequency of outpatient follow-ups within 7 and 14 days after discharge<br>2. For qualitative assessments of left ventricular ejection fraction (LVEF), proportion of patients matching: hyperdynamic, normal, mild dysfunction, moderate dysfunction, severe dysfunction<br>3. Average quantitative ejection fraction value<br>4. 30-day all cause readmission rate |

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| | 5. 30-day heart failure readmission rate<br>6. 30-day outpatient observation care rate – utilization metric |
| **Adjustments** | No adjustments are included in this episode type |
| **Trigger codes** | Each episode is triggered by an inpatient admission with a primary diagnosis code for heart failure.<br><br>ICD-9 Heart failure primary diagnosis codes: 428.xx, 40201, 40211, 40291, 40401, 40411, 40491 |
| **Exclusion codes** | List of prior diagnoses and meds that would disqualify a patient from the episode<br><br>ICD-9 / CPT / HCPCS codes within 1 year (prior to trigger): 585.5, 585.6, 586.xx, V42.xx, 0048T, 0049T, 33975–33980, Q0491–Q0505, 33970, 33971, 33973, 33974, 140.xx–152.xx, 155.xx–173.xx, 175.xx, 176.xx, 179.xx, 181.xx, 183.xx, 184.xx, 187.xx, 189.xx–195.xx, 197.xx–203.xx, 205.xx, 207.xx–209.xx, 231.xx, 237.xx, 239.xx, V22.xx, 59120, 59121, 59130, 59135, 59136, 59140, 59141, 59150, 59151, 59160, 59200, 59300, 59320, 59325, 59350, 59400, 59409, 59410, 59412, 59414, 59425, 59426, 59510, 59514, 59515, 59525, 59610, 59612, 59614, 59618, 59620, 59622, 59812, 59820, 59830, 59840, 59841, 59850–59852, 59855–59857, 59866, 59871, 59897–59899, 76801–76821, 76825, 630.xx–679.xx<br><br>ICD-9 / CPT / HCPCS comorbidities within 6 months (prior to trigger): 33215–33217, 33220, 33224, 33225, 33240, 33245, 33249, 93282–93284, 93287, 93289, 93295, 93296, 93741–93745, K0532, K0606–K0609, G0297, G0298, G0299, G0300 |

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| | These codes represent the set of business and clinical exclusions described previously |
| **Codes to assign PAP** | Admission hospital is principal accountable provider (see trigger codes above) |
| **Reporting codes** | Outpatient visit within 7 to 14 days: any outpatient professional claim within 7 to 14 days of date of discharge<br><br>All-cause readmissions: any hospitalization in the 30 day period following the date of discharge<br><br>Heart failure readmission: any hospitalization in the 30 day period following the date of discharge with a primary diagnosis of heart failure (see triggers above) |
| **Included claim codes** | List of ICD-9 and CPT codes that should be included in episode<br><br>Acute inpatient heart failure primary diagnosis codes: ICD-9 codes 428.xx, 40201, 40211, 40291, 40401, 40411, 40491<br><br>Post-acute skilled nursing facility (SNF): CPT codes 99304-99310, 99318<br><br>Post-acute skilled nursing professional: Revenue codes 190-193<br><br>Health home serves: HCPCS codes T1021, T1021-TE (modifier), T1021-TD (modifier)<br><br>Durable medical equipment: HCPCS codes 4030F, E0601, E0561, E0562, E0470, A7030-A7039, A7044, A7046, K0532 |

Note:

- Medicaid CHF episode v1.0
- Last Modified: 11/13/2012

# Appendix C: Oklahoma SIM Transformation Resource Inventory

(This section of the report will be updated at a future date).

# Appendix D: HIE Environmental Scan

**Health Information Exchange**

**Statewide Environmental Scan Findings**

Prepared for

Oklahoma State Department of Health

Center for Health Innovation and Effectiveness

August 25, 2015

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## Introduction and Background

The Oklahoma Health Improvement Plan (OHIP) coalition, chaired by Commissioner Terry Cline, Oklahoma's Secretary of Health and Human Services, is a public-private partnership of stakeholders that oversees the state's progress toward improving Oklahoma's strategic health outcomes.

The OHIP goals and work plan were originally created in 2010. The Oklahoma State Department of Health (OSDH) published an update to the OHIP in 2015 to describe Oklahoma's goals for the next five years, also referred to as "Healthy Oklahoma 2020." As part of this process, the OHIP coalition has established goals in four core areas of work: 1) Health Efficiency and Effectiveness, 2) Health Information Technology (IT), 3) Health Workforce, and 4) Health Finance. A workgroup comprised of Oklahoma stakeholders has been established for each of the four core areas.

The OHIP Coalition also submitted a proposal for a State Innovation Model (SIM) grant on behalf of the state of Oklahoma to provide a state-based solution to Oklahoma's healthcare challenges. Oklahoma was successful and received the grant. The grant is administered by the Oklahoma State Department of Health, which in turn created the Oklahoma State Innovation Model (OKLAHOMA SIM) leadership team to manage and direct the work detailed in the SIM grant. The OKLAHOMA SIM's goal is to improve health, provide better care, and reduce health expenditures for Oklahomans.

To support the Health IT workgroup, OSDH engaged Milliman to perform a statewide environmental scan of existing health information exchanges (HIE), to describe the status of health information exchanges within the state, and to develop a proposal to implement a statewide interoperable health information network. As part of this work, Milliman conducted interviews with numerous stakeholders. The purpose of these interviews was to document existing HIE capabilities and to solicit input on possible future directions of Oklahoma's HIE efforts.

This report presents findings identified during the interviews and from review of HIE initiatives in Oklahoma and other states.

***Caveats and Limitations***

*This report was prepared by Milliman, Inc. (Milliman) on behalf of the Oklahoma State Department of Health (OSDH) in accordance with the terms and conditions of the contract between OSDH and Milliman dated April 1, 2015.*

*This report has been prepared solely for the internal use of, and is only to be relied upon by, the Oklahoma State Department of Health. Although Milliman understands that this report may be distributed to third parties, Milliman does not intend to benefit, or create a legal duty to, any third-party recipient of its work. If this report is distributed to third parties it should be distributed only in its entirety.*

*Milliman developed this report with information received from OSDH, as well as upon discussions conducted with OSDH representatives and stakeholders who participated in interviews. Milliman did not audit the source of any data or information Milliman received, nor did Milliman perform independent verification. If the underlying data or information is inaccurate or incomplete, the results of our work may likewise be inaccurate or incomplete.*

## Methodology and Assumptions

In conducting this environmental scan, Milliman worked with representatives of the OKLAHOMA SIM team to identify selected organizations to interview about their experiences exchanging health information in the state.

### *Stakeholder Interviews*

Milliman conducted in-person and telephone interviews with more than 20 individuals representing Oklahoma's existing HIEs, health delivery systems, payers, state agencies, and other key constituencies. Individuals participating in the in-person and telephone interviews included those shown in the table in "*Table 1: Interview Participants*."

**Table 44: Interview Participants**

| Organization | Name | Role |
|---|---|---|
| **Health Information Exchanges** | | |
| **MyHealth Access Network** | David Kendrick, M.D. | Chief Executive Officer |
| **Coordinated Care Oklahoma** | Brian Yeaman, M.D. | Chief Executive Officer |
| | Jason Kirby | Sales Consultant |
| | Joanna Walkingstick | Project Manager |
| | Jonathan Kolarik | Chief Clinical Informatics Officer |
| | Rodolfo Alvarez Del Castillo, M.D. | Chief Medical Officer |
| **Healthcare Delivery Systems** | | |
| **St. Anthony Hospital** | Kevin Olson | Chief Information Officer |
| **St. John Health System** | Ann Paul | Vice President |
| | Bat Shunatona, M.D. | Medical Director |
| | Troy Cupps | ACO Operations Director |
| **Payers** | | |
| **Blue Cross and Blue Shield of Oklahoma** | Joseph Cunningham, M.D. | Chief Medical Officer |
| **Oklahoma Health Care Authority** | Adolph Maren | Director, Electronic Health Operations |
| | Lisa Gifford | Chief of Business Enterprise Services |
| **Other Stakeholders** | | |
| **Oklahoma Department of Mental Health and Substance Abuse** | Tracy Leeper | Decision Support Policy Analyst |
| **Oklahoma State Department** | Becky Moore | Director of Informatics |

| | | |
|---|---|---|
| **of Health** | C. Alex Miley | OKLAHOMA SIM Project Director |
| | Isaac Lutz | Health Innovation Planning Manager |
| **Choctaw Nation Health Services Authority** | David Wharton | Chief Risk Officer, Health Informaticist |
| **Oklahoma Foundation for Medical Quality** | Ashley Rude | HIT Practice Advisor |
| | Ashley Wells | HIT Practice Specialist |
| | Lindsey Wiley | HIT Manager |

The goal of these interviews was to document capabilities for HIEs focused on sharing clinical data, operations, and capabilities within the state. Interviewees were also asked how they exchange and apply clinical information in electronic health records (EHRs), and about their perspectives on possible approaches for future Oklahoma health information exchange efforts.

***Industry Knowledge***

Milliman conducted research about HIE initiatives in other states to identify common challenges and keys to success. In addition to the research Milliman performed for this project, this report was developed with consideration of the approaches Milliman consultants have observed elsewhere. Milliman has incorporated these best-practice learnings into this report.

**Health Information Exchange Key Concepts**

To facilitate a uniform understanding of the concepts and terms used throughout this report, common definitions for selected key terms are presented below.

- **Centralized Data Model:** A centralized data model refers to a database system design in which disparate data sets are merged and stored in a shared location. This model is generally thought by data professionals across industries to be a technical requirement for efficiently conducting population health analytics. Centralized data models are generally capable of faster and more reliable performance for end users and greater flexibility to support multiple applications than non-centralized models. This model may be perceived as being at higher risk of breach due to the volume of data in a single location.

- **Comprehensive Primary Care Initiative:** The Comprehensive Primary Care Initiative is a multi-year initiative with a goal to improve primary care in seven regions nationally, including Tulsa, Oklahoma. The program offers population-based care management payment to support five comprehensive primary care focus areas:

    1. Risk-stratified care management
    2. Access and continuity
    3. Planned care for chronic conditions and preventive care
    4. Patient and caregiver engagement
    5. Coordination of care across the medical neighborhood

Multi-payer payment reform, continuous use of data to guide improvement, and meaningful use of health information technology are foundational precepts to the initiative.

- **Continuity of Care Document:** A Continuity of Care Document (CCD) is a clinical summary about a patient that has been standardized for electronic transmission. Meaningful Use Stage 1 requires that a CCD include patient information, allergies, medications, problems, procedures, and laboratory results. The set of information required for the CCD is expanded for subsequent Meaningful Use stages. Throughout this report we use the term CCD to generically refer to a clinical summary capable of being transmitted electronically that would minimally adhere to the Meaningful Use Stage 1 requirements.

- **Data Warehouse:** A data warehouse is a type of database designed to aggregate information from disparate source systems into a single repository. Data warehouses are designed for more efficient data aggregation and handling of large volumes of data, whereas traditional databases are typically constrained to a single application for rapidly transmitting information from point-to-point, such as an EHR.

- **eHealth Exchange:** eHealth Exchange (also referred to as "The Sequoia Project" and/or formerly referred to as the "Nationwide Health Information Network (NWHIN)" is a group of organizations sharing health information under a common framework and set of rules. Participants include federal agencies, states, Beacon communities, and health systems. eHealth Exchange provides an interoperable health information exchange service that enables disparate users to share information through what is often referred to as a "network of networks."

- **Federated Data Model:** A federated data model refers to a system design in which separate databases allow partial and controlled sharing of their data on demand. In a federated model, data is not stored in a central shared location. This model typically provides increased patient and provider privacy. A tradeoff of this model is the inability to conduct aggregate reporting and analytics. Federated data models may reduce trust concerns among stakeholders, lower the risk of breach, and may be developed more quickly than some centralized data models.

- **Health Information Exchange:** A health information exchange (HIE) is broadly defined as a system designed to pass health information from one party to another. Functionality such as patient or provider portals, reporting, and analytics may be added to increase utility.

- **Interoperability:** The term interoperability is frequently used in discussion and in literature, however, it is a term that may imply slightly different meanings to different users and audiences. In other words, it is a common term that may not be consistently interpreted. In this report, interoperability refers to a software system capability to send and receive information to and from other disparate systems.

- **Meaningful Use:** Meaningful Use is a federally sponsored program to accelerate the adoption of health information technology throughout the U.S. healthcare system, specifically the use of EHRs. Meaningful Use was conceptualized by the National Quality Forum (NQF) and founded on the principles of improved population health, care coordination, and patient engagement. Eligible providers receive federal funds to adopt EHR technology and demonstrate use of those systems in a meaningful way. The Meaningful Use program has three stages; most participants today are in Stage 1 or Stage 2.

- **ONC Certification:** Certification indicates that a system conforms to standards for health information technology (HIT) security and functionality as defined by the Office of the National Coordinator for Health Information Technology (ONC). The ONC has not yet published HIE

certification standards, but has published standards for components that may be utilized by an HIE.

- **Population Health:** Population health refers to the health outcomes of a group of individuals, rather than the health outcome of a single individual. Population health management is an approach to health that seeks to improve the health income of the entire population. Use of data for analytics and measurement is an essential component of population health management.

These definitions and concepts are used throughout the remainder of this report.

**Observations and Findings**

In this section, we describe the primary health data sharing efforts in use in Oklahoma today, as identified during the statewide environmental scan interviews and research. Like many states, Oklahoma has a number of active data sharing efforts underway, which are in varying stages of development and which were initially created for different intended uses.

### *A. Active Oklahoma Data Sharing Efforts*

The advent of mature, widely adopted healthcare information technology has created an opportunity for the healthcare industry to share information and coordinate care in an entirely new manner compared to what was possible just a few years ago. Technological advances have created the opportunity for healthcare providers to reduce redundant testing, better control chronic conditions through early identification of at-risk individuals, and streamline patient handoffs among organizations. With the appropriate technical infrastructure, providers can access most or all of their patients' health records and encounters almost instantaneously.

The opportunity to manage patients through care transitions, conduct population management programs, and develop complete views of a patient's medical history has led Oklahoma's healthcare community to develop numerous data sharing initiatives. Data is exchanged though HIEs and EHRs, as well as through a diverse set of other methods.

Oklahoma has already made substantial progress in healthcare data exchange as a result of its healthcare and business environment. Competition has spurred innovation and technological development within the state, and two competing HIEs have emerged. OSDH is also working on a shared-service state agency HIE. These efforts have the potential to create building blocks for a more connected, efficient, and effective healthcare system that will improve the lives and health of the population.

#### *Health Information Exchanges*

Two HIEs currently operate in Oklahoma: Coordinated Care Oklahoma (Coordinated Care) and MyHealth Access Network (MyHealth). The HIEs began as regional initiatives; Coordinated Care in Norman and Oklahoma City, and MyHealth in Tulsa. Each organization is currently in the process of expanding its reach across the state. While both HIEs share a stated goal of improving the lives of Oklahomans through better healthcare, each has a different vision of how to achieve that objective. Each organization's distinct characteristics, such as governance model, system capabilities, and scope of data included in its data set, are summarized and described in *"Table 2: Current Oklahoma HIE Features*."

**Table 45: Current Oklahoma HIE Features**

| Feature | Coordinated Care Oklahoma | MyHealth Access Network |
|---|---|---|
| **Organization Structure** | Not-for-profit | Not-for-profit |
| **Major Grants Awarded** | None | Beacon Community grant |
| **Revenue Model** | Fee and subscription | Fee and subscription |
| **Board Composition** | Community- and member-based | Community- and member-based |
| **Unique Patient Lives (est.)** | 4,700,000 | 4,000,000 |
| **Provider Locations (est.)** | 455 | 800 |
| **Data Model** | Centralized hybrid | Centralized hybrid |
| **CCD** | Yes | Yes |
| **Population Management Tools** | Yes (Pentaho) | Yes (Pentaho) |
| **Analytics** | Yes (LightBeam) | Yes (IndiGo) |
| **Patient Participation Model** | Opt-out | Opt-out |
| **Unique Features** | Advanced directives | Patient portal |
| **Training Model** | Train the trainer | Train the trainer |
| **Demographic Data** | Yes | Yes |
| **Clinical Data** | Yes | Yes |
| **Claims Data** | Not at this time | Yes (selected payers) |

In the following sections, we describe key elements of each of the existing HIEs in greater detail.

### Coordinated Care Oklahoma

Coordinated Care has been in operation in the Norman and Oklahoma City areas since 2014. The organization was founded by local hospitals and providers with a goal of providing physicians secure access to health information for their patients for treatment purposes.

When a patient sees a new provider, whether for a regular visit, emergency department visit, or a move to a long-term care facility following a hospitalization, improvements in care can be achieved if a complete clinical record is available to the provider as they deliver care. Coordinated Care focuses on providing support for these transitions by delivering a complete clinical record at the point of care.

Governance and Sustainability

Coordinated Care is a not-for-profit organization. The HIE's start-up costs were funded by health systems and provider groups. Ongoing operations are funded by members through subscription fees, typically paid on a semi-annual basis. A large provider group seeking to join the HIE would need to negotiate an investor stake and permanent board position with the existing investors. Smaller healthcare organizations, such as rural hospitals, small provider groups, home health, hospice, long-term care facilities, and behavioral health facilities, are charged only for the cost of establishing their connections and ongoing subscription fees. HIE members join for a term of 3 years with the option of a 60-day cancellation.

Coordinated Care's board is comprised of health systems, small provider groups, large provider groups, rural hospitals, post-acute care, and community participants. Coordinated Care has entered into an agreement with Yeaman and Associates, with Dr. Brian Yeaman serving as CEO, to provide organizational support, legal counsel, operations, finance and project management, and general oversight of the HIE.

Business Model

Coordinated Care's HIE includes patient data for over 4,700,000 unique patient lives and 800 provider sites, 455 of which actively contribute data to the HIE across the states of Oklahoma, Texas, and Missouri. The HIE provides a mechanism for member organizations' providers to inquire about a patient's healthcare by collecting and sharing patient demographic information, primary care provider, allergies, vital statistics, immunization data, problems and conditions, procedures, diagnostic results, labs, medications, discharge summaries, patient notes, and individual encounter records. Coordinated Care accepts and shares standardized and non-standardized data (such as a descriptive notes about the patient's condition) via the HIE, though analytics can only be run on standardized data.

There are two ways that HIEs typically store and provide access to health data: centralized data model and federated data model. Coordinated Care can accommodate both centralized and federated models. Once data from a federated model is viewed by a provider, it is stored in the centralized database and updated the next time that patient's information is queried. Access to Coordinated Care queries and data is provided on-demand. On-demand access means that, when users query the system, they are presented with the most recent EHR information available, although the data may or may not be stored in a single central repository or data warehouse.

Users access the HIE via a Cerner Corporation (Cerner) technology-based single sign-on, or via a web portal. For many EHRs, the users access the system through an EHR-integrated connection called a servlet, which expands the HIE information within the EHR system as a new window. Servlet technology enables a user to view Coordinated Care's consolidated patient views through the web. The bidirectional feed between the HIE and member organization loads a CCD from the HIE into their EHR upon request. This is advantageous to providers because it does not interrupt clinical workflow, allowing them to open their patient's aggregated record as if it were already integrated with their EHRs.

For EHRs that do not support this technology, access is provided through a web portal. The web portal offers view-only access for patient searches and analytics. Some EHRs can access the web portal via single sign-on, allowing the provider to click a link that opens Coordinated Care's web portal in a browser window after having automatically logged the provider in. Others require that a provider open a browser, navigate to the web portal, and log in to the portal. Seamless integration increases the likelihood that a provider will use the system during a visit, thus the advantage of integration and single sign-on is an increased usage rate.

Organizations wishing to join Coordinated Care can form a full connection with the HIE through their EHR, or can access the HIE only through the web portal. If the organization wishes to form a full connection, Coordinated Care consults with the organization to determine how best to build the connection. Coordinated Care reports that implementation of a typical connection takes six to eight weeks, but that individual connection times may vary depending on the provider, the specific EHR installation, and other related considerations.

Healthcare Analytics and Population Management Tool

Coordinated Care has focused its primary efforts around developing HIE tools that support patient transitions of care, presenting a complete medical record on-demand at the point and time of care.

Coordinated Care is also developing analytics capabilities via two vendors, Pentaho and LightBeam. LightBeam is Coordinated Care's primary analytics partner. The product provides an analytics warehouse that standardizes data for analysis. Pentaho provides risk stratification, population health management, and condition management reports to HIE users. Standards-based reports, such as HEDIS measures, and information on utilization, treatment, and clinical quality are also available.

In addition to providing a solution for health data integration at the point of care, Coordinated Care adds value for its members by integrating a tool called MyDirectives in the HIE. MyDirectives is a multistate electronic repository for a patient's portable advanced directives. Integration of this information can be valuable to providers in emergency medical situations and allows the care team to follow the patient's wishes, even in urgent settings where there would otherwise be a potential cost to delaying treatment to locate a patient directive. If a patient whose provider participates in Coordinated Care has filled out an advanced directive with MyDirectives, that information is available to all providers that participate in the HIE.

Policies and Procedures

Coordinated Care follows an opt-out model for sharing patient data for providers based in Oklahoma. In this model, patients are notified that their information will be shared over the exchange by member organizations and are given the opportunity to opt out of participation.

Coordinated Care also operates in Arkansas, Kansas, Louisiana, Missouri, and Texas. Operations spanning multiple states require special consideration due to variations among state regulations. For example, in Missouri, patients must explicitly opt in to have their records shared across the HIE. Missouri patients are notified that their information can be shared over the HIE and are given the opportunity to opt in. Because Coordinated Care includes Missouri-based providers in the HIE, a capability has been developed to overwrite the default opt-out setting if a patient has been seen in Missouri.

Coordinated Care reports low rates of patient opt-outs from provider groups in Oklahoma or Texas and says that approximately 90 percent to 95 percent of patients opt in from Missouri-based groups. Because of this, Coordinated Care believes that most patients are interested in the sharing of their records to facilitate coordinated and potentially higher-quality care.

Technology Evaluation

Coordinated Care uses Cerner as the HIE's primary technology vendor partner. Coordinated Care has, however, customized a CCD for its members. The decision to customize the CCD was made to strengthen the usefulness of the system in supporting care transitions and to allow connections to areas of healthcare which, such as home health and long-term care. The custom Coordinated Care CCD aggregates available clinical information into a single view. This model has a distinct advantage over most EHR technology, where users must separately view each instance of a patient's chart. In other words, each unique provider's chart for a patient is an "instance" and the treating provider must separately view each instance, rather than as a consolidated, patient-centric view as provided by Coordinated Care's CCD.

Coordinated Care's data model can be described as a centralized hybrid. Coordinated Care allows three types of connections:

1. A centralized connection hosted by Cerner that includes demographic information and clinical records.

2. A centralized connection hosted by Cerner for demographic information and a federated clinical record only accessed when a patient's chart is opened.

3. A fully federated connection that stores no information within the HIE's database.

Coordinated Care's connections are primarily the first and second connection types, with an equal distribution between the two. Centralizing patient demographic information enables accurate patient matching by building a master patient index (MPI), an operation that identifies which records throughout the system pertain to a single patient. An accurate MPI reduces the likelihood that data is missed when a patient's information is accessed via the HIE. It also reduces the probability that another individual's information is accidentally accessed by the provider. The MPI provides an efficient means to keep a patient's clinical information in the primary EHR and only accesses it when another provider needs it, rather than storing it in a centralized database. This arrangement is thought by some to maximize the security and privacy of patient records. The fully federated connection type is primarily used by healthcare organizations that lack sufficient EHR technology to be fully connected.

Coordinated Care's data model mirrors the HIE's primary intended purpose as a point-of-care clinical information source, a condition management tool, and population health management tool.

Vendor Procurement and Project Management

As Coordinated Care's technology partner, Cerner is responsible for most application development work. Lightbeam is Coordinated Care's analytics vendor. MyDirectives was selected as the vendor for the HIE's advanced directives capability. Yeaman and Associates provides a project manager to oversee vendor-based development efforts.

Marketing, Outreach, and Training

Coordinated Care's sales and marketing activities are conducted statewide. Coordinated Care Oklahoma participates in statewide conferences and initiatives to raise awareness of the HIE and its capabilities.

Coordinated Care operates its training function as a "train the trainer" model. This training approach is popular among technology vendors because it enables the client's team to spread adoption of the application on a timeframe that is right for the client organization; even following completion of the technology implementation. This method directly trains several individuals within a client organization to become experts on the technology. These individuals then conduct training sessions for the rest of the organization. Coordinated Care also offers web-based seminars and printed reference guides to supplement the primary training model.

Certifications

While the ONC does not provide certification standards for HIEs at this time, it does certify components that may be used with various HITs. MyDirectives, Coordinated Care's advanced directives technology provider, offers an ONC-certified advanced directive capability, which the HIE provides to its members.

**MyHealth Access Network**

MyHealth was started in 2009 with a goal to improve health, improve healthcare, and reduce costs by creating a complete view of all the care Oklahoma patients receive. Based in Tulsa, the MyHealth HIE collects patient information to create opportunities for early intervention with at-risk patients, assist in

treatment decisions during the patient visit, and enable population management programs through analytics and reporting tools.

a. Governance and Sustainability

MyHealth is a not-for-profit organization. Dr. David Kendrick is the organization's CEO. The HIE was started as a result of a large stakeholder meeting convened to discuss Oklahoma's health outcomes.

In May 2010, MyHealth received an ONC Beacon Community grant to fund use of HIT to advance the vision of patient-centered care and to provide better population health and better patient care at a lower cost. The Beacon grant funded investments in infrastructure and technology to support the MyHealth platform and to expand its population management and clinical quality reporting capabilities. MyHealth's ongoing operations are funded by membership fees. MyHealth reported that its fee schedule is comparable to Coordinated Care Oklahoma's fee schedule although Milliman did not independently verify that claim.

MyHealth's board of directors is comprised of 20 members. The board represents a broad mix of constituencies, with participants from health systems, tribal organizations, patients, universities, private payers, clinicians, representatives from the community, public and allied health organizations, and one individual appointed by the governor. Health systems occupy six seats. This structure was designed so that decisions and initiatives require cross-stakeholder agreement and collaboration.

Business Model

The MyHealth HIE has records for over 4,000,000 patients, contributed to by over 260 member organizations across approximately 800 sites. MyHealth provides the capability to share and collect patient information intended to support care coordination, including demographic information, vital signs, medications, radiology, allergies, lab results, immunizations, social and family history, encounters and procedures, admissions, discharges, and transfers. To join MyHealth, organizations must be professionals in good standing in the healthcare industry with a demonstrated need, benefit from participation, and be approved by the MyHealth Board of Directors. Once granted membership, organizations participate in a technology evaluation to ensure connections are feasible and that the required data can be extracted from their HIT systems.

Authorized users may access patient data on-demand via the HIE by logging in to a web portal from their EHR using single sign-on. Providers have access to a consolidated CCD that summarizes and presents relevant point-of-care information. MyHealth leadership reported that most health system users access the portal when there has been a known care event, such as a hospitalization or for analytic purposes.

As a participant in the Comprehensive Primary Care (CPC) Initiative, MyHealth is expanding its HIE data model to include claims data for value-based assessment of care. The intent of the CPC Initiative program is to evaluate whether risk-stratified care management, access to care, planned care for chronic conditions, patient and caregiver engagement, and coordination of care across healthcare organizations can achieve improved outcomes. The results of this program are intended to inform future Medicare and Medicaid policy; and within the state of Oklahoma, is expected to be used in evaluating pay-for-performance program effectiveness for the state's payers.

The HIE's data sources for claims information are currently Blue Cross and Blue Shield of Oklahoma and the state Medicaid program, SoonerCare, which is administered by the Oklahoma Health Care Authority. Underlying this initiative is a clinical quality measurement program that was introduced and developed in partnership with Blue Cross and Blue Shield of Oklahoma.

Healthcare Analytics and Population Management Tool

MyHealth offers a suite of analytic reporting tools for population health management. Additional functionality available in the MyHealth provider portal includes health analytics for clinical quality reporting and population health evaluation, risk assessment tools, identification of high utilizers of emergency departments, care transition, and care gaps reporting, as well as a direct messaging interface.

MyHealth provides three analytic and decision support tools; MyHealth Analytics, a Pentaho implementation; DocSite, a rules-based care gaps and care opportunities report; and Archimedes IndiGo, a risk-stratification and decision support system. MyHealth has also incorporated Tableau, an interactive data visualization product, into its analytics offerings. We note that these analytic and population management capabilities can be quite powerful, particularly when the inbound data is of high quality and predictable in format and structure. Lack of standardization in EHR workflows and charting is common among provider groups and is a likely barrier to be overcome before the robust reporting capabilities of MyHealth can be fully realized.

Policies and Procedures

MyHealth operates under an opt-out model in which participating organizations inform patients their data will be shared across the HIE to improve and streamline the care they receive unless they explicitly decide not to have it shared. MyHealth reports relatively low rates of patients opting out. As the HIE is currently focused on Oklahoma-based provider groups, it has not been necessary to develop an opt-in solution.

Technology Evaluation

MyHealth's technological capabilities have evolved over time as the needs of the HIE have changed. The HIE can be accessed via an independent web portal, or a single sign-on to a web-based portal from a link in the electronic health record (EHR) system. Clinical users can access a consolidated CCD that aggregates relevant clinical information from all data sources into a single view. The HIE's data model can be described as a centralized hybrid, which allows two types of connection for organizations to share data:

1. Centralized connection hosted by MyHealth that includes demographic information and clinical records.

2. Federated clinical connection hosted by MyHealth that enables data to be viewed in the portal, but prevents the data's inclusion with the HIE's analytic reporting suite.

Additionally, view-only access to demographic data and clinical records is available for members who do not have an EHR compatible with the technical requirements of data sharing.

The majority of MyHealth's data source connections are fully centralized. An advantage of a centralized data repository is that it enables the aggregated reporting necessary to build effective population health reports. In addition to the core technology platform, MyHealth's suite of additional reporting and systems uses the capabilities of a number of technology vendors. These capabilities create value for organizations that are interested in quality reporting, population management programs, and clinical decision support capabilities that are more comprehensive than transmission of the clinical record from point to point.

Vendor Procurement and Project Management

MyHealth has a number of vendor relationships due to the HIE's diverse set of reporting-related features. Vendor relationships exist with Archimedes, Cerner, Covisint, MedUnison (Doc2Doc), Microsoft Health

Vault, and Verinovum, with future plans to incorporate technology from Direct Project. MyHealth manages vendors and delivery of technology projects under its Privacy Officer position to ensure that privacy, security, and other important data integrity requirements are monitored and maintained.

Marketing, Outreach, and Training

MyHealth operates a "train the trainer" model for aiding participants in adopting the technology. Additionally, MyHealth also offers web-based seminars and printed reference guides.

Certifications

MyHealth is deploying an ONC Stage 2-certified patient portal for use by its provider participants' patients. MyHealth also plans to deploy an Oklahoma Bureau of Narcotics and Dangerous Drugs (OBNDD)-certified Prescription Drug Monitoring Program (PDMP) in the near future.

***Oklahoma State Department of Health***

Oklahoma's state agencies handling health information have historically experienced challenges in sharing data across departments. To address this challenge, the Oklahoma Health and Human Services cabinet created the Deliverable Interoperable Components Utilizing Shared Services (DISCUSS) committee designed to collaboratively share resources among the Oklahoma Health and Human Services agencies for the development and implementation of shared information technology products, services, and technology frameworks. Membership of DISCUSS includes the Department of Health, Department of Human Services, Department of Mental Health and Substance Abuse Services, Department of Rehabilitation Services, and the Health Care Authority.

In 2015, DISCUSS members agreed to create a shared-services state agency HIE that would facilitate the sharing of the state's data across agencies and would link the disparate systems. State health data has a number of factors that influence how and when it can be shared. For example, birth and death information and sensitive patient registries cannot be shared with a public exchange. Other data, however, would most certainly benefit from clinical integration. One example of such data is clinical data services provided by county health departments and labs.

A system for sharing data among agencies is anticipated to create benefits for private entities in Oklahoma as well. For example, hospitals are required by law to report patient discharges to several agencies. Integration could mean that only one data feed would need to be sent to the state.

Due to the sensitive nature of part of the state's health data, state ownership of the data asset was deemed by DISCUSS to be imperative for patient privacy. The vision for interstate agency information sharing is to develop an MPI that identifies when disparate records are associated with the same person, and to allow access to consolidated information via a secure portal.

Orion Health was recently selected as the technology vendor to support this effort; the implementation effort is expected to take approximately two years. Once fully functional, this data warehouse is intended to integrate state agency data, reducing costs and increasing the effectiveness of state agency programs, as well as to simplify the reporting burden for hospitals and providers. The HIE could be connected via a network of exchanges or federated connections to other state healthcare organizations to share certain, limited data while benefiting from up-to-date information on critical diagnoses for state registries.

Through DISCUSS, the state is moving quickly to address a known gap in its data sharing capabilities. When the HIE is functional, it will serve a key role in serving Oklahoma's health information sharing needs.

***Other Oklahoma Data Sharing Initiatives***

Investments in developing shared databases and reporting interfaces may be the most direct manifestation of HIE initiatives in Oklahoma, but two other forces will begin to influence the market and shape Oklahoma's HIT landscape: (1) EHR interoperability development, and (2) a growing initiative to connect existing HIEs.

**1. EHR Interoperability**

Federal incentive programs such as Meaningful Use, have been a major driver of HIT investment. Meaningful Use participants must attest that they meet the requirements for each Meaningful Use stage in order to continue to receive EHR incentive program funds. Meaningful Use Stage 2 emphasizes interoperability. As providers prepare for Stage 2 attestation, many EHR vendors are investing significant time and energy to help them achieve their goal because so many of the Stage 2 objectives and measures require demonstrated adoption of the technology capabilities in the vendor systems.

ONC reports that there have been substantially fewer vendors requesting ONC Stage 2 certification thus far compared to Stage 1 requests. Two factors appear to be driving this decrease in applications for certification: developing the capability to meet Stage 2 requirements is technically challenging, and many of the early EHR companies are being acquired or going out of business as the market matures.

While sharing information among different EHR platforms has been a challenge, substantial progress has been made in sharing clinical records across installations of the same EHR system. Large care delivery systems make frequent use of this capability in instances where there are multiple discrete installations of the EHR across practices. This technology enables the patient's chart to "follow" them throughout the organization.

The current state of EHR interoperability has two general shortcomings. First, if a patient receives care at a hospital or clinic that is not part of the delivery system, there is no way to automatically incorporate data from that visit into the patient's primary chart. Second, EHRs do not typically consolidate patient information into a single view. This condition requires providers to open each location's record independently. Lack of a consolidated patient view severely limits the practical use of EHR interoperability technology in a patient visit. This is primarily due to the amount of time needed to completely review a record and the number of visits per day in a typical provider's schedule.

Most EHR interoperability is not yet mature enough that regular and effective usage in care delivery settings is actively occurring. However, the attention of EHR vendors to this capability suggests that, in the future, a more user-friendly application of this technology will be available.

**2. Network of Networks**

HIEs are most effective when the number of locations and patients covered by the system is maximized. In Oklahoma, this currently means stakeholders must either choose the information contained in a single HIE or pay increased costs to subscribe to both. Significant time, money, and effort goes into developing and connecting EHRs to an HIE, and the multi-year subscription agreements that most vendors require are evidence of this fact. The cost of switching HIEs is high.

Oklahoma's present HIE and information-sharing initiatives are regionally based, despite Coordinated Care's and MyHealth's continued expansion across the state. An initiative is underway to increase

connectivity and health information sharing between Oklahoma's existing HIEs. Coordinated Care and MyHealth are exploring the option of joining an existing network of networks through an organization called eHealth Exchange, the largest HIE network in the country.

eHealth Exchange is a nationwide "network of networks" that has established a standard legal framework and technical specifications to allow member organizations to more easily establish federated connections to one another. Federated connections through an established third party have an advantage in that there is no need to invent or define the sharing interface. Current eHealth Exchange board members include organizations such as Epic, Kaiser Permanente, the American Medical Association, Workgroup for Electronic Data Interchange (WEDI), and the Healthcare Information and Management Systems Society (HIMSS), among others. Participants include federal agencies, states, Beacon communities, and health systems. Establishing connections to such a network would make Coordinated Care and MyHealth interoperable not only within the state of Oklahoma, but nationally with any other eHealth Exchange participant, once the connections are built.

All individuals interviewed by Milliman during this engagement expressed interest in connecting the existing HIEs and establishing a "network of networks." This approach is not without risks, however. Introducing an external third party as the critical connection point to Oklahoma's cross-system interoperability solution is a potential risk should eHealth Exchange's system ever fail. Healthcare data shared across eHealth Exchange will be limited to point-of-care clinical information, because the federated connection inhibits use of analytics or aggregation of information for reporting purposes.

Both EHR interoperability advances and initiatives to connect Oklahoma's HIEs to a "network of networks" advance the cause of healthcare information sharing throughout the state despite some potential drawbacks. These are positive developments in the HIT landscape for Oklahoma.

**Current Environment**

To understand perspectives and considerations regarding potential avenues to connect Oklahoma's health information, it is necessary to also understand the healthcare environment within the state. Milliman's findings about several key stakeholder groups are described in this section.

### *B. Reasons to Share Data*

OSDH was interested in learning why organizations in Oklahoma are sharing healthcare data. Interview participants expressed a variety of motivations for exchanging healthcare information, including developing a more complete patient record, reducing duplicative testing, measuring clinical outcomes in pay for performance measurement, and an increased ability to manage patient populations in need of assistance, for example those with chronic conditions.

One major challenge facing the U.S. healthcare system today is that when a patient receives healthcare outside of a single "primary" care delivery system (such as receiving care at a hospital or clinic that is under different ownership), critical information about vital statistics, tests conducted, test results, diagnosis, and medications prescribed are not available to the patients' primary providers. Sharing critical clinical information at critical points (e.g., when a patient is hospitalized, transferred to a long-term care facility, or is being seen for a routine visit) can significantly influence both the cost and effectiveness of care.

By connecting clinical information across disparate delivery systems, participating providers are able to construct a longitudinal view of a patient's care that can improve decision making at the point of care, reduce readmission rates, reduce expensive duplicative testing, and enable population management programs that allow effective outreach and intervention to patients who are the most at-risk for major medical events.

The integration of claims and clinical data was important to a number of the interviewees. Many payer organizations try to align providers' financial incentives with providing treatment that keeps patients healthier and reduces billable events through pay-for-performance quality programs. One challenge with these programs is using a standard methodology to evaluate performance. Payers measure activity based on claims data and providers measure this based on clinical information. Applying the same measures to these different data sets can yield conflicting accounts of performance. Utilizing a trusted third party to match claims and clinical data and report performance can improve both payers' and providers' abilities to trust the fidelity of the performance measure outcomes.

***Data Sharing Concerns***

OSDH also wanted to understand interviewees' concerns regarding sharing health information and related data. Interview respondents actually expressed few overt concerns about sharing healthcare data in a controlled and secure manner.

Oklahoma uses an opt-out model for patient permissions, meaning that most organizations will inform patients that their data will be shared unless patients specifically ask for their information to be excluded. Interviewees seemed comfortable with this model, and several individuals offered evidence that the vast majority of patients will consent to having their information shared if the purpose and manner in which it is shared is described to them.

Data sharing concerns were expressed by stakeholders representing smaller provider groups. While these stakeholders support the value of sharing data, their concerns related to the cost to connect to an HIE and the ongoing subscription fees. Of note, EHR vendors can charge fees to enable the technology that integrates single sign-on capabilities or to provide extracts to an HIE if the provider group's EHR is hosted by the vendor. The combination of these charges was reported to have the potential to double the initial connection costs of joining an HIE.

Nationally, concerns commonly expressed in states with HIE efforts similar to Oklahoma's include fears that information sharing increases the likelihood of a Health Insurance Portability and Accountability Act (HIPAA) compliance breach, challenges to opt-out models due to potential patient and/or provider privacy concerns, data security concerns, lack of trust in partnering organizations leading to low participation rates, and antitrust concerns related to the use of data to make contracting or purchasing decisions.

As Oklahoma's efforts to connect its healthcare ecosystem become more widely publicized, it is possible that concerns raised in other states will also be raised in Oklahoma.

***Provider Environment***

Oklahoma has a varied and complex healthcare provider environment, due to its unique population distribution, business environment, and special constituencies within the state, such as Native American tribal nations.

Oklahoma City and Tulsa both have well established, mature healthcare delivery organizations that invest in HIT. Due to the size and complexity of these healthcare organizations, many are making internal investments in population health management analytics tools. A limitation of these efforts is that these tools can only analyze data the systems can access, primarily for care provided within their clinics and facilities. This creates an incentive for these groups to share data outside of their organizations.

During the interview process, we also learned that many providers and critical access hospitals in rural Oklahoma are choosing to affiliate with, or being acquired by, larger care delivery organizations. This aggregation can help these rural providers afford HIE connections and other HIT that might otherwise be beyond their reach.

Oklahoma is home to 38 Native American tribal nations, 36 of which are federally recognized. Each one is a completely autonomous nation responsible for making decisions about the healthcare of their members. Indian Health Services (IHS) is a federal agency within the U.S. Department of Health and Human Services responsible for providing federal health services to Native Americans. This agency provides infrastructure and support to Oklahoma's tribal nations, though the individual nations operate independent health services, and these services are not broadly interoperable. IHS has initiated a data warehousing project that will enable some data sharing across health services organizations, but the warehouse is not yet distributing any information to the tribes.

***Payer Environment***

Oklahoma's health insurance market is relatively consolidated. Commercial payers are typically large, well-funded, and able to make investments in HIT to support corporate priorities.

According to the *Oklahoma Insurance Market Analysis* report, published by Milliman in August 2015, 49 percent of Oklahoma's population is covered by commercial insurance through an employer or other private insurer. Another 21 percent is covered by Medicaid, and 14 percent by Medicare, and 2 percent through other public sources. Approximately 14 percent of the state is uninsured. Oklahoma has generally higher rates of government-subsidized insurance and uninsured compared to other states.

Interviewees reported that managed care arrangements that use incentive payments to providers for performance based on agreed-upon quality measures are becoming more prevalent in Oklahoma. They cited a belief that a key element for success in these types of arrangements is using a trusted third party to measure performance, without which disagreements on the validity of results published by either the payer or provider group can be common and disruptive to meeting the overarching program goals.

Blue Cross and Blue Shield of Oklahoma has signed a participation agreement with MyHealth to send regular extracts of claims data to the HIE for the purposes of measuring pay-for-performance outcomes in its provider network. As a contracting prerequisite, network providers are required to be actively participating with MyHealth to ensure uniformity and thoroughness of reporting. This collaboration highlights the value that external repositories, such as HIEs, can bring to such programs.

Engaging payer organizations in the process of exchanging health information will be important as these organizations represent a large and consolidated stakeholder group within the state. The importance of payer engagement and participation will increase, as will their incentives to partner with HIEs and providers to improve the health of Oklahomans and reduce the overall cost of care.

**Statewide Interoperable Health Information Network Options**

Oklahoma intends to develop a statewide interoperable health information network to further its goals as part of the Healthy Oklahoma 2020 plan. There is a range of options to achieve this goal. To ensure that an appropriate option is selected, a number of important considerations must be evaluated. In this section, we discuss these options and considerations for the development of a statewide interoperable health information network.

### *C. Intended Use*

The single most important consideration for Oklahoma when determining how to establish an interoperable health information network across the state is what uses the system should support. No other consideration is likely to have as much bearing on the system's technical design and viability. The database architecture, data model, and supplementary reporting and analytics are all a derivative of the intended use. Three general scenarios for using Oklahoma's health information network exist:

1. Point-of-care support
2. Clinical decision support
3. Claims/clinical analytics support

Each scenario includes the functional capabilities of the one preceding it. For example, an HIE that passes enough information to provide clinical decision support would also provide point-of-care support for its users. These capabilities are discussed in detail below.

#### 1. Point-of-Care Support

In the point-of-care support scenario, information is exchanged among clinical locations for use in the patient visit. The transmitted data must include basic demographic information for patient matching and relevant clinical information, such as that which is found in a CCD.

Using an HIE in this manner has the potential to improve the quality of care. Better patient outcomes may be achieved by reducing errors and providing a more informed treatment plan. Combined clinical information can improve decisions made in-visit about testing, diagnosis, and treatment. This type of interchange can also be augmented with value-added services. Imaging and lab results are frequently shared, and some HIEs are incorporating additional data elements (e.g., advanced directives).

#### Clinical Decision Support

In a clinical decision support role, HIEs aggregate patient information for reporting. This reporting typically takes two forms: "within-visit" analytics to identify risk factors and potential testing needs at the time of care, and population-level analytics independent of a single patient visit to assist with population management. Using an HIE to assist with clinical decision support typically aggregates a patient's information from all locations within the HIE.

Population management reporting aggregates clinical information about all patients from all locations within the HIE for a specific parameter, such as a disease (e.g., diabetes, chronic heart failure), to aid in the identification of patients who are not currently being seen, proactively identifying those who are overdue for testing or who have a combination of factors that put them at-risk for a major medical event. This analysis enables the healthcare organization to reach out to the identified patients in an attempt to educate and/or provide them the needed care.

MyHealth's and Coordinated Care's tools (e.g., patient disease registries, emergency department utilization reports, and use of condition management analytics and reporting to identify high-risk patients and suggest high-value treatments) are examples of system use under this scenario. When carefully conducted and clearly presented, the results of analytics have the advantage of drawing the provider's attention to areas of interest for a given patient that might otherwise be overlooked in a visit, such as an overdue health screening or monitoring test.

**Claims/Clinical Analytics Support**

Using data in this manner for analytics typically combines information from payers and providers to evaluate care outcomes based on the entirety of a patient's clinical care. There are generally two progressive stages to a claims/clinical analytics. The first stage is a shared measurement framework in which performance is measured by one entity that all parties agree is the "trusted source." The second stage is to pair the combined claims and clinical data with cost information to draw conclusions about care outcomes and treatment protocol value, given the cost of providing these services.

Blue Cross and Blue Shield of Oklahoma's partnership with MyHealth to analyze and report on pay-for-performance measures for its network of providers is an example of the first stage in value-based assessment of care, establishing a trusted measurement framework. We note that, as of today, no cost data has been integrated into an HIE in Oklahoma; this exercise is more typically conducted in a framework referred to as an "all-payer claims database" or "value-based analytics database."

***Governance Model***

Governance refers to the process for developing the guidelines and rules for oversight and management of an organization or function. Throughout Milliman's interviews, participants stated that they had considered governance, a stance on information privacy, and information safeguards as much as an HIE's technical capabilities before agreeing to join or participate in a specific HIE. Ultimately, they viewed their decisions as an exercise in trust in the HIE and its leadership.

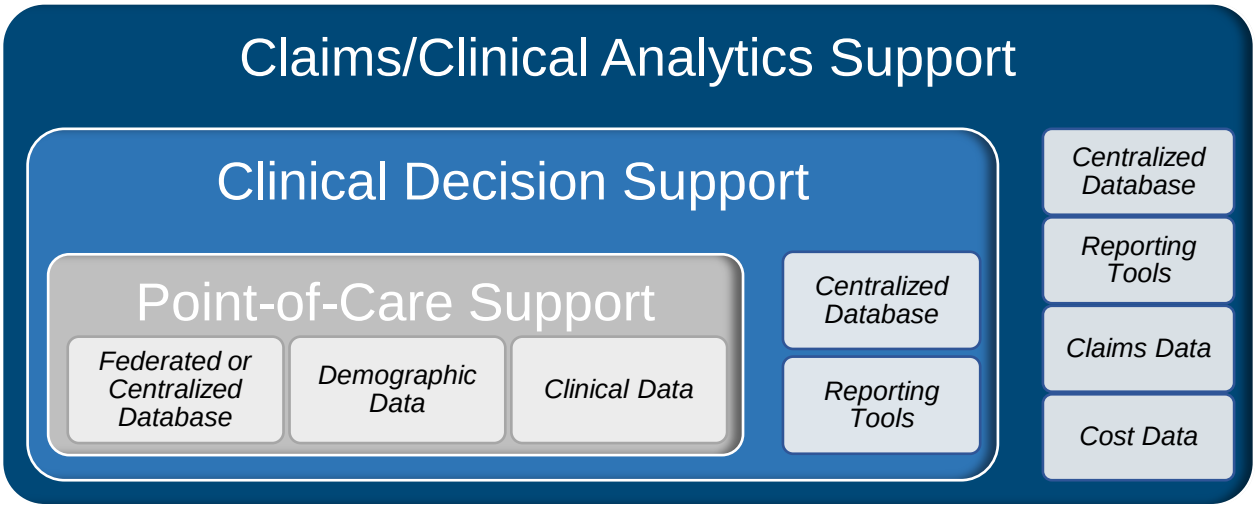
Experience gained from other HIE initiatives nationally suggests that agreeing upon or legislating what information is shared, and when and to whom it is accessible are key determinants for the utility of an exchange or network of exchanges. Important decisions that need to be made about the exchange's governance structure should include how the exchange is funded, who operates it, who owns it, and whether participation will be optional or required for healthcare organizations in the state.

Whether participation is optional or mandatory is an especially important consideration, as HIEs are most effective when they include a patient's entire healthcare footprint. The state will need to weigh the potential reporting, information security, and trust burden for organizations and individuals against the utility gained by having connections among all providers throughout the state for the sake of improving the health of the population.

***Database Design and Data Model***

The initial system architecture of a health information network for Oklahoma will have long lasting impacts. While technology can be upgraded and redeployed, doing so is a costly and time-intensive endeavor, made more complex as the number of stakeholders increases. The intended system use may dictate the database design, but system design options do exist. Additional layers of data and system capabilities can be developed over time, as shown in *"Table 3: Use Case Technical Requirements*."

**Figure 45: Use Case Technical Requirements**




An overview of technical requirements for each of the use cases is provided below.

**2. Point-of- Care Support**

For point-of-care support, either a centralized database or federated database architecture, may be used to transmit data. Successful HIEs exist under both centralized and federated database structures, both within the state and across the country. Consideration must be paid to any other intended uses of the system. Federated databases cannot effectively aggregate and report information, so they are primarily used to support point-of-care initiatives.

Both existing HIEs identify shared patient records by using basic demographic information to construct an MPI. Once a clinical record match has been established, the network allows access to relevant clinical data about a patient. Typical HIE data elements under this model include demographics, encounters, problem lists, medications, images, lab results, and diagnoses.

**Clinical Decision Support**

The principal distinction between HIEs used for clinical decision support and point-of-care reporting is the requirement of a centralized database and the need to have a reporting interface and analytic logic built. Clinical decision support uses the same types of information found in a point-of-care application. Clinical decision support adds reporting capabilities that look at the contents of the database in various ways to aid in the treatment of patients.

The capabilities of a centralized database are more robust than in a federated model, as reporting on any type of information stored in the database is possible. One trade-off can be system complexity and increased support costs.

**Claims/Analytics Support**

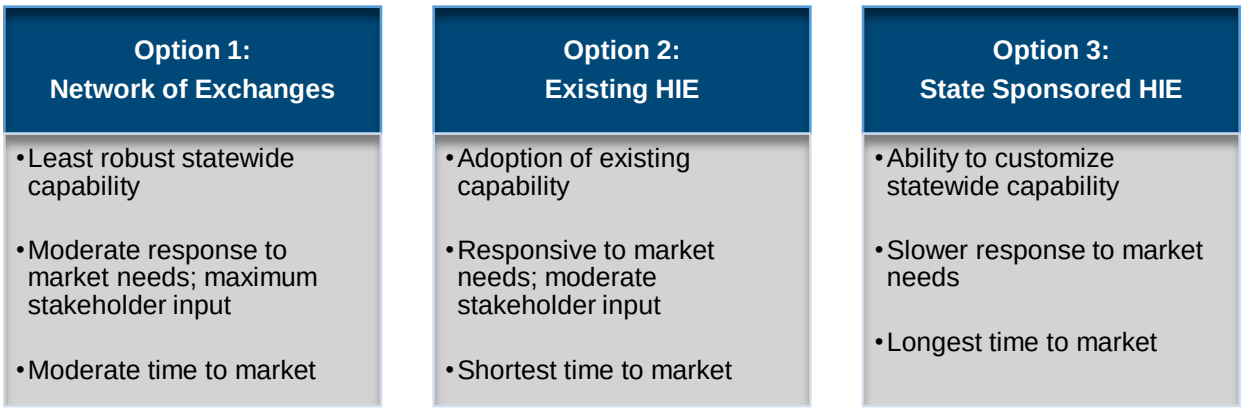
When using a health information network for claims analytics support, a centralized database must house clinical and claims data, which is then used to match patients via an MPI. Clinical information is then aggregated and quality measures are presented to the user through reporting tools. If the system is being utilized to derive value-based reports, cost data is attached to the quality measurements.

Careful consideration of the processes Oklahoma's statewide health information network should support at the beginning of formulating the HIE strategy has the potential to save substantial time and money. It can be challenging to decide on system capabilities, define what data elements will be collected, and select the format for data transfers to and from the HIE. However, it is Milliman's observation that making these determinations before proceeding with work to build the system can decrease the overall cost of the HIE by eliminating rework due to reconsideration of the options.

***Statewide Health Information Network Options***

Oklahoma has several potential options that could result in achieving the goal of a statewide interoperable health information network. Those options are to develop and connect existing exchanges, choose an existing HIE, or construct a state-sponsored HIE. Each has potential advantages and considerations, as summarized in "*Table 4: Health Information Network Options*" below.

**Figure 46: Health Information Network Options**




### 3. Option 1: "Network of Exchanges"

Oklahoma's free market is currently moving toward a federated network of exchanges through eHealth Exchange. Such an arrangement would support the sharing of core clinical and demographic data for point-of-care use. Because participation is voluntary, this approach has the advantage of not unduly disrupting business processes within the state, and integration can be done gradually as it makes sense for HIEs to join. This solution would likely require a moderate timeframe to implement. Coordinated Care has passed eHealth Exchange's evaluation process and has established connections to other entities. MyHealth is in the process of undergoing evaluation by eHealth Exchange. This progress represents a potential existing path to establishing a network of exchanges throughout the state.

As connections to the network of exchanges are federated, data passed through eHealth Exchange cannot easily be used for analytics, population management, or value-based purchasing decisions. The voluntary nature of participation means that connections will undoubtedly be established on uncertain timeframes.

Current members of an HIE would still have the benefit of the features offered by their HIE, but data passed into the HIE system from eHealth Exchange would be limited in its usability for analytics as it would only represent patients that have been previously accessed by an HIE user and thus could be out of date. For healthcare organizations that value analytics and reporting, this option may be less desirable as it does not meaningfully expand the capability to manage patient populations. Thought must also be given to the fact that rural and small independent providers may require a subsidy to afford the costs of HIE membership.

An additional consideration is that eHealth Exchange would represent a critical node in Oklahoma's healthcare information network and, as such, could be a potential failure point that could disconnect the state should eHealth Exchange lose funding, suffer technical challenges, or shift strategic direction. Re-establishing existing connections among organizations would be relatively simple, as the technical infrastructure would persist, but further network growth would be inhibited. While this risk is similar for any "single solution" that spans the state, every additional node adds incrementally more complexity and risk.

**Option 2: Existing HIE**

Oklahoma could select one of the two HIEs already existing in the state as the statewide information network. This would remedy a number of the drawbacks of Option 1. The overall setup time for connecting the state should be reduced, as participants would need to map their data to a single entity and that entity would not need to do any further transformation or data exchange with a third party. If the selected HIE meets Oklahoma's desired use case(s), no further development would be required and the state would benefit from a pre-built, tested, and functional set of system features. Such a solution has the advantage of requiring no time to develop the cross-state information exchange capability, as each participating location would need to establish a connection to the designated HIE.

Attention must be paid to the fact that rural and small independent providers may require a subsidy to afford the costs of even a single HIE. Furthermore, this approach could disrupt Oklahoma's business environment by creating a potential "winner" through direct state action and decreased competition. This may slow competitive innovation within the state related to HIEs and force stakeholders onto a single model of governance, which could reduce trust and thus participation. The drawbacks of this must be weighed against the benefits of a uniform and expeditious solution for the state.

**Option 3: State-Sponsored HIE**

Oklahoma could choose to invest in a state-sponsored HIE. Oklahoma has already declared the intent to develop a shared-services state agency HIE under OSDH, which could be expanded for this purpose, or Oklahoma could construct another HIE. In either case, state sponsorship would let the state provide a uniform experience and functionality suite that exactly matches the desired system capabilities. As a state-sponsored solution, discretion around the funding and fee structure could enable rural and small provider groups to afford potential fees for connections.

The complexity and cost of creating an HIE should not be underestimated. Development of such a software solution is certain to be a long, challenging process that could delay information access across the state. Furthermore, current HIE participants may let their membership in private HIEs expire in order to prioritize the state's efforts.

**Summary**

Oklahoma has a moderately mature private sector HIT infrastructure already developed and operating within the state. Stakeholders are aware of the benefits of sharing healthcare data and are interested in participating in the process of establishing a statewide network.

Market forces have led to the establishment of two HIEs, with work underway on a potential third state-sponsored model. Similar goals drive each of the health information sharing efforts in the state; however, the system construct, contents, and utility vary, as each organization has a different view of how best to achieve its goals. Maturing EHR system capabilities will support basic data exchange in the future, but

investment in healthcare information exchanges and cross-network data sharing initiatives will be necessary for Oklahoma to improve the health of its citizens at the desired rate.

Ultimately, statewide healthcare data exchange is a requirement for achieving the vision laid out in the Healthy Oklahoma 2020 plan. Current health information technology is mature enough to provide the technical foundation necessary for data exchange. Stakeholders are ready to be a part of the process. Oklahoma has created a framework to make decisions about how best to achieve its goals.

Careful consideration of the many options is needed for Oklahoma to make cost- and capability-conscious decisions on how to proceed. These decisions are difficult, yet critical to support improved health for Oklahomans today and into the future.

# Appendix E: VBA Draft Findings

# Oklahoma Value-Based Analytics Roadmap

## Discussion Draft

Prepared for

Oklahoma State Department of Health

Center for Health Innovation and Effectiveness

October 19, 2015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## Introduction and Background

The Oklahoma Health Improvement Plan (OHIP) Coalition, chaired by Commissioner of Health Terry Cline, who also serves as Oklahoma's Secretary of Health and Human Services (HHS), is a public-private partnership of stakeholders that oversees the state's progress toward improving Oklahoma's strategic health outcomes. Stakeholders include representation from healthcare providers, businesses, hospitals, long-term care, behavioral health, public health, private and public payers, and consumers. The purpose of the OHIP Coalition is to develop a comprehensive health improvement plan every five years.

The OHIP was first published in 2010 for the purpose of improving the physical, social, and mental well-being of Oklahomans. In 2015, the Oklahoma State Department of Health (OSDH) published an update to the OHIP to describe statewide health improvement goals for the next five years. This update is referred to as "Healthy Oklahoma 2020," and its purpose is to provide a strategic health improvement plan that addressed the crucial health needs in Oklahoma. As part of this process, the OHIP Coalition established goals in four core areas of work: 1) Health Efficiency and Effectiveness, 2) Health Information Technology (IT), 3) Health Workforce, and 4) Health Finance. A workgroup comprised of Oklahoma stakeholders has been established for each of the core areas.

To support the Health IT workgroup, OSDH engaged Milliman to develop a roadmap for establishing a Value-Based Analytics (VBA) tool in Oklahoma while highlighting key considerations and potential solutions based on the previous experiences of states with similar solutions. As part of this work, Milliman conducted research into VBA and other multi-payer claims database efforts across the country, evaluated existing Oklahoma system initiatives, and conducted interviews with subject matter experts.

This report presents findings identified during the interviews, findings from the review of VBA-like initiatives in other states, and a roadmap for Oklahoma's development of a VBA.

***Caveats and Limitations***

*This report was prepared by Milliman, Inc. (Milliman) on behalf of the Oklahoma State Department of Health (OSDH) in accordance with the terms and conditions of the contract between OSDH and Milliman dated April 1, 2015.*

*This report has been prepared solely for the internal use of, and is only to be relied upon by, the Oklahoma State Department of Health. Although Milliman understands that this report may be distributed to third parties, Milliman does not intend to benefit, or create a legal duty to, any third-party recipient of its work. If this report is distributed to third parties it should be distributed only in its entirety.*

*In developing this report, we relied on data and other information provided by OSDH, from stakeholders interviewed, and from publicly available sources. We did not audit the source of any data or information Milliman received, nor did we perform independent verification. If the underlying data or other information is inaccurate or incomplete, the results of our assessment may likewise be inaccurate or incomplete.*

## Methodology

In developing this report, Milliman worked with representatives of the Oklahoma State Innovation Model (OKLAHOMA SIM) team to focus the research efforts on three primary sources of information expected to be informative for Oklahoma's potential development of a VBA model: interviews with external subject matter experts, a literature review, and Milliman's collective knowledge of industry best practices.

***Interviews with Subject Experts***

Milliman conducted interviews with external subject matter experts who provided perspectives on national VBA and VBA-like initiatives, including several individuals who have played instrumental roles in shaping the All-Payer Claims Database (APCD) Council, a national learning collaborative for states and stakeholders that are developing or interested in developing state claims databases. A list of individuals participating in the interviews is shown in the table in

**Table 46: Interview Participants**

| Name | Role | Organization |
|---|---|---|
| **Denise Love** | Executive Director<br>*and*<br>Co-Chair | National Association of Health Data Organizations<br>*and*<br>APCD Council |
| **Michael Lundberg** | Executive Director | Virginia Health Information |
| **Patrick Miller** | Founder and Principal<br>*and*<br>Founder and Former Chair | Pero Consulting Group<br>*and*<br>APCD Council |
| **Josephine (Jo) Porter** | Interim Director<br>*and*<br>Co-Chair | Institute for Health Policy and Practice at the University of New Hampshire<br>*and*<br>APCD Council |

The primary objective of these interviews was to collect information on existing national multi-payer claims database capabilities, their operational models, and possible strategies for developing a VBA in Oklahoma.

***Literature Review***

Milliman conducted research on publicly available information and evaluations of state, regional, and national efforts to establish capabilities similar to the OKLAHOMA SIM VBA roadmap goals. In our research, we consulted governmental websites and other authoritative grey literature from resources such as the APCD Council, the APCD Showcase, and the Centers for Medicare and Medicaid Services (CMS).

***Industry Knowledge***

In addition to the literature review, we consulted with Milliman consultants who have experience with APCD and VBA-like initiatives nationally to gain their perspectives on key criteria that should be considered in developing and operating these databases. Milliman has incorporated these best-practice learnings into this report.

**Value-Based Analytics Key Concepts**

To facilitate a uniform understanding of the concepts and terms used throughout this report, common definitions for selected key terms are presented below.

- **All-Payer Claims Database:** An APCD is a type of data warehouse that includes information from multiple payer organizations, usually for the purpose of analyzing aspects of the environment surrounding those claims. APCDs generally include data derived from member eligibility information, medical claims, and pharmacy claims, and may be expanded to include vision claims, provider information, and dental claims. Data typically come from both private and public payers.
- **Health Information Exchange:** A Health Information Exchange (HIE) is broadly defined as a system designed to pass health information from one party to another. Functionality such as portals, reporting, and analytics may be added to increase the utility of the system.

- **Participation Model:** The participation model of a system defines whether data-contributing organizations provide data on a voluntary or mandatory basis. Multi-payer claims databases have been established under both models.

- **Pharmacy Benefits Manager:** A pharmacy benefits manager (PBM) is a third-party administrator typically responsible for managing a prescription drug benefit, including processing prescription drug claims.

- **Population Health Management:** Population health management refers to the analysis of the health outcomes of a group of individuals, rather than focusing on the health outcome of a single individual. Population health management is an approach to health that seeks to improve the health outcomes of the entire population. Use of data for analytics and measurement is an essential component of population health management.

- **Third-Party Administrator:** A third-party administrator (TPA) is an organization that processes claims or performs other administrative functions on behalf of an organization that is assuming the underlying insurance risk. Self-insured companies frequently utilize TPAs.

- **Value-Based Analytics**: Value-Based Analytics tools (VBA) and similar systems are tools that aggregate information from multiple sources that can be used to measure health outcomes, quality, and cost. As envisioned in Oklahoma, a VBA tool will use claims and clinical data to develop analytics and metrics to measure outcomes and assist in value-based purchasing. Oklahoma's VBA will also incorporate supporting information from peripheral sources, including public health data and workforce information, to further enhance the state's desired analytics, health outcome improvement, and value-based purchasing initiatives.

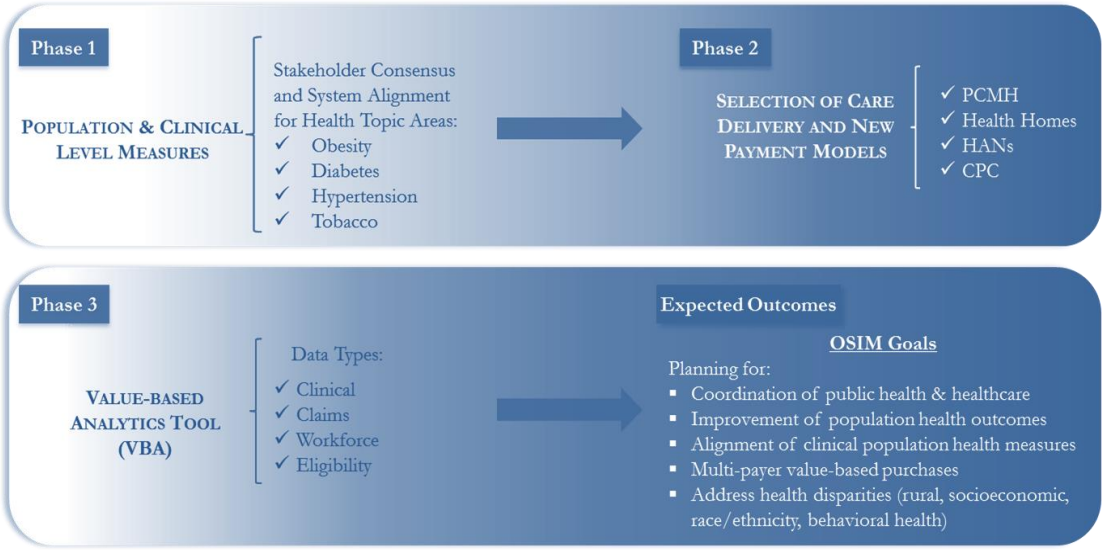
These definitions and concepts are used throughout the remainder of this report.

**Oklahoma's Value-Based Analytics Goals**

Oklahoma has taken a leadership role through OHIP and "Healthy Oklahoma 2020" in developing strategies to improve and measure the health of the population. The OHIP Coalition also submitted a proposal for a State Innovation Model (SIM) grant on behalf of the state of Oklahoma to provide a state-based solution to Oklahoma's healthcare challenges. Oklahoma was successful and received the grant in December 2014. The grant is administered by the OSDH, which in turn created the OKLAHOMA SIM leadership team (part of the OSDH's Center for Health Innovation and Effectiveness) to manage and direct the work detailed in the SIM grant. The OKLAHOMA SIM's goals align with those of the Institute for Healthcare Improvement (IHI) Triple Aim Initiative: to improve health, provide better care, and reduce health expenditures for Oklahomans.

Oklahoma's SIM grant application describes a phased and integrated design that will accomplish health system transformation in three phases, as shown in E*xhibit 2: Oklahoma State Innovation Model* below. Phase 3, development of the VBA tool, is intended to incorporate numerous types of health information, including data which are typically stored in numerous independent sources (e.g., hospital and physician electronic health records (EHR), HIEs, APCDs, public health records, and health plan data), but which is siloed and not readily able to be used to develop a health system transformation plan that targets value-based insurance design.

**Figure 47: Oklahoma State Innovation Model**




*Source: Oklahoma State Innovation Model Application*

When fully developed, the VBA will create the opportunity for Oklahoma to conduct data analysis to measure population health outcomes and social determinants of health (e.g., education, employment, income, and access to services), and to provide analytics supporting culturally and linguistically appropriate care. The VBA will be used for monitoring and reporting clinical, population health, and quality measures across providers, payers, employers, and patients. A sample of the clinical and claims information that is envisioned to be incorporated in the VBA is shown in *Exhibit 3: Sample VBA Data Elements.*

**Table 47: Sample VBA Data Elements**

| Clinical Information | Claims Information |
|---|---|
| **Patient Information** | Health Plan Payments |
| **Diagnoses** | Member Payments |
| **Test Results** | Diagnosis |
| **Medications** | Procedures |
| **Problem History** | Drug Codes |

| | |
|---|---|
| **Allergies** | Prescribing Physician |
| **Procedures** | Type of Insurance Product |

Examples of questions that may be able to be answered using the VBA include the following:

- While claims data can be used to determine what portion of the population receives appropriate clinical testing, (e.g., glucose level and hemoglobin A1c testing for diabetics), it cannot be used to determine what portion of the population's test results are within the "normal" or expected range for a well-controlled diabetic. The VBA will contain both the claims data and the clinical information on the population, thus it could help answer this question. The results could then be used to develop state-wide programs to improve the population's health outcomes. Health plans could also use the information to develop value-based purchasing strategies that hold providers accountable for results.

- By incorporating public health data, the VBA could help identify the impact a person's education or income may have on his or her likelihood to be compliant with treatment protocols. The results of that analysis could be used to help develop strategies to address the social determinants of change and to improve population health outcomes. As an example, for a disease like hypertension, where medication adherence is typically suboptimal and can be difficult to track, combining real-time clinical info (EHR) with potential point-of-sale pharmacy data (claims) could result in more real-time monitoring of these patients to ensure they adhere to the prescribed treatment plan.

- The VBA could facilitate improved capability to compare provider performance by enabling use of risk-adjustments for factors such as patient type, condition, severity, complications due to related conditions, and local population attributes.

- As new care delivery and payment models are implemented, a VBA can provide tools for better evaluation of which interventions and innovations are most efficacious at improving quality outcomes and reducing the overall cost of care.

As demonstrated through the examples above, the effort to combine clinical, claims, and other data sources has the potential to improve the analysis of clinical outcomes and effectiveness.

### *A. Active Oklahoma Data Sharing Initiatives*

Like many states, Oklahoma has a number of active data sharing efforts underway. These efforts are in varying stages of development and were initially created for different intended uses. Oklahoma has already made substantial progress in healthcare data exchange. For example, data are exchanged though HIEs and EHRs. HIEs are primarily used to share clinical data from EHRs to ensure providers have a complete clinical record when caring for patients.

Competition has spurred innovation and technological development within the state, and two competing HIEs have emerged. Oklahoma's two HIEs began as regional initiatives: Coordinated Care Oklahoma (Coordinated Care) in Norman and Oklahoma City, and MyHealth Access Network (MyHealth) in Tulsa. Each organization is currently in the process of expanding its reach across the state. OSDH is also working on a shared-service state agency HIE. Short descriptions of these options are provided below.

**Coordinated Care Oklahoma**

Coordinated Care has been in operation in the Norman and Oklahoma City areas since 2014. The organization was founded by local hospitals and providers with a goal of providing physicians secure access to health information for their patients for treatment purposes.

When a patient sees a new provider, improvements in care can be achieved if a complete clinical record is available to the provider as he or she delivers care. Coordinated Care focuses on providing support for a patient's transitions between care settings by delivering a complete clinical record, including advance directives (if available) at the point of care. Coordinated Care has also developed a data model that can accept claims data.

**MyHealth Access Network**

MyHealth was started in 2009 with the goal of improving health, improving healthcare, and reducing costs by creating a complete view of all of the care Oklahoma patients receive. Based in Tulsa, the MyHealth HIE collects patient information to assist in treatment decisions during the patient visit and to enable population management programs through analytics and reporting tools.

Blue Cross and Blue Shield of Oklahoma has signed a participation agreement with MyHealth to send regular extracts of claims data to the HIE to measure pay-for-performance outcomes in its provider network. MyHealth has also received claims data from Oklahoma's state Medicaid agency, SoonerCare.

**Oklahoma State Department of Health**

Oklahoma's state agencies handling health information have historically experienced challenges in sharing data across departments. To address this challenge, the Oklahoma Health and Human Services (OHHS) cabinet created the Deliverable Interoperable Components Utilizing Shared Services (DISCUSS) committee designed to collaboratively share resources among the OHHS agencies for the development and implementation of shared information technology products, services, and technology frameworks. Membership of DISCUSS includes the Department of Health, Department of Human Services, Department of Mental Health and Substance Abuse Services, Department of Rehabilitation Services, and the Health Care Authority.

In 2015, DISCUSS members agreed to create a shared-services state agency HIE that would facilitate the sharing of the state's data across agencies and would link the disparate systems. State health data has a number of factors that influence how and when it can be shared. For example, birth and death information and sensitive patient registries cannot be shared with a public information exchange. Other data, however, would most certainly benefit from clinical integration. One example of such data is clinical data services provided by county health departments and labs.

A system for sharing data among agencies is anticipated to create benefits for private sector entities in Oklahoma, as well. For example, hospitals are required by law to report patient discharges to several agencies. Integration could mean that only one data feed would need to be sent to the state.

**Summary**

Careful consideration as to whether the identified vision and use cases for the VBA could be met by either of the existing HIEs, or possibly another state database, would be required before selecting one as a satisfactory solution for the state. Milliman did not identify any existing examples of privately led multi-payer claims databases competing within a state.

Interested readers can gain a deeper understanding of Oklahoma's current data sharing landscape by referencing Milliman's July 2015 report to OKLAHOMA SIM, "Health Information Exchange: Statewide Environmental Scan Findings."

**Value-Based Analytics Framework**

This report is intended to serve as a reference guide for the State of Oklahoma as stakeholders develop a VBA. The VBA will support the vision to improve health, provide better care, and reduce health expenditures for Oklahomans, as outlined in the "Healthy Oklahoma 2020" plan.

As described previously, VBAs and similar systems are tools that aggregate claims and claims-related information for a variety of purposes. Many states refer to their systems as APCDs because they include exclusively, or nearly exclusively, claims and administrative data. While Oklahoma may wish to consider including information sources beyond claims data in its system, for ease of readability, we will collectively refer to these efforts as multi-payer claims databases throughout the remainder of this report.

By incorporating multiple public and private payers' claims and administrative data into a single repository, a state can develop a database from which to measure health outcomes, quality, and cost for large portions of its population. With sufficient participation, Oklahoma could similarly develop an information source to support payment reform initiatives and to provide transparency on the cost, utilization, and value of health services across the state. Examples of how other states have utilized multi-payer claims database initiatives include:

- Conducting cost analysis and transparency efforts to support payment reform
- Identifying and analyzing geographic disparities in care
- Supporting performance improvement initiatives to address operational or clinical quality measures
- Analyzing health outcomes to evaluate the effectiveness of primary care demonstration projects, such as Patient Centered Medical Home initiatives

While claims data analysis is not a new discipline and is generally well understood by health plans and similar organizations, efforts to develop comprehensive repositories containing information contributed by multiple entities have only meaningfully begun within the past decade. While there is measurable progress occurring in many states, some efforts have faced considerable challenges in defining system usage, demonstrating value, ensuring high data quality, and addressing data privacy concerns.

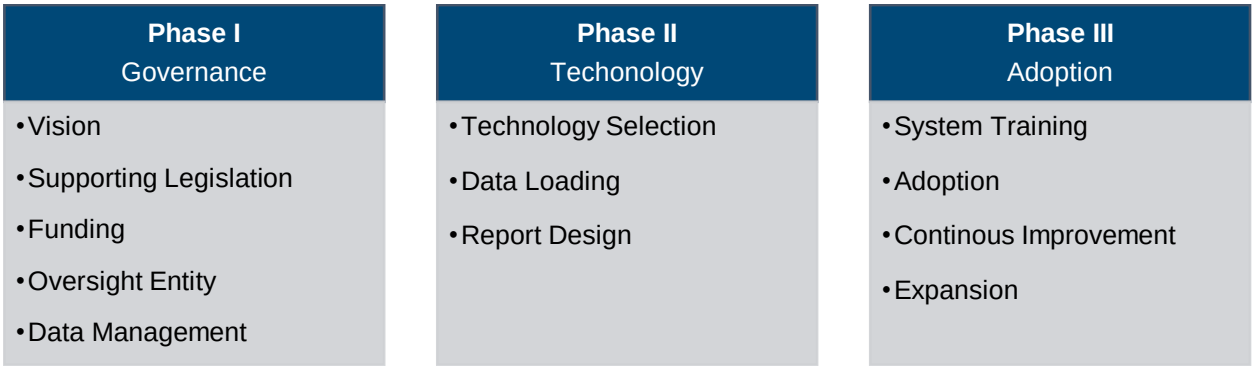
A single proven blueprint for multi-payer claims databases has not yet emerged. The range of goals, health information technology maturity, and differences in political environments across states have led to the creation of many systems with similar components, but with distinctly different models. Many have taken significantly longer to implement than originally thought, and delivered less reporting capability than planned. Careful planning, transparency, and active, frequent stakeholder involvement are strategies that can help shape a more positive outcome and attainment of the database's goals.

The process of implementing a multi-payer claims database can be difficult because it requires many interrelated decisions to be made by a large number of stakeholders, and because it relies upon the synchronized timing of many dependent work efforts. In our research, we found that there are typically three distinct phases of implementation:

- **Phase I:** Establish a governance model
- **Phase II:** Implement the technology platform
- **Phase III:** Foster system adoption and improvement

Each phase is comprised of distinct concepts, which can be broken into a series of interrelated decisions. This framework is illustrated in *Exhibit 4: Multi-Payer Claims Database Implementation Model.*

**Figure 48: Multi-Payer Claims Database Implementation Model**




During the first phase, stakeholders define why the system is being created, consider whether any legislation is required to support or enable the system, and describe the funding structure and the data management model, including what data are required to be incorporated in the system. In the second phase, technology is selected and implemented, and data are tested for quality and loaded into the system. In addition, stakeholders are engaged to design the reports and outputs that users will receive, as well as the rules about how users can obtain reports and/or data. The final phase of implementation is comprised of training, expanding the system's user group, and establishing the process for improving both the content and capabilities of the multi-payer claims database on an ongoing basis.

The phase-based framework described above is a useful construct for grouping and prioritizing the important topics to address when creating a multi-payer claims database. For this reason, Milliman created a phase-based decision tree to guide Oklahoma's VBA development process. This decision tree is included in *Section VII: Oklahoma Value-Based Analytics Roadmap* and is accompanied by a discussion of how Oklahoma could approach each step.

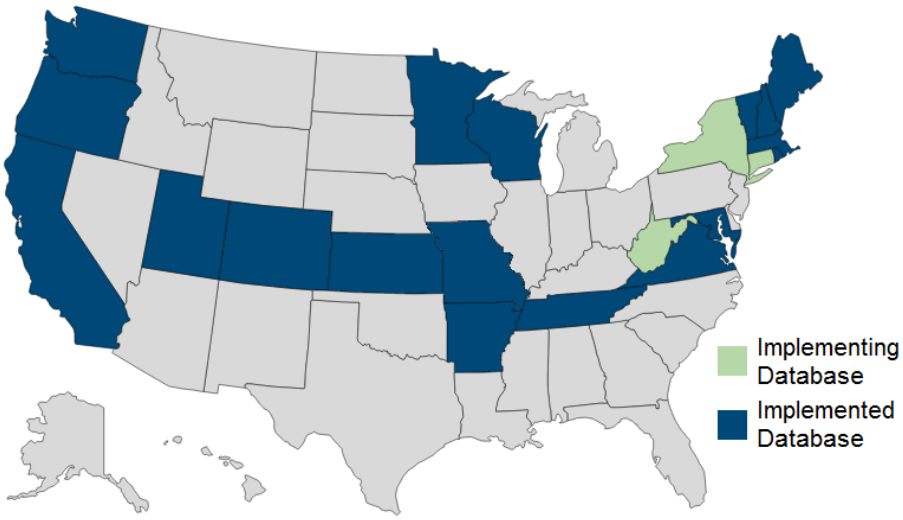
The remainder of this report is organized into two sections. The first section discusses similar efforts across the nation to orient the reader. The second section is a roadmap that illustrates the important decisions and considerations that must be accounted for when implementing a VBA in Oklahoma. By this report's conclusion, the reader should understand the key concepts in scope and governance of existing systems in use across the nation, and should have a frame of reference that can guide the process of establishing a VBA in Oklahoma.

## National Efforts

This section of the report includes discussion of national trends in multi-payer claims database models specifically related to their structure, use, and contents. It is organized to follow the concepts in Phase I of the Implementation Model shown in *Exhibit 4* above.

As of the date of this report, 18 states have implemented a multi-payer claims database system, and three more are in the process of implementation. Three states (Maine, Oregon, and Washington) have both a public and separate, coalition-led system. According to information posted by the APCD Council, all but nine states have expressed "strong interest" in, have implemented, or are in the process of implementing a multi-payer claims database. States that either have an existing multi-payer claims database or are in the process of implementation are shown in *Exhibit 5: National Multi-Payer Claims Database Efforts.*

**Figure 49: National Multi-Payer Claims Database Efforts**




*Source: Milliman: Compiled from interviews and public sources, 2015*

While each of the above states' multi-payer claims database is, or will be, a database containing claim-related information from multiple sources, there is a significant range across the initiatives in both the use of the systems, as well as the approach to system development. National efforts have resulted in a range of governance, funding, design, and user base structures. In the remainder of this section, we highlight some of the key similarities and differences among existing multi-payer claims databases.

### *B. Governance*

As described in *Section V: Value-Based Analytics Framework*, the topic of governance includes identifying the vision for the system's use, legislation to support its creation and operation, and the ownership of the technical infrastructure and data assets, as well as the planned participation model. This section discusses the approach states with existing systems have taken to address each of these topics.

#### 1. Vision for System Use

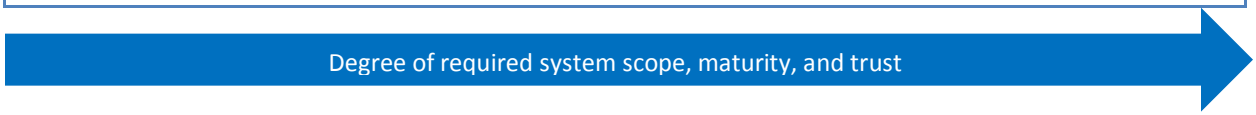
States have invested significant time and effort in defining the intended uses for multi-payer claims database systems. It is important to understand how existing systems are being used. *Exhibit 6: Multi-Payer Claims Database Use Summary* shows which of the states with implemented systems are using the database for a given activity, including those states (Maine, Oregon, and Washington) with both public and coalition-led systems. The number of systems being used for a particular function is identified in Figure 50 For example, 12 systems are used for payment reform efforts. It should be noted that the

audience for each use outlined in the figure varies by state; some states choose to publish performance analysis publically, while others allow a more limited set of users to view the information.

This figure also describes the general relationship between system maturity and how the data are used, progressing from left to right. It should not be interpreted as a linear ranking of difficulty or as a required progression among the identified uses (i.e., it is not necessary to use a system for payment reform prior to using it for policy analysis).

**Figure 50: Multi-Payer Claims Database Use Summary**

| Quality Measurement | Performance Analysis | Payment Reform | Policy Analysis | Population Management | Academic Research |
|---|---|---|---|---|---|
| **20 Systems** | 16 Systems | 12 Systems | 12 Systems | 4 Systems | 5 Systems |




To facilitate consistent understanding, the following bullets provide high-level descriptions of each type of system used:

- **Quality Measurement:** Quality measurement programs use system data to assess process-based measures of the quality of care provided to patients, such as clinical adherence to evidence-based standards for patient treatment. NCQA's Healthcare Effectiveness Data and Information Set (HEDIS) measures are commonly used for this kind of measurement.

- **Performance Analysis:** Performance analysis uses data contained in the system to compare providers or health systems using pre-defined metrics related to cost, utilization, or quality. Programs to assess statewide or regional trends across measure sets and comment on the condition of healthcare in a geographic area also are included in this category.

- **Payment Reform:** Payment reform refers to using the system to assess healthcare costs and payment trends for the purpose of analyzing and assessing cost containment initiatives or care delivery model changes to better utilize dollars spent on healthcare.

- **Policy Analysis:** In policy analysis, data from the system is used to explicitly inform and support public policy legislation and regulations.

- **Population Management:** Population management programs use the system to take action in patient care, potentially through case management capabilities, to improve the health outcomes of a group of individuals. Encounter tracking and management programs are also included in this category.

- **Academic Research:** Academic research refers to the explicit use of the system by an academic institution for formal analysis, typically through a partnership between the APCD and the research organization. Many states make system data available to researchers, but fewer have explicit, ongoing partnerships for this purpose.

Process-based quality measurement, performance measurement, and payment reform are the most easily attainable uses for a multi-payer claims database. By collecting information about procedures, diagnoses, and cost, users can evaluate whether treatment complies with evidence-based guidelines for care, and can

analyze the cost of care across the state's healthcare landscape. Also prevalent is the use of a VBA-like system to evaluate and rank the performance of healthcare delivery systems within the state.

Twelve states explicitly make use of their multi-payer claims databases to provide policy analysis. For example, New Hampshire used commercial claims data to analyze the impact of its House Bill 790, which expanded the definition of dependent young adults to age 26, to understand the costs and coverage impacts of the bill's passage. Significant system maturity and trust is typically required before using a system for this purpose. Five states make their data available for longitudinal health outcomes research, including formal partnerships with academic institutions in two states.

The number of states utilizing a system for population management may appear low to some readers. The seemingly low number may be due to the fact that many healthcare organizations have separately invested in healthcare information technology, such as data warehouses, or have connections to health information exchanges (HIEs) that provide population health management reporting capabilities based on clinical information.

Table 48 provides a state-specific view of the information summarized in Figure 50.

**Table 48: Multi-Payer Claims Database Use**

| State | Quality Measures | Performance Analysis | Payment Reform | Policy Analysis | Population Management | Academic Research |
|---|---|---|---|---|---|---|
| **Arkansas** | Yes | No | Yes | No | No | Yes |
| **California** | Yes | Yes | No | No | No | No |
| **Colorado** | Yes | Yes | Yes | Yes | No | Yes |
| **Kansas** | Yes | Yes | No | No | No | No |
| **Maine** | Yes | Yes | No | No | No | Yes |
| **Maine *** | Yes | Yes | Yes | No | No | No |
| **Maryland** | Yes | Yes | Yes | Yes | No | No |
| **Massachusetts** | Yes | Yes | Yes | Yes | No | Yes |
| **Minnesota** | Yes | Yes | Yes | Yes | No | Yes |
| **Missouri** | Yes | Yes | No | No | No | No |
| **New Hampshire** | Yes | Yes | Yes | Yes | No | No |
| **Oregon** | Yes | No | Yes | Yes | No | No |
| **Oregon *** | Yes | Yes | Yes | Yes | Yes | No |
| **Rhode Island** | Yes | No | No | Yes | No | No |
| **Tennessee** | Yes | Yes | Yes | Yes | No | No |
| **Utah** | Yes | Yes | No | Yes | Yes | No |
| **Vermont** | Yes | Yes | Yes | Yes | Yes | No |
| **Virginia** | Yes | Yes | Yes | Yes | Yes | No |
| **Washington *** | Yes | Yes | No | No | No | No |
| **Wisconsin** | Yes | Yes | No | No | No | No |

** Denotes voluntary initiative in states with both mandated and voluntary models.*

Multi-payer claims databases have been implemented for a wide variety of reasons. Identifying the intended use(s) at the outset of any development effort is a critically important first step as it guides all other aspects of the system's design.

## 2. Supporting Legislation

There are two primary methods for establishing a multi-payer claims database: initiatives are either started through a private coalition, or by state action. Each approach influences the system in different ways.

Legislative support for multi-payer claims databases varies by state. In some states, legislation simply specifies that a database must be created. Other states pass more proscriptive laws that describe the system's oversight, participation model, and funding structure, and identify which data are to be included in the database. Legislation that compels participation typically results in better participation in the initiative. Alternatively, legislation may also place limits on data sharing. The state may directly fund part or all of the cost of the system through general funds and federal grants available to states, or may direct the costs of ownership of the system to certain stakeholders through use-taxes or fees.

Coalition-led multi-payer claims database models may provide a higher degree of discretion on the part of participants to determine what data are contributed, how it is measured, under which circumstances data may be accessed, and with whom the data is shared. The cost burden is typically spread across coalition members. Some models also opt to supplement funding through data sales or by securing grant funds. Because of their voluntary nature, coalition-led databases may include limited data sets and fewer data sources than the state-led initiatives.

Table 49is a summary table that lists each state with an active multi-payer claims database, the governance model, the participation model, and the types of data that can be contributed.

**Table 49: National Governance and Participation**

| State | Governance | | | Data Source | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **Legislated** | **Oversight Model** | **Participation Model** | **Commercial Payers** | **TPA/ Self-Funded** | **Medicaid** | **Medicare** | **PBM** | **Uninsured** |
| **Arkansas** | Yes | Public-Private | Voluntary | Yes | Yes | Yes | Yes | No | No |
| **California** | No | Public Non-Profit | Voluntary | Yes | Yes | Planned | Yes | No | No |
| **Colorado** | Yes | Public-Private | Mandatory | Yes | No | Yes | Yes | No | Planned |
| **Kansas** | Yes | State Led | Mandatory | Yes | No | Yes | No | No | No |
| **Maine** | Yes | State Led | Mandatory | Yes | Yes | Yes | Yes | Yes | Yes |
| **Maine *** | No | Private Non-Profit | Voluntary | Yes | Yes | Yes | Yes | Yes | No |
| **Maryland** | Yes | State Led | Mandatory | Yes | Yes | Yes | Yes | No | No |
| **Massachusetts** | Yes | State Led | Mandatory | Yes | Yes | Yes | Yes | Yes | No |
| **Minnesota** | Yes | State Led | Mandatory | Yes | Yes | Yes | Yes | Yes | No |
| **Missouri** | No | Private Non-Profit | Voluntary | Yes | Yes | No | Yes | Yes | No |
| **New Hampshire** | Yes | State Led | Mandatory | Yes | Yes | Yes | Yes | No | Planned |
| **Oregon** | Yes | State Led | Mandatory | Yes | Yes | Yes | Yes | Yes | No |
| **Oregon *** | No | Private Non-Profit | Voluntary | Yes | Yes | Yes | Yes | Yes | No |
| **Rhode Island** | Yes | State Led | Mandatory | Yes | No | Yes | Yes | Yes | No |
| **Tennessee** | Yes | State Led | Mandatory | Yes | Yes | Yes | Planned | Yes | No |
| **Utah** | Yes | State Led | Mandatory | Yes | Yes | Yes | No | No | No |
| **Vermont** | Yes | State Led | Mandatory | Yes | Yes | Yes | Yes | Yes | No |
| **Virginia** | Yes | Public-Private | Voluntary | Yes | Yes | Yes | Yes | No | No |
| **Washington** | Yes | State Led | Mandatory | Yes | Yes | Yes | No | No | No |
| **Washington *** | No | Private Non-Profit | Voluntary | Yes | Yes | Yes | No | No | No |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Wisconsin** | No | Private Non-Profit | Voluntary | Yes | Yes | Yes | Yes | No | No |

** Denotes voluntary initiative in states with both mandated and voluntary models.*

While most existing systems were created via state legislation, six states (California, Maine, Missouri, Oregon, Washington, and Wisconsin) each have, or had, coalition-led initiatives. In these states, privately-led coalitions established data-sharing agreements and governance structures, and funded the development of technology to aggregate and analyze claims information from the participating organizations.

Maine and Washington passed legislation to expand the existing coalition efforts, leading to a mix of state and private governance. State involvement resulted in expanded payer participation, mandatory submission requirements, and diversified funding for the database. We note that a governance model that is structurally modified after the creation of the database may introduce complexity and operational challenges while each entity adjusts to the new governance model.

In order to ensure that the system includes sufficient claims data to be considered representative of the state, 13 initiatives are mandatory participation models, including four which are in geographic proximity: Colorado, Kansas, Tennessee, and Utah. States that wish to compel participants to submit data typically legislate this requirement.

Commercial health plans and TPAs are the most common participants in multi-payer claims databases, and are typically the first data sources integrated into the system. This occurs for two reasons. The first is that the majority of a state's insured citizens are typically covered through commercial insurance products, so they are a necessary data source for developing a comprehensive repository of the state's claims information. The second is that health plans are generally accustomed to reporting information externally, and thus have the sophistication necessary to develop and transmit the files for the multi-payer claims database.

After successfully integrating commercial health plan and TPA data, most states expand the database to include Medicaid data. The integration of Medicaid data is generally of equivalent, or greater (due to specific state requirements that deviate from commercial health standards), complexity when compared to the commercial health plan data sources.

Subsequent integration initiatives may include other data sources, such as Medicare fee-for-service (FFS), information from PBMs (if it is not contained in the health plan or TPA data set), and proxy data for uninsured claims. Information on uninsured patients can be particularly challenging to incorporate into a multi-payer claims database unless a consolidated source for information on the medical encounters of this population has been established (usually by a TPA or health plan on behalf of a health system). The ability to conduct analysis on the claims data for the uninsured is a goal of some states. Managing utilization, cost, and quality of care provided to this population could be of significant value, as uninsured care is not directly reimbursed. This is especially the case in states with high rates of uninsured. Maine has managed to develop a proxy-source of data for some uninsured claims, and has incorporated this information into its APCD.

These additional, non-commercial data sets are generally integrated after a system has been in use for some time because they may represent smaller portions of the state's population and/or be challenging to integrate. For example, the process to become certified as eligible to receive Medicare fee-for-service data from CMS can be difficult. Adding to the challenge, Medicare's data structure has caused integration challenges. Some states have concluded that the challenges presented by integrating these data sets make them better suited for later phases of implementation.

**Funding**

This section describes reported implementation costs and funding strategies for existing multi-payer claims database initiatives. One key observation from our research is that identifying funding sources early in the process of system implementation can expedite the development process; budget uncertainty can complicate already difficult decisions regarding data integration and reporting functions. States have used varied approaches to funding the databases' startup and operational costs.

The costs cited in this report assume that the database's technical infrastructure is sourced from vendors with existing technology platforms. Few states elect to build their systems and, as such, it is difficult to accurately forecast costs for such an endeavor.

Determining the cost of a multi-payer claims database system is also dependent upon the number of participating payer organizations. Each source must be mapped into the system and tested in order to complete integration. Cost is further influenced by the extent and variety of data being integrated into the system. For example, adding vision, dental, or pharmacy data to the standard set of medical claims and eligibility information increases complexity, and thus, cost. Additional considerations that can affect cost include the following:

- Number of covered lives
- Variety of data formats
- Scope of reporting
- Frequency of data updates
- Number of planned users
- Whether there is a web portal for users
- Data request management process
- Staff time and effort to educate submitters and address data quality issues

According to the APCD Council, the annual budget states have allocated to multi-payer claims database operations can range from approximately $350,000 for small efforts to over $2,000,000 for more complex initiatives. This range represents systems that house data for between 1.3 million and 5.5 million lives. Annual budgets reported to the APCD Council include:

- Kansas: Approximately $1.3 million
- Maryland: Approximately $1 million
- Tennessee: Approximately $0.5 million

Funding for multi-payer claims databases typically comes from a variety of sources. A diversified revenue strategy minimizes the cost to a single stakeholder group. Diversified funding can also support ongoing operations should some sources become unavailable. Examples of funding structures include the following:

- Colorado funded startup costs through foundation grants, and plans to fund ongoing operations through the sale of data and reports
- Maine uses a combination of annual assessments on healthcare providers and payers based on market share, supplemented by data sales
- Several states have received rate review grants from CMS to fund costs, including Arkansas, Kansas, Maryland, Rhode Island, and Washington
- Utah and New Hampshire used a combination of general appropriation funds and matching funds from Medicaid to pay for implementation costs and to fund ongoing operations
- Vermont covers the costs of operating its database by assessing fees on payers and healthcare facilities
- Virginia splits funding across stakeholders by charging 40 percent to participating payers, and 40 percent to the healthcare and hospital association, with the state funding 20 percent through data sales
- Washington and Wisconsin's voluntary databases are primarily funded by coalition members

In order to reduce the cost burden, many states have structured the ownership of multi-payer claims database initiatives in a way that allows the utilization of funding from multiple state agencies, as well as state Medicaid programs. New Hampshire's APCD is run as a collaboration between the state's Department of Health and Human Services and its Insurance Department.

Some states are engaged in the sale of data from the database, where it is allowed by law. Maine and Virginia are examples of states that currently sell or have plans to sell data. Maine charges variable fees of up to $15,000 per year for access to certain data sets from its APCD, but most options cost between $1,500 and $6,000. While Virginia Health Information does not currently sell data from the Virginia APCD, the organization reports a data sales function generating over $1,000,000 of revenue annually from the sale of data-related products, including licensed data models and hospital discharge information. Subject experts we interviewed cautioned that relying on data sales as a primary funding mechanism could potentially compromise an initiative in the future if sales targets were missed.

The funding mechanisms used in each state are dependent on the state's political climate and their perspective on the purpose of the multi-player claims database. States that describe the system as a public utility are more likely to use general funds to operate it, whereas states with more limited distribution typically levy use taxes or fees on specific stakeholder groups.

**Oversight Entity**

Regardless of whether an initiative is state or coalition-led, multi-payer claims database initiatives generally have a two-tiered oversight model. Subject matter experts recommend that a board be convened to function as the initiative's strategic steering entity to address system usage, privacy, data collection policies, and expansion activities. Boards are most successful when comprised of representatives from as many distinct stakeholder groups as possible. Stakeholders generally include payers, employers, providers, the public, government agencies, and representatives from major state coalitions, such as hospital and physician associations and payer associations.

The oversight entity's second tier, the operations group, has a primary role of ensuring that processes and infrastructure are in place to collect, maintain, and report on the database's contents. The size and structure of this group will vary depending on the whether the entity has relationships with vendors to manage data processing activities, and depending on the type of reporting published by the oversight entity. Examples of existing oversight entities include:

- Independent Organization (Virginia Health Information)
- Purpose-Built State Agency (Maine Health Data Organization)
- State Department of Health (Minnesota)

Two representative examples of operations group staffing are found in Wisconsin and Maine. The Wisconsin Health Information Organization currently employs a staff of seven, including a chief executive officer (CEO), director of business development, program director, executive assistant, data analyst, business services coordinator, and a project manager. The Maine Health Data Organization employs a staff of six, with an executive director, administrative assistant, two health planners, and two programmer analysts.

The staffing needs of each state's operations group will vary based on the structure of the technology platform, reporting scope, and operations model.

**Data Management Model**

In this section, we discuss national approaches to data management. Typically, when the vision for the system is created, it will be accompanied by "use cases," which define system capabilities and how users will interact with the database. For example, a use case describing the public visiting a website to compare the average cost of a hip replacement in the state would inform later phases of the implementation when the system must be able to make information available to the public, manage a website, collect cost information related to specific procedures, and conduct the analysis to determine the average cost of the procedure. The combination of system vision and use cases serves as a guide for the overseeing entity to develop the rules governing the data collection process. These rules will typically define:

- Which entities must submit data (if not defined by the state)
- Submission thresholds for participating entities (e.g., by market share or covered lives)
- Content of submitted files (e.g., eligibility, medical claims, pharmacy claims)
- Structure and layout of submitted files
- Frequency of submission

To determine submission thresholds, states first identify how much data is needed to populate the system in order to generate credible analytics and reporting. States then identify how many payers need to submit data to hit the target based on the unique payer mix in the state. This process is different for voluntary models. In a voluntary system, payers elect to participate, and so significant time is spent developing payer interest. States with voluntary contribution models generally have fewer data sources, and thus information on fewer covered lives than those with mandatory contribution models. If a voluntary contribution model is in place, system users must be mindful of any limitations on the conclusions that may be drawn from reports with limited sample size or non-representative geographic distribution.

In general, the data elements included in each system vary based on the state's goals, availability of information, and the current environment. *Exhibit 9: Nationwide Data Element Inclusion* summarizes the data elements reported into existing systems.

**Table 50: Nationwide Data Element Inclusion**

| State | Eligibility Data | Medical Claims | Dental Claims | Pharmacy Claims | Vision Claims | Provider Data | Clinical Data |
|---|---|---|---|---|---|---|---|
| **Arkansas** | Yes | Yes | No | Yes | No | Yes | No |
| **California** | Yes | Yes | Yes | Yes | No | Yes | No |
| **Colorado** | Yes | Yes | Yes | Yes | No | Yes | No |
| **Kansas** | Yes | Yes | Yes | Yes | No | No | No |
| **Maine** | Yes | Yes | Yes | Yes | No | No | Planned |
| **Maine *** | Yes | Yes | No | Yes | No | No | No |
| **Maryland** | Yes | Yes | Yes | Yes | No | Yes | No |
| **Massachusetts** | Yes | Yes | Yes | Yes | No | Yes | No |
| **Minnesota** | Yes | Yes | Yes | Yes | No | Planned | No |
| **Missouri** | Yes | Yes | No | Yes | No | No | No |
| **New Hampshire** | Yes | Yes | Planned | Yes | No | Yes | No |
| **Oregon** | Yes | Yes | No | Yes | No | No | No |
| **Oregon *** | Yes | Yes | No | Yes | No | No | No |
| **Rhode Island** | Yes | Yes | No | Yes | No | Yes | No |
| **Tennessee** | Yes | Yes | Yes | Yes | No | No | No |
| **Utah** | Yes | Yes | No | Yes | No | Yes | No |
| **Vermont** | Yes | Yes | Yes | Yes | No | Planned | No |
| **Virginia** | Yes | Yes | Planned | Yes | No | Yes | No |
| **Washington** | Yes | Yes | No | Yes | No | No | No |
| **Washington *** | Yes | Yes | Yes | Yes | Yes | No | No |
| **Wisconsin** | Yes | Yes | No | Yes | No | Yes | Planned |

** Denotes voluntary initiative in states with both mandated and voluntary models.*

All of the states shown in *Exhibit 7* collect eligibility data, medical claims, and pharmacy claims, which represents the vast majority of information needed for common analytics. States have also included dental and vision claims, as well as information about rendering providers. Maine has received federal grant funds to combine clinical data, such as laboratory information and vital statistics, from the Maine HIE with claims data from Maine's APCD, but the state is an outlier in this regard, as few states have attempted to include clinical information in their multi-payer claims databases.

At this time, there is no existing common national standard that can be used for defining claims data formatting. Efforts to develop a national standard for claims data files have historically been met with resistance by payer groups, which in large part is due to the perceived impact on existing systems infrastructure. However, the APCD Council, in partnership with the Accredited Standards Committee X12, has published a Uniform Medical Claims Payer Reporting Standard that could be used for this purpose. Additionally, many states have published data collection rules. Adopting an existing data model used by all payers in a state as a common standard could ultimately reduce the submission burden for participating payers.

The best practice to develop data submission rules or standards is through discussion and working group meetings with all key stakeholders, including payers. By involving payers, the overseeing entity will be able to balance obtaining the required data with formats that can be most readily supplied by the state's payers. Payers typically are accustomed to working with various data submission formats and can provide subject matter experts to advise on best practices.

Specific data types that are commonly provided to existing state databases include member identification information, demographic information, claim tracking information, insurance product identifiers, patient demographics, diagnosis and procedure codes, service dates, service and prescribing providers, national drug codes, and payments (both plan and member). Additional data elements, such as group name, Health Insurance Oversight System (HIOS) Plan ID, and payment arrangement type, may be included if they are needed for the intended use of the system.

Once the submitting organizations, data elements, and file formats have been determined, the overseeing entity defines how frequently data will be submitted to the database. Typically, data are submitted on a monthly, quarterly, or annual basis. Considerations used to determine submission frequency include data processing capacity and participating organization size. Very large health plans are generally required to submit data more frequently than those with lower volumes because the effort associated with processing such large amounts of data, including the ability to identify and correct data submission errors, is proportionately lower. A system with relatively small numbers of claims generated each month is more likely to request frequent, smaller data submissions.

Clear definition of the data management process is an important tactic for multi-payer claims database initiatives. This accomplishes two goals: engaging stakeholders, and limiting data submission delays by eliminating unexpected changes to file content and formatting.

### *B. Models of Interest*

In the research process, Milliman identified two models that may be of particular interest in Oklahoma. In this section we discuss operations of the Wisconsin Health Information Organization (WHIO) and efforts by the Maine Health Data Organization to integrate claims and clinical data. Both organizations were early adopters of multi-payer claims databases and now conduct robust operations with mature processes and widespread adoption.

#### 3. Wisconsin Health Information Organization

To improve healthcare in Wisconsin, the state and a group of payers, providers, and employers voluntarily created WHIO in 2006. WHIO is unique in that it is one of the few, fully voluntary state efforts that is overseen by a private entity and that also includes data on a large portion of the state's population. The organization's stated goals include reducing unwarranted variations in care; improving the quality of care through information exchange between providers, purchasers, and consumers; and supporting value-based initiatives across the state. Operations are overseen by a board comprised of payer organizations, the Wisconsin Medical Society, Wisconsin Department of Health Services, the Wisconsin Collaborative for

Healthcare Quality, and an area business foundation on health. The WHIO Datamart includes data on 72 percent of the state's population, thereby creating the opportunity for analysis of a majority of the state's claims data.

WHIO uses its database to report on quality measures and analyze performance across the state by giving participants access to both pre-built reports and organization-specific data marts. Example uses for this information include quality and efficiency benchmarks, provider variation analysis, and network leakage analysis. In addition to data access for WHIO members, WHIO launched a consumer-oriented website in 2015 that publically ranks primary care clinics against both industry benchmarks and peers within the state. Clinics that offer pediatric care, family medicine, and internal medicine departments are ranked as above average, average, or below average in providing recommended care for healthcare issues at the right time, and for making "good use" of healthcare dollars to help consumers select medical care.

WHIO receives medical and pharmacy claims information from commercial, Medicaid, and Medicare Advantage plans to support its reporting efforts. WHIO was certified as a qualified entity by CMS, and in 2015 will collect fee-for-service Medicare data. WHIO provides training to data mart subscribers in the form of webinars, classroom training, user workshops, and virtual office hours. In 2014, WHIO received funding support from the state to foster continued growth in operations and capabilities, and funded the remaining 48 percent of its budget through state contracts, subscription fees from members, and other sources.

### 4. Maine Health Data Organization

The Maine Health Data Organization (MHDO) was established in 1996 by the Maine legislature as an independent executive agency to collect, and responsibly make public, clinical and financial health information. MHDO policy is established by its 21-member board comprised of healthcare providers, payers, and consumers. Participation in the state-run initiative is mandatory, and the system is used for quality measurement, performance analysis, and academic research. MHDO first collected data for its APCD in 2003. The APCD currently includes information from commercial payers, TPAs, PBMs, dental benefits administrators, Maine Medicaid, Medicare fee-for-service, and a proxy for uninsured claims.

MHDO provides access to its data warehouse via an online portal for credentialed users. MHDO recently released payment and quality measures through a public website called CompareMaine. This website includes average payment information for approximately 300 procedures, and select quality measures for roughly 150 Maine healthcare facilities. MHDO grades healthcare facilities as low, good, better, or best for each of the published measures. Published measures include categories such as overall patient experience, whether the facility uses treatments proven to be effective, and whether methods that make care safer are used. Qualified entities may also purchase data from MHDO, which includes commercial, Medicare, and Medicaid claims from the APCD; inpatient and outpatient hospital service data; Maine hospital quality data for care transitions, infections, and nursing sensitive information; and financial information for hospitals. The sale of certain types of sensitive data is governed by Maine privacy laws, and requires the intended purchaser to sign a confidentiality agreement to protect participant and patient privacy.

MHDO is currently planning to combine claims and clinical data sets within its APCD. In 2013, a successful proof-of-concept to match de-identified commercial claims with clinical information from Maine's HIE led to a federal Cycle IV Rate Review grant, which requires MDHO to better define the clinical information they collect and to explore integration strategies. CMS Rate Review grants are federal grants available to states to review proposed rate increases using transparent cost data. MHDO receives claims feeds from commercial payers, as well as Medicaid and fee-for-service Medicare claims data. Prior to sending claims feeds to MHDO, payers encrypt patient identifying information, such as names and Social Security numbers, for privacy reasons, as required by Maine's APCD model. As a

result of preliminary discussions to merge Maine's claims and clinical data, MHDO has altered its data submission requirements to allow identifiable data to be submitted.

As one of the first APCD efforts in the country, Maine is among the leaders of integrating clinical data into an existing multi-payer claims database. Maine's proof-of-concept efforts to pair claims and clinical data have been underway for two years, demonstrating that combining the data sets, while valuable, is a complex process. It further demonstrates that merging information from databases initially developed for different purposes is also challenging.

***Alternative Systems***

A state that does not wish to develop the infrastructure required by a multi-payer claims database could potentially utilize a manual analysis process. An example of this approach can be found in Massachusetts. Massachusetts used varying manual processes for analyzing and reporting on information submitted by payers from approximately 2006 through 2009. This process was time-consuming, with limited scope and reach. The state understood the value of the analysis that it was conducting and began looking for ways to scale the operation. In 2009, the Massachusetts APCD Charter stipulated the creation of a database that met all state agency needs to reduce the submission burden on payers and the administrative burden for the state.

Due to the complexity and volume of data involved in analyzing state-wide health information, states embarking on multi-payer initiatives typically bypass the manual early phases that Massachusetts conducted and opt to build analytics-driven reporting databases. No evidence of scalable, long-term alternatives to a reporting database have been established in other states.

The breadth of national experience in establishing multi-payer claims databases provides multiple resources and examples for the state of Oklahoma to reference in its pursuit of similar capabilities.

**Oklahoma Value-Based Analytics Roadmap**

Oklahoma has expressed interest in developing a VBA to support healthcare and payment reform initiatives within the state. The summarized national efforts described in *Section VI: National Efforts* provide useful context for understanding the forms such an initiative could take. The past experiences of states with an existing multi-payer claims database also serve as guidance that can be used to develop strategies to implement a VBA in Oklahoma.

Multi-payer claims databases frequently serve as a data source for other state or privately-run initiatives, making the initiatives important stakeholder constituencies for the multi-payer claims database program. Our research suggests that multi-payer claims database efforts are most successful when the intended users of the system are involved in the planning process. While value-based purchasing programs are generally operated independently of multi-payer claims databases, if Oklahoma intends to support value-based purchasing programs through the database, the needs of the program should be treated as requirements for any Oklahoma-based VBA.

In our interviews, subject matter experts observed that, by adopting or building-upon established processes and systems, the effort required to develop and deploy a VBA may be reduced if the existing components directly supported the intended use of the system. Oklahoma should carefully consider what existing health information technology infrastructure within the state may be leveraged to develop a VBA. Two examples of existing infrastructure include hospital discharge data submission rules and data specifications and the infrastructure created by Oklahoma's HIEs to support pairing claims and clinical data. *Subsection VII.A.2.a: System Creation* discusses these considerations in more detail.

As demonstrated in other state efforts, the decisions made while establishing a VBA can have far-reaching consequences for its ultimate usefulness and success. Decisions related to system governance, legislation, content, and user base can be both difficult and expensive to alter once the process of establishing the system has been begun. However, by approaching the process in a structured manner, Oklahoma will be able to ensure that the fundamental decisions were made with diligence.

Establishing a multi-payer claims database is best viewed as a program comprised of many related projects due to the complexity and interdependencies throughout all steps of the process. As such, experienced program and project management oversight of the process is desirable. Recall the multi-payer claims database implementation model, which focuses on governance, technology, and adoption. It is replicated below in *Exhibit 10: Multi-Payer Claims Database Implementation Model.*

**Figure 51: Multi-Payer Claims Database Implementation Model**

| Phase I<br>Governance | Phase II<br>Techonology | Phase III<br>Adoption |
|---|---|---|
| •Vision | •Technology Selection | •System Training |
| •Supporting Legislation | •Report Design | •Adoption |
| •Funding | •Data Loading | •Continous Improvement |
| •Oversight Entity | | •Expansion |
| •Data Management | | |

Milliman used this construct to create a decision tree-based roadmap for Oklahoma. We segmented each phase of the roadmap into critical decisions Oklahoma should consider in its implementation process. The decision tree is presented first in its entirety as *Exhibit 11: Value-Based Analytics Roadmap Decision Tree*, providing a detailed guide to the key decisions and processes that relate to implementing a VBA in Oklahoma. It is designed to be a quick-reference guide to the entire process of VBA implementation. Each of the three phases of the implementation model—governance, technology, and adoption—is represented by a separate section. Relevant subsections are revisited throughout the discussion of the implementation process. The remainder of this report discusses the considerations related to each component of the decision tree.

**Figure 52: Value-Based Analytics Roadmap Decision Tree**

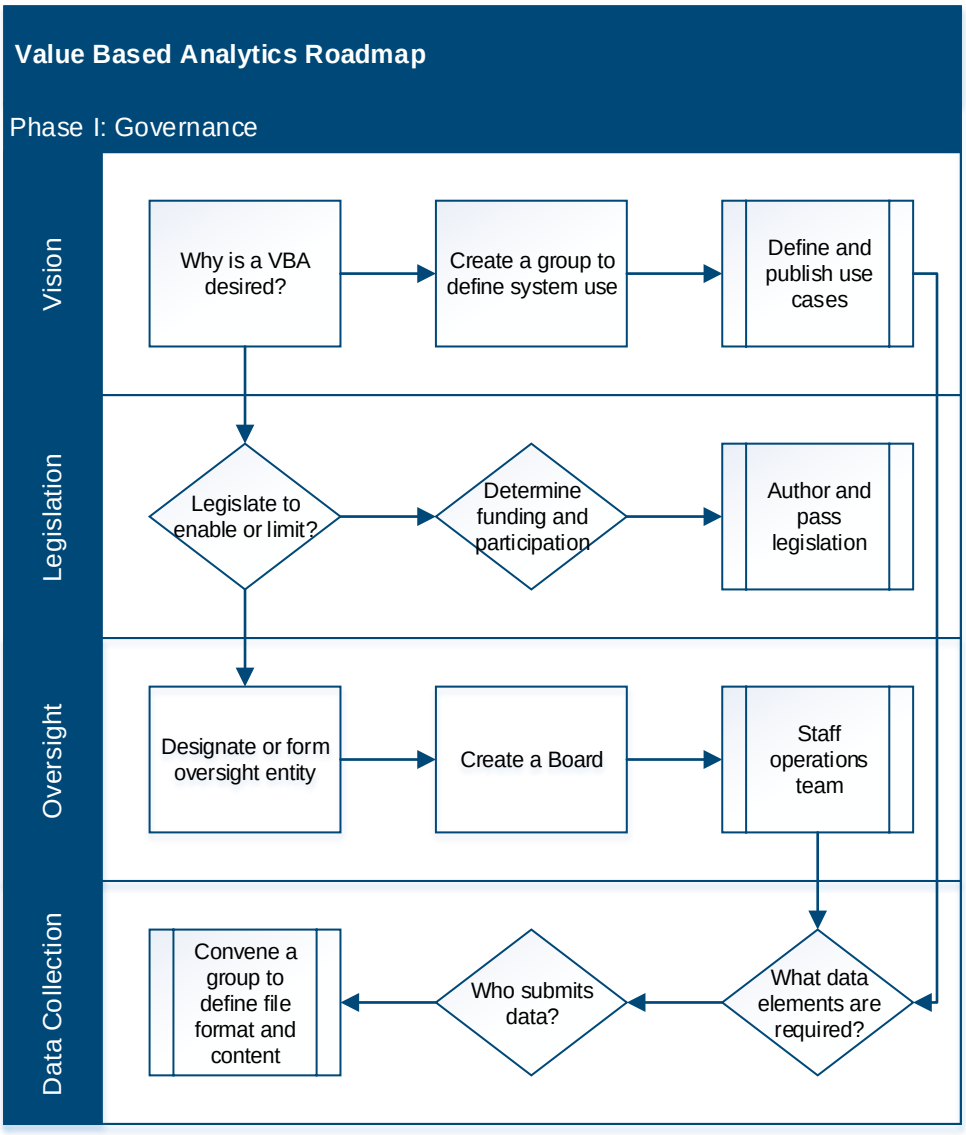
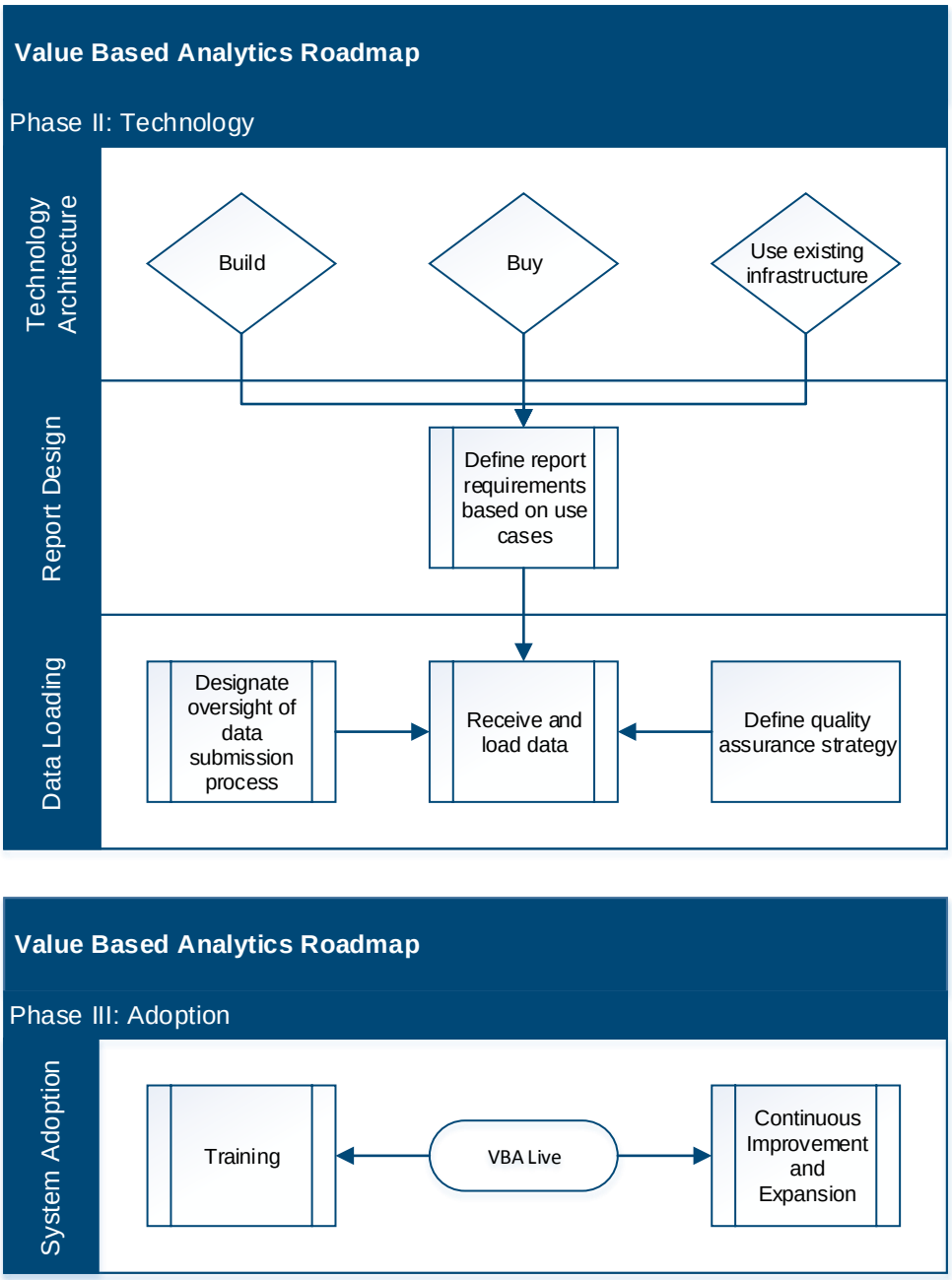


**Figure 53: Value-Based Analytics Roadmap Decision Tree**

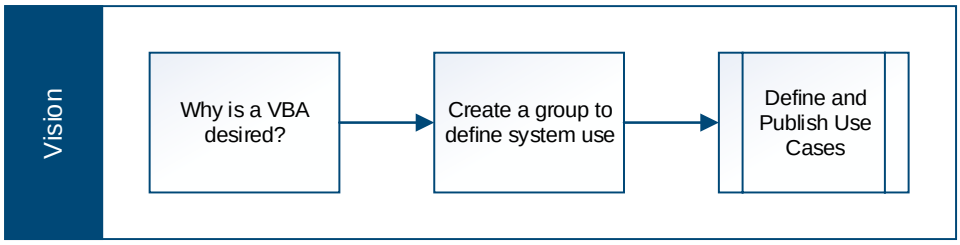



The following narrative expands upon the decision tree to further delineate considerations for Oklahoma as the state pursues a VBA capability. In each subsection, we refer to a component of the decision tree and have replicated part of the decision tree as a reference for the reader.

### *D. Phase I: Governance*

This section discusses the process of establishing a governance framework for Oklahoma's VBA. Governance includes considerations related to vision, legislation, participation model, establishing an oversight entity, and identifying system participants.

#### 5. Vision




The first action in implementing a VBA is to articulate a vision for why and how the system will be used, which is a two-step process. First, a unifying vision for the system must be defined. Second, the vision must be used to codify and publish use cases, or formal descriptions of how users will interact with and use the system. Regardless of whether the VBA is a state-owned system, these initial steps can benefit from the state serving as a catalyst for convening the group that will define them.

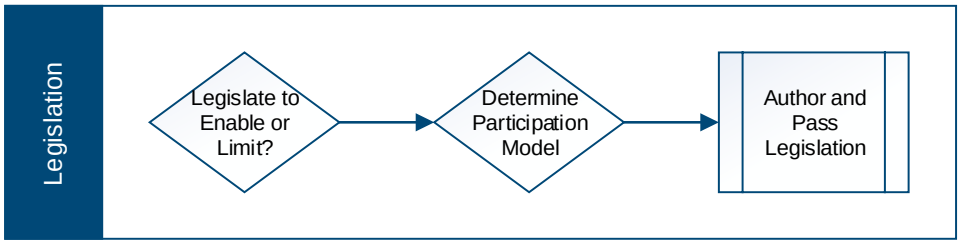
Experience from efforts in other states suggests that one of the best ways to develop the vision for a VBA is through a multidisciplinary stakeholder group. To ensure broad output, most states have sought the perspectives of stakeholders who will provide the system's data, those who will use the data, those who will produce the data, and those whom the data is about.

In Oklahoma, stakeholders may include commercial health plans, physical and behavioral healthcare providers, state agencies (such as OSDH), representatives of the public, and other special constituencies of interest, such as rural and small provider groups, or Native American nations and tribes. By including groups that may not be incorporated into the VBA immediately, but could be part of future efforts (such as telehealth practitioners), Oklahoma can ensure that a wide base of input is provided during the system's design.

Defining use cases is a critically important next step. Use cases describe the manner in which users interact with a system and, as a result, define some of the system's required capabilities. States frequently use the same group that defined the vision to develop use cases in order to ensure broad input. This effort may be most valuable if an expert in multi-payer claims database system development is included in the process of defining the use cases, both to ensure that they are fully documented and to provide expertise on the implications of system capabilities that the group expresses interest in.

The vision and use cases should identify who will access and interact with the system. Specific user access criteria will be defined during the technology implementation process or through legislation, but it is critical that the early stages of the process identify a preliminary user group to facilitate decision making through the VBA development process. Both the vision statement and the use cases will inform and guide all remaining steps in the process, from informing legislation, to reporting requirements, to selecting a system architecture.

**Supporting Legislation**




After the VBA vision and use cases have been defined, the implementation process reaches a critical juncture—the state must decide upon its level of direct involvement in the VBA process.

The state of Oklahoma may opt to "remain silent" on any or all aspects of the decision tree, effectively deferring the decision to the free market. The experience in other states suggests that the likely outcome of such passive decision making is extended timelines to define the governance and participation model of the VBA, low data quality, limited reach of reporting, and difficulty in securing the participation of even well-intentioned participants. States with multi-payer claims databases generally have reached and expressed concrete decisions for each of the aspects included in the decision tree. Lack of clarity around the state's position may also hamper private sector efforts.

Oklahoma may benefit from considering five key components that could be included in potential legislation: 1) system creation, 2) system oversight, 3) system funding, 4) participation model, and 5) personal identifiers. The implications of each of these components are described below in more detail.

System Creation

The majority of states with existing multi-payer claims databases have opted to create them through the legislative process, effectively choosing to view them as "public utilities." Passing legislation in Oklahoma could require the creation of a VBA on a defined timeline, and may allow funding through state-specific grants. Deciding to legislate that a VBA be created, however, would likely require additional state involvement in the process. States that have legislated the creation of multi-payer claims databases also generally determine funding, system oversight, and administration, and often will manage the technology procurement process. Should Oklahoma elect to not require the creation of a VBA through legislation, implementation of VBA capability would rely on the free market development of a voluntary database.

Because the Healthy Oklahoma 2020 plan stipulates the integration of health information technology that supports payment reform, careful consideration should be given to whether the state choosing to take a position of "remaining silent" would support that goal.

System Oversight

System oversight is an important concept in a VBA. The role of the overseeing entity is generally to establish policies and procedures necessary for the administration and management of the VBA, including procedures for the collection, processing, storage, analysis, use, and release of data. Three potential scenarios exist for system ownership and oversight:

1. State-Led System

2. Public-Private Partnership

3. Fully Private System

**State-Led System:** This is the most common model of system ownership among states with existing multi-payer claims databases. These databases are wholly managed by a state department or treated as a shared service by several departments, such as New Hampshire's collaboration between the state's Department of Health and Human Services and its Insurance Department. An example of an existing shared services arrangement in Oklahoma that could potentially be used for this purpose is the Oklahoma Health and Human Services cabinet group, DISCUSS. Designed to collaboratively share resources among the Oklahoma Health and Human Services agencies, DISCUSS focuses on the development and implementation of shared information technology products, services, and technology frameworks.

**Public-Private Partnership:** For states that plan to make data available to qualified public users, the alternative to a state-led model is a public-private partnership. Under a partnership model, the state delegates system ownership and process oversight to a private entity, either by creating it or through a competitive bid process, but may retain system oversight through funding and periodic audits. This model may be preferred in instances where the state perceives that an external entity has valuable prior experience and expertise, or if the state does not want to be seen as owning the system for political reasons. Arkansas, Colorado, and Virginia all operate APCDs under a public-private partnership model.

**Fully Private System:** Private initiatives exist in a minority of states with multi-payer claims systems. By choosing not to involve itself with the governance of the VBA, Oklahoma would effectively be opting for a solution driven by the free-market. Fully private governance structures are typically accompanied by voluntary participation models. The Wisconsin Health Information Organization is an example of this model.

National experience indicates that any of these three models could support a VBA. Based on Milliman's research, the most critical aspect of an oversight model is that the selected entity have expertise and experience in public reporting, data management, and relevant technology to support its role in system oversight and governance.

System Funding

Oklahoma must decide how to fund the VBA if the state chooses to be involved. Most states utilize a variety of funding sources to cover the initial development costs and the ongoing operating costs of a VBA. Oklahoma may consider several potential funding sources that have also been used by other states. They include, but are not limited to:

- SIM grant money
- General allocation funding
- Medicaid match
- Excise tax on system users, such as delivery systems and health plans
- Operational budgets of state agencies
- Subscription fees

- Data sales

A diverse funding structure may be preferable because it could mitigate the risk of funding loss from a single funding source, and could help to ensure the VBA's continued operation if such an event were to occur.

Privately led initiatives are generally funded by their members. Typically, founding members will contribute a share of the required initial investment on a prorated basis. Ongoing maintenance and enhancement costs are borne by expanding the membership of the initiative and charging subscription fees to access reporting and analytics tools. This model is fundamentally similar to the subscription model currently employed by both HIEs in Oklahoma.

Public-private partnerships are funded through both state and private organizations. Virginia's APCD provides an example of a participant-based funding structure. In Virginia's model, participating health plans contribute 40 percent, the Virginia Hospital and Healthcare Association contributes 40 percent, and 20 percent of the funding is provided from data sales by Virginia Health Information, under the authority of the Virginia Department of Health.

State-led efforts are primarily funded via state-appropriated funds. Taxes, agency operational budgets, and grant awards may be used for this purpose. The specifics of state arrangements are varied, yet most structure the cost burden such that system users and data contributors fund material portions of operating costs.

Some existing, larger multi-payer claims database initiatives have opted to sell subscriptions or reports as a funding method. Given the relatively small population of Oklahoma, the sale of data may not be a viable primary funding option for the Oklahoma VBA. Additionally, the expected return from data sales should be weighed against the consideration that selling data may serve as a catalyst to embolden privacy advocates and any VBA opponents. States that sell data have overcome this challenge through transparent communication about what information is sold, to whom, and under what circumstances.

Through our research, we noted that politically and fiscally viable funding structures often utilize many funding sources to reduce the burden on any one group or organization. Further, multi-payer claims databases are often funded through whatever channels are considered to be viable in a given state.

Participation Model

Oklahoma must determine whether to mandate participation from data-contributing organizations, and must determine the size threshold for that requirement. There are two primary considerations related to this decision: which types of data need to be collected to satisfy use cases, and what number of participants need to submit data from each group to meet both privacy needs and sufficient sample sizes for reporting.

In order to establish a state-wide VBA capability, Oklahoma should begin by identifying the minimum threshold for a representative portion of the state in the database. While Oklahoma's relatively consolidated payer market means that incorporating large insurers in the state will result in most of the covered lives being included, Oklahoma should take care to ensure that those covering rural Oklahomans or Native American tribes are included where possible.

Most states target between 70 percent and 75 percent of their state's population to serve as a representative sample of claims data. They also evaluate the data to ensure the system contains a diverse and reasonable representation of the state's population across lines of business and geography. Due to the nature of Oklahoma's health insurance marketplace, a voluntary participation model could potentially be successful in achieving this target, as fewer organizations would need to supply data to hit participation

targets. If Oklahoma pursues this model, care should be taken to secure an agreement from targeted participants early in the process.

According to the *Oklahoma Insurance Market Analysis* report published by Milliman in August of 2015, 49 percent of Oklahoma's population is covered by commercial insurance through an employer or other private insurer. Another 21 percent is covered by Medicaid, 14 percent by Medicare, and 2 percent through other public sources. Approximately 14 percent of the state is uninsured. In order to achieve the threshold identified by other states as an acceptable participation floor, Oklahoma may wish to include major commercial payers, Medicaid, and Medicare. It is important to note that not all commercial payers in Oklahoma are of sufficient size to participate.

Oklahoma should also consider the impact of a mandatory versus voluntary model. Under a voluntary model, the onus for data transformation, cleansing, and quality rests with the VBA, which will have limited recourse to persuade contributing organizations to materially change the content of their submissions. Organizations may be hesitant to contribute, which is due to lack of clarity in both the effort associated with developing extracts, and also the possible uses for the data in a public forum. Each organization must decide if it is comfortable with those possibilities. A clearly defined system vision and use case set can help address this concern.

Data submission requires effort on the part of contributing organizations to develop the required extracts. If participation is mandatory, it is important to set minimum membership size thresholds at which payer organizations must submit data because the burden for small organizations may be greater than the value of the data they can contribute. Mandating participation and specifying penalties or fees for failures in compliance to both timely submission and data quality standards puts the obligation for submission on the contributing organizations. For example, New Hampshire has a mandatory participation model, but has exempted certain organizations if they cover fewer than 10,000 New Hampshire lives and are not participating in New Hampshire's healthcare exchange.

The participation model may also influence the implementation timeline for the VBA. Appropriate legislation required to initiate a mandatory VBA can take considerable time to pass, but may provide the penalties needed to ensure timeliness of submission and files that contain higher quality data. We note that, in some cases, the penalties are viewed as insufficient to cause changes in submitter behavior. In contrast, voluntary efforts have the advantage of not requiring the investment of time that legislation takes, but may result in lower data quality because penalties for non-compliance can be difficult to develop or enforce.

Personal Identifiers

Deciding whether to allow personal identification of patient data in the VBA requires balancing privacy concerns against the intended use of the database. The state must determine whether to support the system vision tacitly, support it explicitly, or decide to potentially reduce the scope of the system by limiting its contents to only de-identified patient data. The stakeholder-expressed vision and defined use cases will stipulate whether identifiable patient data is required to fulfill the goals for system usage.

Personally identifiable patient information (PII) (e.g., an individual's name, street address, email address, telephone number, or Social Security number) is a prerequisite for pairing claims and clinical data or for associating claims data with state public health data (such as registries) because it is the mechanism used to match a patient's records. However, including PII may result in patient privacy and data security concerns.

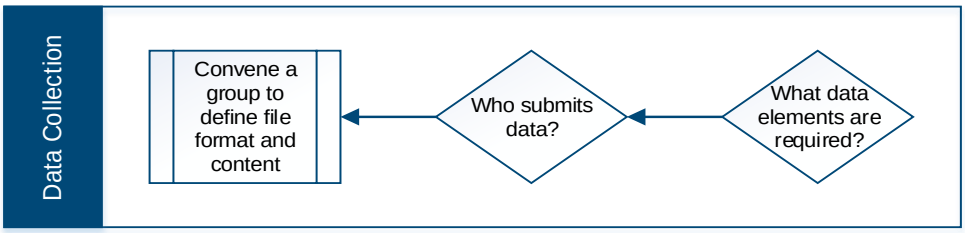
Some states, such as Rhode Island, have adopted a process whereby PII is submitted to a trusted technology vendor, or "lockbox" vendor, that manages the patient matching process and then sends a

separate, consolidated, and de-identified data feed to the APCD. This process ensures that the data available to system users includes comprehensive aggregated claims records, but that it cannot be associated to a specific person. An alternative method that some states use is for payers to install software packages on their own servers, which encrypt the PII before sending data to the APCD. This approach ensures that the APCD is in control of encryption, and if every source is encrypted the same way, the same member can still be matched across sources, but no PII is stored in the APCD itself.

In addition to evaluating whether to involve itself in the decision to include or limit PII, the state may opt to place limits on its usage by stipulating that PII may be collected, but that it may not be used until that usage is approved by an oversight board, either from the state or by the group that oversees the VBA.

Clear communication and transparency to the public about the planned approach to patient identifiers is critical. Failure to do so can result in implementation delays if data privacy and use become a public concern. Minnesota's APCD legislation includes precise language about what data will be collected and how it will be used as a result of privacy concerns that emerged during the APCD development period.

**Data Collection**




Collecting data from contributing organizations is a challenge faced by most multi-payer claims database initiatives. Experience indicates that even well-intentioned organizations that desire to participate in the process can have difficulty providing the required files. This occurs because payer organizations retain and store claims, eligibility, and other necessary data elements in varying levels of detail, formats, and locations.

It is important to plan not only the required content of the files to be sent to the VBA, but also the format, frequency, and allowable error rates. While no single national standard for claims and eligibility data exists, there have been efforts to develop and spread uniform standards. Utilizing an existing standard may decrease the time it takes to assemble the required files and ease the reporting burden for contributing organizations that submit data in multiple states. Based on our research, we expect that data collection efforts may be more successful if entities that will be submitting data, such as commercial payers, Medicaid, and healthcare delivery organizations, are invited to participate in the submission development process.

Four-steps are typically employed for the purpose of defining the required elements of the data collection process:

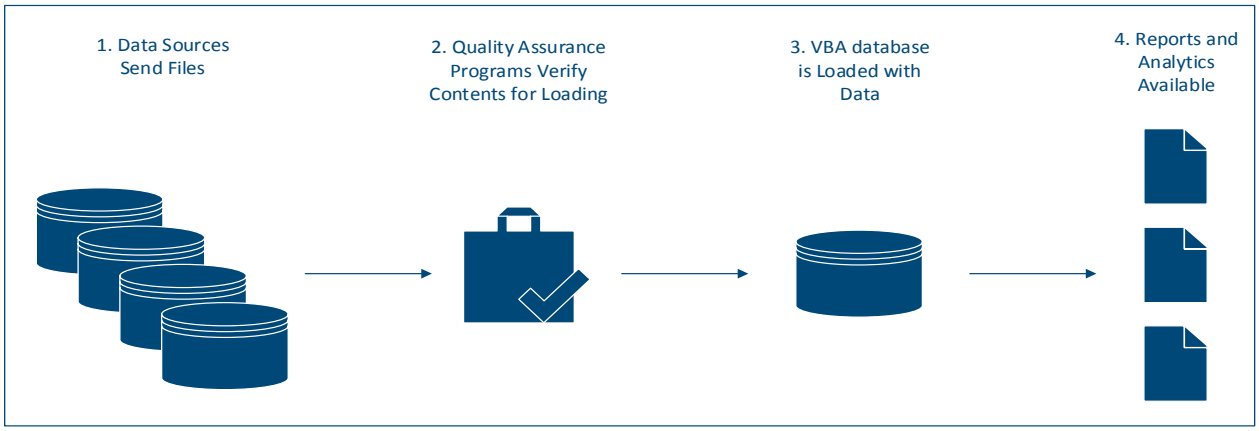
1. Identify any data gaps or system enhancements that need to be made to payer systems to meet the needs of the use cases
2. Determine the data feed format
3. Define quality standards and acceptable error rates
4. Determine how long it will take participants to begin submitting data

In summary, establishing the VBA governance model is a time-intensive, cyclical process that may require reevaluating decisions in the event that the original system vision conflicts with the political or technological realities of the state's health information technology infrastructure. By carefully crafting the legal and operational environment in which the VBA will operate, and by involving stakeholders throughout the process, Oklahoma can build a foundation to simplify challenges that frequently accompany technology implementation.

### *E. Phase II: Technology Implementation*

In order to discuss the processes and considerations related to the implementation of the technology infrastructure that underlies the VBA, we first outline processes associated with moving information from the participating payer organizations or other data contribution sources into the VBA, and from the VBA into reports. This process is summarized in four primary steps in *Exhibit 12: VBA Data Processes.*

**Figure 54: VBA Data Processes**

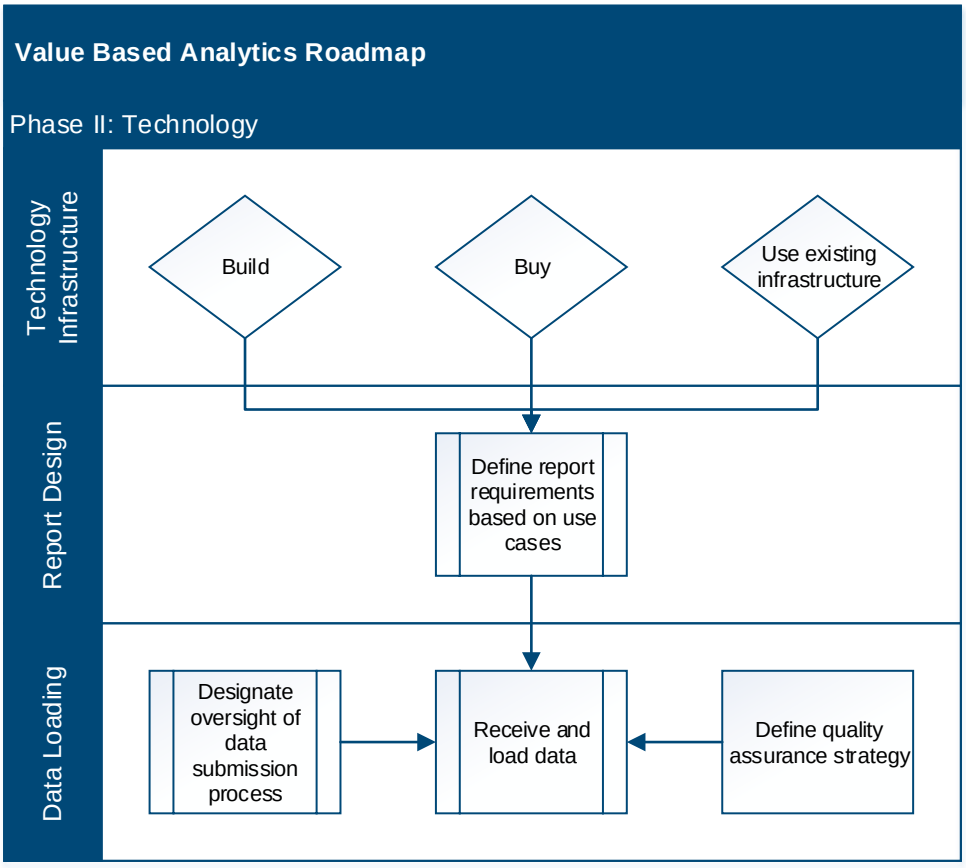



Organizations submitting data assemble information from their databases into the defined file format, which is then sent to the VBA. Before information is loaded into the VBA's database, a series of quality checks ensure that the data received conforms to the defined standard and that the files are complete. Data that passes the quality checks is then loaded into the VBA, where it is accessible for reporting and analytics. Data quality checks should be consistent with the use cases to ensure that data are of the highest quality for intended reporting purposes.

Steps 2 through 4 above rely on the VBA's technology infrastructure, which, in Oklahoma's case, must be built, purchased, or expanded from existing technology assets in the state.

It is important to note that the process of implementing the technology infrastructure can take up to or over a year. VBA leadership must proactively maintain stakeholder engagement throughout this process by communicating progress and involving participating organizations in activities that support these efforts, such as data validation. The Phase II decision tree is pictured in Figure 55: Technology Implementation.

**Figure 55: Technology Implementation**




## 6. Technology Infrastructure

Existing multi-payer claims databases generally compartmentalize the technology platform into three subcomponents: the database itself, quality assurance and data processing, and analytics and reporting. Each of these components may be provided by the same technology vendor, or by separate organizations. Whether Oklahoma should build, buy, or leverage existing health information technology for this purpose is dependent on evaluation of the required capabilities, cost, and time to implement each one.

Past experience in other states suggests that the entity responsible for the technology platform should have three traits: 1) prior experience, 2) expertise, and 3) functionality that supports the desired system usage. For this reason, few states build their databases because it is typically a complex and time-consuming process.

The majority of VBA implementations to-date have either identified a technology vendor through a bidding process, or have leveraged existing, similar health information technology in the state. By comparing the expected costs and functionality of each option with the defined vision, use cases, and available funding, the state will be able to identify the best option for these combination of factors.

### Report Design

There are two typical models for accessing data: end users may directly query the database, or predefined reports may be made available to users. In order to design the system's output and reports, three processes

(each of which may require compromise) must have occurred: 1) a governance framework that specifies what data will be collected and how it may be used will have been identified, 2) a technology platform will have been selected, and 3) the selected platform will have an expected deployment timeframe. Any one or all of these may place practical limitations on the analytics and reporting the system can produce.

The process of designing reports creates an opportunity for continued stakeholder involvement. It is also a key step in ensuring that stakeholders trust the reports produced by the system. Individuals with pertinent technical expertise should guide the report design process. Oklahoma may wish to utilize either the oversight entity's board, or a voluntary stakeholder group to provide input into the report contents. The goal of the design process should be to develop an initial set of reports that support the system's vision, and to create reports that can be aggregated to a state or regional level. This is a best practice designed to engender participant trust in the system.

Technology vendors may not provide support for customized reports, so it is important that the system capabilities are assessed during any procurement process. During implementation, the report design phase consists of prioritizing the available reports, and potentially designing custom reporting capabilities.

By involving stakeholders in the report design process, Oklahoma can ensure stakeholder buy-in to the selected measurement metrics. This stakeholder process should be repeated over the life of the system as part of a continuous improvement process, including VBA capability expansion and enhancement.

**Data Loading**

Trust is likely to be one of the most important determinants of VBA adoption within Oklahoma. A defined and closely-managed data loading process is a primary mechanism for ensuring that the VBA contains complete, high quality data. If the system does not have a data set that is both complete and high quality, the reports and analytics are less likely to be utilized, limiting the usefulness of the VBA until these issues are remedied.

To ensure that high quality data are loaded into the VBA, the overseeing entity should create a mechanism to manage data loading. Data management may be provided through delegation to a vendor, or by convening a subgroup of stakeholders or an oversight entity team to manage the process. During implementation, the group responsible for data loading should supervise two critical steps: quality checks to ensure received data are complete, and validation that the output from the VBA's database is correct after files have been loaded.

Data submission rules, targets, and penalties are typically specified during Phase I of the implementation. The group responsible for loading data should be tasked with establishing the technical checks to ensure received files conform to requirements, and tasked with the communication of the processes supporting this activity, which should ensure that any challenges are rapidly addressed. By establishing designated points of contact within both the governing entity and the data submitters' organizations, questions and issues can be quickly addressed.

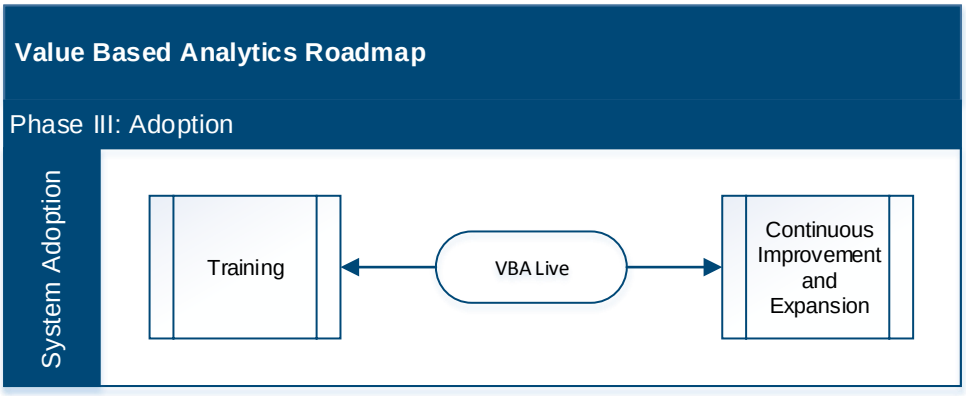
Validation serves two purposes. The first is to verify that the output from the VBA matches the input files submitted by participants. Typically, matching is internally verified by the organization responsible for data loading before the organization requests that data submitters do the same. Some states have automatic "checks" at the time of submission, where the carriers "sign off" on summary statistics of the files they submit. The two-step process ensures not only a higher level of quality, but also serves a critically important second purpose: trust in the system's accuracy.

Loading large volumes of data requires significant time. Oklahoma may elect to employ a process whereby participants submit files that contain up to a year's worth of data for validation purposes as part of an initial load. After participants are satisfied that quality assurance processes are functioning as intended and the data are of high quality, larger volumes of historical data may be loaded and a more frequent submission schedule, such as monthly or quarterly, may be prescribed.

A defined quality assurance and data-loading process is an important step in the VBA-implementation process.

### *F. Phase III: System Rollout Strategies*

**Figure 56: VBA Rollout and Adoption**




Once the governance structure has been defined, technology infrastructure implemented, and data from participating organizations loaded into the system, Oklahoma will have achieved a major milestone, but will not have completed its work on the VBA. *Exhibit 14: VBA Rollout and Adoption* describes the processes used by national efforts to enhance adoption. In general, successful systems rely on training to familiarize users with the system, and continuous improvement cycles to increase the scope, quality, and reach of the tool.

Oklahoma should consider conducting two concurrent adoption initiatives. The first is to begin training the core user base on how to interact with and interpret the contents of the VBA. By focusing training efforts on an initially small group of users who have supported and been involved with the initiative, a group of champions can be fostered. By creating supporters across participating organizations, Oklahoma can ensure the distribution of advocates across the state, which has been proven to be a critical component in information technology deployment. As the VBA is deployed statewide, Oklahoma may wish to follow a training model such as Wisconsin's, in which participants have access to webinars, classroom training, user workshops, and virtual office hours.

The second adoption initiative is to begin continuous improvement and system capability expansion activities by soliciting feedback and through continued stakeholder engagement. Actively soliciting feedback on the VBA's ease of use and capabilities can enhance system functionality and can maintain participant engagement after the initial implementation work is completed.

Continuous improvement cycles should follow all steps in the decision tree (Phases I through III), related to establishing vision and use cases, expanding governance or legislation to secure the necessary involvement, and enhancing the technical capabilities of the VBA to expand its usefulness. Due to the

comparative ease of data integration, many multi-payer claims databases have chosen to collect commercial claims and eligibility data as part of the initial system implementation. Continuous improvement cycles can then focus on collecting Medicaid and Medicare data while simultaneously adding additional reporting and analytic capabilities.

Due to the scale and complexity of creating a VBA, a noted best practice is to structure the initial adoption periods as extended validation periods. This continued validation and correction of early issues will develop trust. One way the extended validation period can be structured is to publish initial reports exclusively to data contributors and to the governance organization for feedback. Simultaneously engaging stakeholders in ongoing improvement activities establishes an environment of partnership between the system administrators and system users that can result in increased system use and trust.

## 7. Considerations

As cited previously, approximately 31 percent of Oklahomans live in a rural area. Providers serving rural Oklahomans have two challenges in adopting health information technology: lack of funds, and lack of support staff to take action based on information gathered from technology systems. If the VBA is to be used by small provider groups or rural providers for population health management, addressing these issues will be an important step in the system adoption process.

Many providers and critical access hospitals in rural Oklahoma are choosing to affiliate with, or being acquired by, larger care delivery organizations. This process can help rural providers afford the technical infrastructure necessary to access systems. By waiving or reducing subscription fees, Oklahoma can further reduce the barriers faced by rural and small providers in adopting a VBA.

Population management programs rely on care coordination and case management capabilities that small and rural providers may not have. By utilizing resources such as regional extension centers set up to assist with electronic medical record systems, Oklahoma could use existing relationships to educate these providers on the discipline of population health management and attempt to establish cooperatives between groups of providers for patient outreach support.

### Implementation Strategies

With 18 existing multi-payer claims databases across the nation, Oklahoma has many examples to draw upon as the state plans its VBA approach. Notable common themes cited across implementations include the following:

- Use existing data submission rules and formats where possible to derive potential cost savings through standardization
- Incrementally expand both the data set and reporting functionality over time
- Be transparent about what data will be collected, how it will be used, where it is stored, and how it will be protected
- Begin with statewide or aggregate measures and gradually report on more detailed levels as the system becomes more mature and more trusted
- Involve stakeholders throughout all phases of the process
- Communicate with stakeholders and the public throughout all phases of the program

Taking these considerations into account during the implementation of Oklahoma's VBA may help to limit complexity and mitigate risks inherent in the development and ongoing management process.

**Summary**

Multi-payer claims database initiatives are spreading rapidly across the country. Oklahoma's interest in developing such a tool to support its vision for improving the state's health outcomes and healthcare delivery model is commendable. By engaging stakeholders early in the process, being transparent about how information will be used and safeguarded, and learning from the successes and challenges of other states that have implemented multi-payer claims database tools, Oklahoma can leverage the learnings from other states to foster collaboration and trust in the stakeholders who will play a role in Oklahoma's VBA initiative.

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