



# **PERFORMANCE AUDIT REPORT**

## **Medicaid: Evaluating KanCare's Effect on the State's Medicaid Program**

**A Report to the Legislative Post Audit Committee  
By the Legislative Division of Post Audit  
State of Kansas  
April 2018**

# Legislative Division of Post Audit

---

The **Legislative Division of Post Audit** is the audit arm of the Kansas Legislature. Created in 1971, the division's mission is to conduct audits that provide the Legislature with accurate, unbiased information on the performance of state and local government. The division's audits typically examine whether agencies and programs are effective in carrying out their duties, efficient with their resources, or in compliance with relevant laws, regulations and other requirements.

The division's audits are performed at the direction of the **Legislative Post Audit Committee**, a bipartisan committee comprising five senators and five representatives. By law, individual legislators, legislative committees, or the Governor may request a performance audit, but the Legislative Post Audit Committee determines which audits will be conducted.

Although the Legislative Post Audit Committee determines the areas of government that will be audited, the audits themselves are conducted independently by the division's professional staff. The division's reports are issued without any input from the committee or other legislators. As a result, the findings, conclusions, and recommendations included in the division's audits do not necessarily reflect the views of the Legislative Post Audit Committee or any of its members.

The division conducts its audit work in accordance with applicable government auditing standards set forth by the U.S. Government Accountability Office. These standards pertain to the auditor's

professional qualifications, the quality of the audit, and the characteristics of professional and meaningful reports. The standards also have been endorsed by the American Institute of Certified Public Accountants (AICPA) and adopted by the Legislative Post Audit Committee.

## LEGISLATIVE POST AUDIT COMMITTEE

Senator Rob Olson, Chair  
Senator Elaine Bowers  
Senator Anthony Hensley  
Senator Julia Lynn  
Senator Lynn Rogers

Representative Dan Hawkins, Vice-Chair  
Representative John Barker  
Representative Tom Burroughs  
Representative Don Schroeder  
Representative Ed Trimmer

## LEGISLATIVE DIVISION OF POST AUDIT

800 SW Jackson  
Suite 1200  
Topeka, Kansas 66612-2212  
Telephone: (785) 296-3792  
Fax: (785) 296-4482  
Website: <http://www.kslpa.org>

**Justin Stowe, Interim Post Auditor**

## HOW DO I REQUEST AN AUDIT?

By law, individual legislators, legislative committees, or the Governor may request an audit, but any audit work conducted by the division must be directed by the Legislative Post Audit Committee. Any legislator who would like to request an audit should contact the division directly at (785) 296-3792.

The Legislative Division of Post Audit supports full access to the services of state government for all citizens. Upon request, the division can provide its audit reports in an appropriate alternative format to accommodate persons with visual impairments. Persons with hearing or speech disabilities may reach the division through the Kansas Relay Center at 1-800-766-3777. The division's office hours are 8:00 a.m. to 5:00 p.m., Monday through Friday.



LEGISLATURE OF KANSAS  
**LEGISLATIVE DIVISION OF POST AUDIT**

800 SOUTHWEST JACKSON STREET, SUITE 1200  
TOPEKA, KANSAS 66612-2212  
TELEPHONE (785) 296-3792  
FAX (785) 296-4482  
WWW.KSLPA.ORG

April 25, 2018

To: Members, Legislative Post Audit Committee

This report contains the findings, conclusions, and recommendations from our completed performance audit, *Medicaid: Evaluating KanCare's Effect on the State's Medicaid Program*. The audit was requested by the Legislative Post Audit Committee. The audit team included Matt Etzel, Daria Milakhina, Josh Luthi, Kaci Dillingham, and Ben Rogers. Justin Stowe was the audit manager.

We would be happy to discuss the findings, conclusions, and recommendations presented in this report with any legislative committees, individual legislators, or other state officials.

Sincerely,

A handwritten signature in black ink that reads "Justin Stowe". The signature is written in a cursive, flowing style.

Justin Stowe  
Interim Post Auditor

*This Page Left Intentionally Blank*

# Table of Contents

<b>Introduction .....</b>	<b>1</b>
<b>Overview of the Kansas Medicaid Program.....</b>	<b>5</b>
<b>Question 1: What Effect Did Transitioning to KanCare have on the State’s Medicaid Costs, Services Provided, and Client Health Outcomes .....</b>	<b>11</b>
<b>Conclusions and Recommendations.....</b>	<b>33</b>
<b>Appendix A: Agency Response.....</b>	<b>35</b>
<b>Appendix B: Regression Methodology .....</b>	<b>39</b>

*This Page Left Intentionally Blank*

# Medicaid: Evaluating KanCare's Effect on the State's Medicaid Program

---

## ***Background Information***

Launched in January 2013, KanCare is the program through which the State of Kansas administers Medicaid. KanCare offers health care for people with limited income, which may include pregnant women, children, and low-income families with children. The Kansas Department of Health and Environment (KDHE) and the Kansas Department for Aging and Disability Services (KDADS) jointly administer KanCare. KDHE maintains financial management and contract oversight of the KanCare program. KDADS administers the Medicaid waiver programs for people with disabilities, mental health conditions, and substance abuse problems, and oversees the state hospitals and institutions.

As the state's Medicaid program, KanCare focuses on providing person-centered care coordinated through contracts with three private managed care organizations: Amerigroup of Kansas Inc., Sunflower Health Plan, and United Healthcare Community Plan of Kansas. The state also contracts with Maximus, a company that processes the state's Medicaid applications and provides support services during the eligibility process.

Legislators were interested in learning what effect KanCare has had on the state's Medicaid costs, services, and beneficiaries' overall health.

---

## ***Objectives, Scope, and Methodology***

On April 28, 2017, the Legislative Post Audit Committee approved an audit of the state's Medicaid program. For reporting purposes, we divided the three objectives included in that original request into three separate audit reports. This performance audit answers the following question:

### **1. What effect did transitioning to KanCare have on the state's Medicaid costs, the services provided, and client health outcomes?**

We worked with KDHE officials to identify the type and amount of data needed to complete our analysis. Ultimately, we collected around 200 million records related to beneficiary demographics, Medicaid claims costs, service use, and health outcomes.

- We collected demographic data for the roughly 500,000 beneficiaries enrolled in Medicaid each year, between 2011 and 2016. The demographic data captured beneficiaries' age, gender, race, geographic location, and Medicaid category.

- We collected claims data that captured quarterly Medicaid costs for every beneficiary from 2011 to 2016. In total, this data captured about \$14 billion in Medicaid claims costs. We also collected claims data on a per-service basis for the 12 major Medicaid services.
- We collected health data related to seven different indicators of beneficiaries' well-being. For example, these datasets captured beneficiaries' use of preventative screening, immunizations, and hospital readmissions from 2011 to 2016.

However, we were unable to use several of these datasets to evaluate KanCare because of data reliability issues.

- Data reliability issues and state policy changes limited our ability to fully conclude on KanCare's effect on claims costs and service use. Although the total claims dataset was reliable, 6 of the 12 individual service datasets were unreliable due to inaccurate or inconsistent data. This limited our ability to fully conclude on KanCare's effect on service use, which also limited our ability to interpret post-KanCare cost trends.
- Data reliability issues prevented us from evaluating KanCare's effect on beneficiaries' health outcomes. Five of the seven health outcome datasets were unreliable because of inaccurate data. These inaccuracies were likely the result of difficulties KDHE had in correctly pulling data from its complex Medicaid systems. We did not have sufficient time to correct the errors we identified and ultimately decided we lacked sufficient evidence to conclude on KanCare's effect on beneficiary health outcomes.

For data that was reliable, we relied on an in-house statistician to design a series of regression models to isolate KanCare's effect on Medicaid claims cost and service use. Our statistician designed, ran, and tested several model options before deciding how best to proceed to ensure our results were accurate. We also shared the results of our analysis with KDHE officials who generally agreed with our audit methodology.

To determine KanCare's effect on network capacity, we collected network access data from KDHE that captured the number and location of the state's Medicaid providers in 2012 and 2016. We used spatial analytic software to compare Medicaid network coverages before and after KanCare. Finally, we reviewed the state's Medicaid plan and interviewed Medicaid stakeholders to determine KanCare's effect on Medicaid services.

---

***Compliance with  
Generally Accepted  
Government Auditing  
Standards***

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe the evidence



obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

However, our ability to fully answer this audit question was limited by the quality of KDHE's Medicaid data. As mentioned previously, these data issues limited our ability to conclude with certainty on KanCare's effect on service use and limited our ability to interpret cost trends. More significantly, data reliability issues entirely prevented us from evaluating KanCare's effect on beneficiaries' health outcomes. Despite these limitations, we think our findings on KanCare costs and service use are reasonable and are based on the most in-depth analyses currently available on the effect KanCare has had on Kansas Medicaid.



## Overview of the Kansas Medicaid Program

---

### ***Medicaid is a Jointly Funded Government Health Insurance Plan for Individuals with Low Incomes***

**Medicaid covers medical and long-term care for low-income children and families, pregnant mothers, the elderly, and individuals with disabilities.** Medicaid was originally established as part of the 1965 Social Security Act to provide health insurance at little to no cost to individuals who may otherwise have difficulty paying for their coverage. Additionally, states can participate in optional Medicaid programs, such as the Home and Community Based Service (HCBS) waiver program. The HCBS program allows states to serve specific populations in a home and community setting rather than in institutions such as hospitals or nursing homes. As of 2018, Kansas offered HCBS services to seven waiver populations.

**In 2016, federal funds covered about \$1.7 billion (56%) of Kansas' Medicaid costs and state funds covered the remaining \$1.3 billion (44%).** As a program for low-income individuals, Medicaid generally does not require beneficiaries pay for their benefits. Rather, states and the federal government pay the costs associated with beneficiaries' medical and long-term care services. Each state has a cost-share arrangement with the federal government. The amount of federal assistance a state receives to help pay its Medicaid expenditures depends on its per-capita income—lower income states receive more federal assistance.

**As of 2018, Kansas and 17 other states chose not to expand Medicaid to include non-disabled low-income adults.** In 2010, the federal Affordable Care Act allowed states to expand Medicaid coverage to include non-disabled low-income adults (frequently referred to as “Medicaid expansion”). Under the Act, individuals covered under the Medicaid expansion are eligible for increased federal funding up to 100% from 2014 to 2016. However, this enhanced cost share will be phased down to 90% by 2020, with the state becoming responsible for the remaining 10%. As of 2018, 32 states and the District of Columbia expanded coverage to this population, but Kansas and 17 other states had not.

---

### ***Kansas' Medicaid Program Involves Numerous Entities at the Federal, State, and Private Levels***

**Although the Kansas Department of Health and Environment has primary responsibility over the state's Medicaid program, other entities also have roles in the program.** Given the size and complexity of Medicaid, several state and federal agencies are involved in the oversight and administration of the state's Medicaid program.

- **The Centers for Medicare and Medicaid Services (CMS) is the federal agency responsible for overseeing states' Medicaid programs.** States must report to CMS periodically on the status of

their Medicaid programs, as well as receive CMS' approval for any changes to their Medicaid state plan.

- **The Kansas Department of Health and Environment (KDHE) is the designated state agency to oversee the Medicaid program.** KDHE is responsible for monitoring the state's Medicaid program and for periodically reporting to CMS to ensure federal compliance. KDHE is also responsible for maintaining a large amount of Medicaid claims data that it receives from the three MCOs, which it uses to create reports for agency management and other stakeholders.
- **The Kansas Department for Aging and Disability Services oversees long term care for individuals with disabilities and the elderly.** This includes care for individuals served in nursing homes or under the state's Home and Community Based waivers.
- **The Kansas Attorney General's office investigates and prosecutes fraud and abuse of the Medicaid program.** Positioned within the Kansas Attorney General's office, the mission of the Medicaid Fraud Control Unit is to deter and combat fraud, waste, and abuse committed against the state's Medicaid program. Specifically, the unit investigates potential fraud and abuse by Medicaid providers. The Attorney General's Office also houses the Medicaid Office of Inspector General, and recently nominated a new Inspector General in January 2018. However, as of March 2018, the position has yet to be confirmed by the senate.
- **The state contracts with two private contractors to process the state's Medicaid eligibility determinations and claims.** One contractor, Maximus, is responsible for processing the state's Medicaid applications to determine Medicaid eligibility. Additionally, a second contractor, DXC, evaluates the validity of those claims to ensure paid claims were for services and amounts allowed under the state's Medicaid program.
- **The Kansas Foundation for Medical Care (the Foundation) acts as the state's external quality review organization.** As the state's quality review organization, the Foundation has several responsibilities related to improving the quality of Medicaid care in the state. The foundation evaluates performance measures and survey data and assists in monitoring contract deliverables such as timeliness of payments, access, and quality of healthcare services provided to beneficiaries. ensuring anti-discrimination agreements and confirming the MCOs maintain an adequate provider network.

---

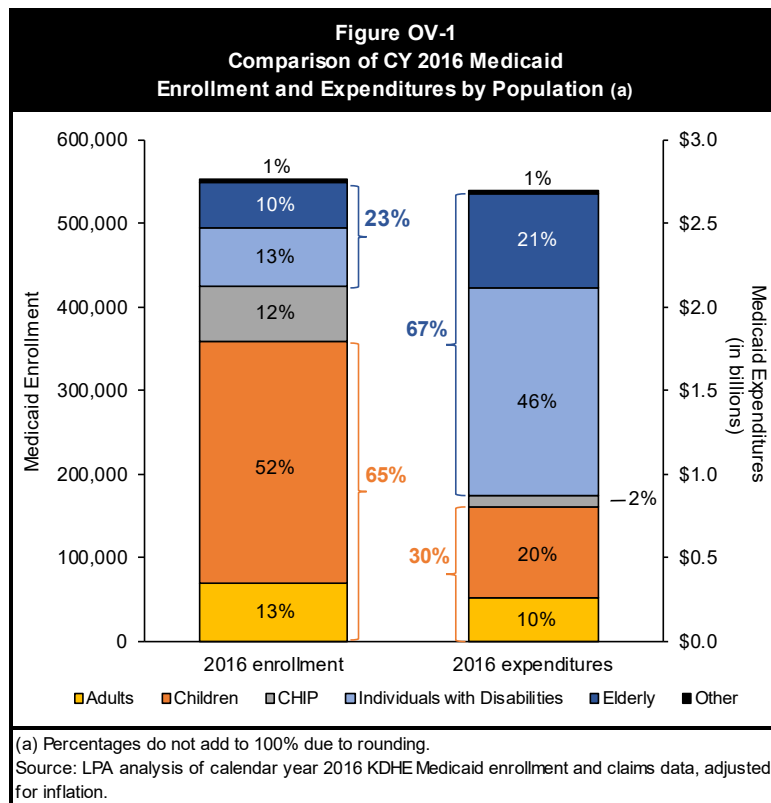
***In 2013, Kansas Implemented KanCare, Bringing the State's Most Costly Beneficiaries Under Managed Care for the First Time***

**States decide whether to administer their Medicaid programs under a fee-for-service or managed care model.** Although CMS oversees states' Medicaid programs, states still have discretion over how to administer their Medicaid programs. One important decision states make is whether to administer their Medicaid programs through a fee-for-service model, a managed care model, or some combination of the two.

- **Under fee-for-service, states are directly responsible for processing and paying Medicaid claims.** Doctors, hospitals, or other providers bill the state directly for medical care delivered to beneficiaries. From there, states process and pay the providers directly. Under this model, states take on the risk associated with paying beneficiary claims. That means states benefit from decreased Medicaid costs, but means they must also cover any cost increases.
- **Under managed care, private health insurance companies called Managed Care Organizations (MCO) are responsible for processing and paying Medicaid claims.** States pay the MCOs a per-member-per-month rate (capitated payment) for beneficiaries on their plan. From there, the MCOs are responsible for processing and paying providers for services obtained by Medicaid beneficiaries. Under this model, the MCOs take on the risk associated with paying beneficiary claims, not the state. Consequently, lower Medicaid costs increase MCO's profits whereas increased costs lower them.

**Kansas implemented KanCare in 2013, which brought individuals with disabilities and the elderly—the state’s most costly Medicaid populations—into the managed care model.**

Prior to KanCare, low-income children and adults were already served under a form of managed care. However, individuals with disabilities and the elderly were served under a fee-for-service model. By 2014, following a one-year transition period for individuals with disabilities, nearly all the state’s Medicaid population, including the elderly and individuals with disabilities were served under KanCare.



Individuals with disabilities and the elderly are much more expensive to serve than other Medicaid beneficiaries. *Figure OV-1* on the previous page compares 2016 enrollment and costs for the six major Medicaid populations. As the figure shows, individuals with disabilities and the elderly only made up 23% of the total Medicaid population in 2016 but accounted for 67% of all Medicaid costs that year. Conversely, children and adults made up 65% of total population in 2016 but only 30% of all Medicaid costs.

**KDHE estimated KanCare would save \$1 billion over its first five years by improving care coordination and beneficiary outcomes, with the largest savings coming from individuals with disabilities and the elderly.** KDHE determined that individuals with disabilities and the elderly presented the largest opportunity for savings under KanCare. It appears this assumption was based on these populations' relative costs and the fact they had never been served under a managed care model. KDHE's goals for KanCare, and the state's plan to achieve those goals, are summarized below.

- **KanCare emphasized increased use of preventative services to avoid expensive emergency services and to help improve health outcomes.** Under KanCare, all beneficiaries must have a primary care physician and receive preventative care services. Proponents of KanCare contend that requiring beneficiaries to receive preventative services will help catch and treat medical conditions before they become a costly emergency. Proponents also suggest consistent preventative care will help improve long-term beneficiary health outcomes.
- **KanCare also emphasized enhanced care coordination to reduce the use of unnecessary medical services.** Before KanCare, some beneficiaries could seek out and receive services they thought were necessary. Under managed care, primary care physicians work with beneficiaries to schedule specialty services.
- **KanCare was intended to improve health outcomes and reduce Medicaid costs.** Through increased use of preventative services and enhanced care coordination, KanCare was intended to reduce the need for expensive or unnecessary medical costs in the future. KDHE officials estimated KanCare would save \$1 billion in Medicaid costs during its first five years, or an average of \$200 million a year.

---

***In 2017, CMS Approved a One-Year Extension of KanCare Through December 2018***

The state must receive CMS' approval to operate its Medicaid program under a managed care model. In 2012, CMS approved an initial five-year term for KanCare, from 2013 to 2017.

**A 2016 CMS audit identified several shortcomings in the State’s management of KanCare.** Among other things, that audit found:

- **KDHE’s oversight of the MCOs had declined since 2013.** The report cited a lack of KDHE review of MCO’s reports, diminished onsite review of MCO performance, and failure to establish clear roles and responsibilities for state employees responsible for administering KanCare.
- **MCOs failed to comply with federal regulations related to person-centered planning for individuals with disabilities.** The audit also found the MCOs either required beneficiaries to sign incomplete person-centered plans, made changes to the plans without beneficiary input, or failed to obtain a beneficiary’s signature. All three could negatively affect the level of care beneficiaries received and are violations of federal requirements.

**CMS approved a one-year extension of KanCare through December 31, 2018 after the state submitted a corrective action plan to resolve CMS’ 2016 audit findings.** In 2016, KDHE requested a one-year extension of KanCare, allowing the program to operate through 2018. CMS initially declined KDHE’s request, citing the negative findings from its 2016 audit of the state’s Medicaid program. KDHE worked with CMS to submit a corrective action plan to address CMS’ audit recommendations. As of October 2017, CMS accepted the state’s plan and approved its request for a one-year extension of KanCare through December 2018.

**It is unclear how the state will proceed with KanCare after December 31, 2018.** In December 2017, KDHE submitted a five-year request to CMS for a new version of KanCare, known as KanCare 2.0. As planned, KanCare 2.0 would implement work requirements for some beneficiaries, foster care pilot programs, an Institutions for Mental Disease (IMD) exclusion waiver, and behavioral health care services. In early 2018, the Governor announced the state would delay seeking CMS approval of KanCare 2.0 until issues with the current KanCare program could be addressed, including the backlog of Medicaid applications. KDHE officials told us their immediate goal is addressing the legislature’s current concerns regarding KanCare.





## Question 1: What Effect Did Transitioning to KanCare have on the State's Medicaid Costs, Services Provided, and Client Health Outcomes?

---

***Factors other than KanCare appear to have kept Medicaid claims costs stable since 2012.*** State payments to the MCOs were less than their Medicaid claim costs in 2013 but exceeded MCO claim costs by about 20% in 2016 (p. 12). We also found that total Medicaid claims costs remained stable after KanCare, although per-person costs decreased by about 9% (p. 14). However, our model results showed that the implementation of KanCare did not appear to have helped contain Medicaid claims costs, implying that other factors helped keep claims costs stable since 2012. (p. 16).

***KanCare increased the use of some Medicaid services, but did not significantly affect Medicaid eligibility requirements, the types of Medicaid services offered, or service coverage.*** KanCare appears to have increased the use of four of the five Medicaid services we could evaluate (p. 17). We also found that implementing KanCare did not affect the state's Medicaid eligibility requirements or services offered under Medicaid, but it changed who provided case management services (p. 22 - 24). Additionally, coverage for most Medicaid services remained the same both before and after KanCare's implementation (p. 24). However, we could not analyze providers' actual capacity to serve Medicaid beneficiaries because KDHE does not require MCOs to submit that data (p. 27).

***Significant data reliability issues prevented us from evaluating KanCare's effect on health outcomes (p. 21).***

***We also had a few other findings as part of this audit related to KDHE's oversight of KanCare.*** KDHE lacked a process to ensure the accuracy of MCO data used to calculate state payments (p. 27). We also found that one managed care organization inappropriately included interest penalties in the claims it submitted to KDHE (p. 29). Additionally, stakeholders expressed concerns over claims processing, administrative burdens, and poor communication under KanCare (p. 30). Finally, KDHE appears to have difficulty providing timely and accurate Medicaid data (p. 30).

---

### **KANCARE'S EFFECT ON MEDICAID COSTS**

---

***We Collected a Significant Amount of Medicaid Data to Perform Two Types of Analyses of KanCare Costs and Services***

We collected about 200 million records related to beneficiary demographics, Medicaid claims costs, service use, and health outcomes. We worked with KDHE officials to identify the type and amount of data needed to complete our analyses of KanCare.

Given the complexity of the state’s Medicaid system, we needed two levels of analysis to ensure we gained a comprehensive understanding of KanCare. Specifically, we used KDHE’s data to perform two types of analysis to determine KanCare’s effect on claims costs and service use: trend analyses and regression analyses.

- **Trend Analyses** allowed us to gain a preliminary understanding of how total Medicaid costs have changed since KanCare’s implementation. Although useful to gain some initial insight on cost and service trends, these analyses cannot isolate KanCare’s effect on cost from other factors, like race, age, and gender.
- **Regression Analyses** allowed us to isolate KanCare’s specific effect on costs from the effect of other contributing factors. Although more complicated than a trend analysis, our regression models allowed us to control for changes in the age, race, gender, and geographic location of Medicaid beneficiaries from 2011 to 2016. This was important because all of these factors—not just the implementation of KanCare—can have a significant effect on Medicaid costs and service use. **Appendix B** of the report contains a complete and technical description of the methodology we used for our regression analyses.

Trend analyses allowed us to determine how costs have changed since KanCare, whereas regression analyses allowed us to better understand why cost have changed since KanCare.

---

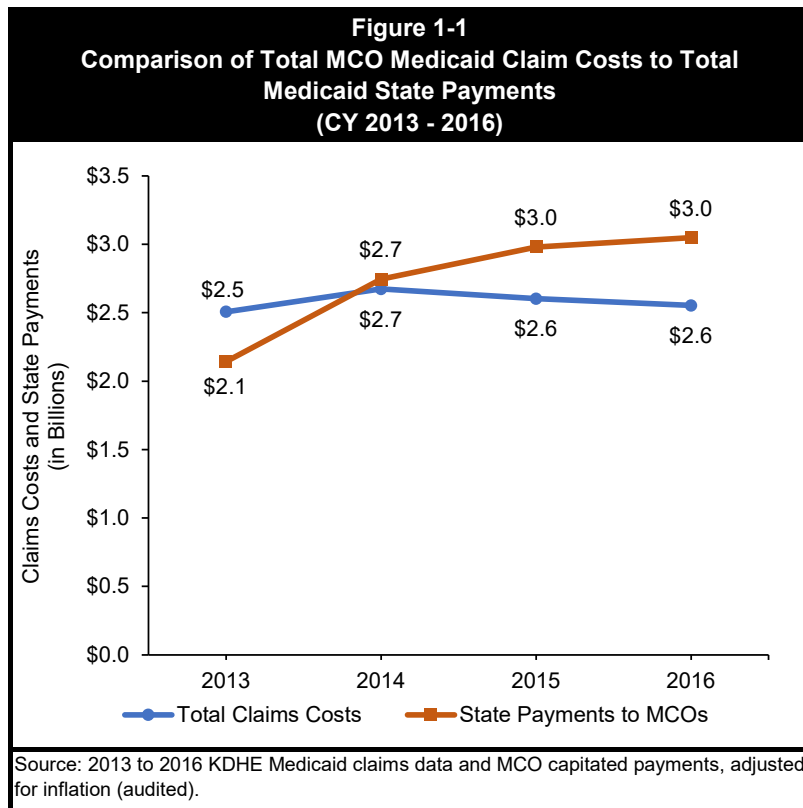
***State Payments to the MCOs were Less Than Medicaid Claim Costs in 2013, but Exceeded MCO Claim Costs by About 20% in 2016***

The first trend analysis we conducted compared the state’s total Medicaid payments to the MCO’s total Medicaid claims costs from 2013 to 2016. State payments include both the federal share and state funding, and cover MCO overhead, profits, and Medicaid claims costs for beneficiaries. We could not compare state payments for Medicaid prior to KanCare because the state did not contract with its current three MCOs prior to 2013. MCO claims costs only include costs associated with care provided to beneficiaries enrolled with one of the three managed care organization (96% of all beneficiaries). Medicaid costs for beneficiaries served outside of managed care are excluded from this analysis. Finally, we used a producer price index for health care services to adjust Medicaid costs for inflation.

**Under KanCare, the state pays three MCOs a per-member-per-month rate for administering the state’s Medicaid plan.** The three MCOs are responsible for processing claims and paying providers for services delivered to Medicaid beneficiaries. In return, the state pays the MCOs a per-member-per-month rate. This “capitated rate” reimburses MCOs for two types of costs: Costs related to provider payments and costs related to MCO overhead and profit. The capitated rates that determine the state’s

Medicaid payments are set through an actuarial analysis performed by KDHE contractors every six months. Those rates are based on both Medicaid claims for beneficiaries as well as financial information reported by the state’s three MCOs. In fiscal year 2017 the state’s share of payments based on the capitated rates was 44% and the federal government covered the remaining 56%. In this section we refer to the total paid to MCOs as “state payments.”

**State payments to the three MCO’s have grown from \$2.1 billion in 2013 to \$3.0 billion in 2016.** Our trend analysis shows that although the state payments did not initially cover the Medicaid claims cost for beneficiaries in 2013, they have steadily increased over time.



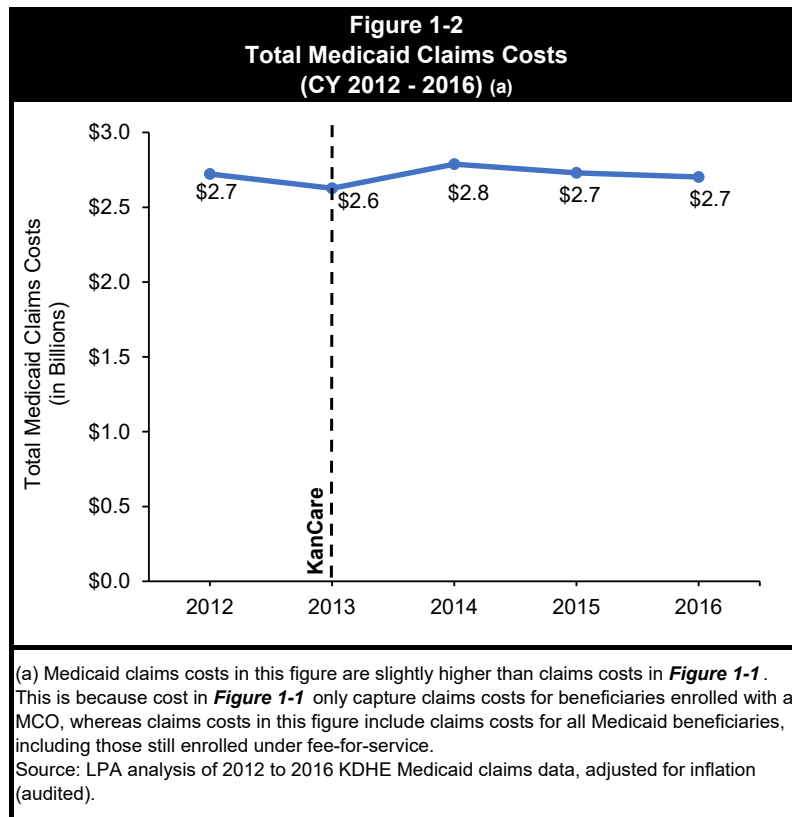
- During KanCare’s first year, state payments to the three MCO’s were about \$400 million less than what the MCOs paid in provider claims. *Figure 1-1* above compares how much the MCOs’ spent on provider claims to the revenue they received from state payments in 2013 to 2016. As the figure shows, the three MCO’s operated under a total loss of about \$400 million during the first year of KanCare. This likely is because KDHE’s actuary had limited historic MCO cost data to calculate MCO payment rates for the first year of KanCare. This was especially true for the elderly and individuals with disabilities. Instead, the actuary relied on estimated MCO costs to calculate the 2013 payments. These initial estimates were low, causing the state to underpay the MCOs in the first year.**

- **However, by 2015 state payments to the three MCOs were about \$400 million more than what the MCOs paid in provider claims.** As *Figure 1-1* shows, MCO revenues from state payments were nearly equal to their Medicaid claim costs in 2014 and exceeded costs by about \$400 million (20%) by 2015 and again in 2016. The 20% difference between state payments and MCO claim costs covers the MCO's overhead costs and profits. This analysis compared total claims costs and state payments across all three MCOs. Individually, each MCO's cost to revenue ratios varied slightly, but overall followed the same trends described above.

Although it is reasonable that state payments to the MCOs would exceed Medicaid claim costs, we were unable to evaluate whether 20% is an appropriate difference.

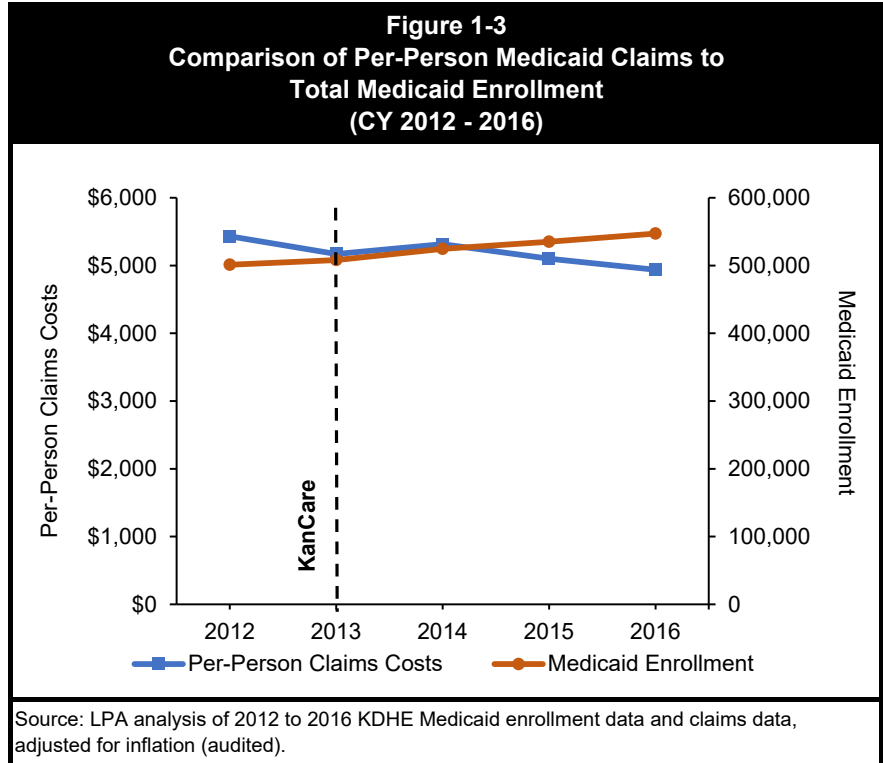
***Total Medicaid Claims Costs Have Remained Stable After KanCare, Although Per-Person Costs Decreased by About 9%***

The second trend analysis we conducted compared total Medicaid claims from 2012 to 2016. This allowed us to compare claims costs before and after KanCare was implemented. Medicaid claims costs in this analysis are slightly higher than the claims costs in the previous section. This is because the previous section only evaluated claims costs for beneficiaries enrolled with a MCO, whereas this and all other sections evaluate Medicaid claims costs for all beneficiaries, including those still enrolled under fee-for-service.



**After adjusting for inflation, beneficiaries’ total Medicaid claims remained stable at about \$2.7 billion before and after KanCare’s implementation (2012 to 2016).** *Figure 1-2* on the previous page shows total Medicaid claims costs from 2012 to 2016, adjusted for inflation. As the figure shows, Medicaid claims costs were about \$2.7 billion in 2012, the year prior to KanCare’s implementation. As the figure also shows, Medicaid claims costs changed very little over the next four years, varying between \$2.6 billion and \$2.8 billion. Based on the results of this analysis, the cost to provide services to beneficiaries changed very little under KanCare.

**Claims costs per person decreased 9% after KanCare’s implementation because of increased enrollment.** *Figure 1-3* below compares per-person Medicaid claims costs to total Medicaid enrollment from 2012 to 2016. As the figure shows, about 500,000 beneficiaries were enrolled in Medicaid in 2012. In 2016, about 40,000 more beneficiaries were enrolled in the state’s Medicaid program. As the figure also shows, increased Medicaid enrollment coincided with a decrease in per-person costs. This is because total Medicaid claims costs remained stable at about \$2.7 billion since KanCare’s implementation. As such, dividing relatively stable claims costs by a growing Medicaid population resulted in about a 9% decline in per-person costs.



**Increased enrollment did not increase Medicaid claims costs because most of the enrollment growth came from children and adults who were less expensive to serve.** Medicaid enrollment for children and adults increased by about 45,000 (14%) in 2016, more than any other Medicaid group. Combined, all other Medicaid groups declined by about 5,000 (-3%) during the same time. Although children and adults accounted for 65% of all Medicaid beneficiaries in 2016, they made up just 30% of all Medicaid claims costs that year. As a relatively low-cost population, adding about 45,000 children and adults to the Medicaid program did not significantly increase total claims costs, but did reduce per-person costs.

---

***Factors Other Than KanCare Appear to Have Kept Medicaid Claims Costs Stable Since 2012***

Having evaluated some general cost trends, we wanted to evaluate KanCare's estimated effect on Medicaid claim costs. To do this, we ran numerous regression models based on several million Medicaid claims from 2011 to 2016. Specific information about our methodology are included in *Appendix B* of the report.

**Our model results showed that the implementation of KanCare did not appear to have helped contain Medicaid claims costs.**

Our in-house statistician designed, ran, and tested several model options before deciding which models to use, ensuring we reported the most appropriate model results for our analysis. The results of our final model are summarized below.

- **Our regression model compared Medicaid costs before and after KanCare was implemented.** We obtained Medicaid claims cost data for one and a half years before (half of 2011 and 2012) and four years after (2013 to 2016) KanCare was implemented to estimate the effect KanCare had on Medicaid claim costs.
- **Our regression model showed that per person Medicaid claim costs were about 20% greater after KanCare was implemented.** The regression analysis isolated costs associated with the implementation of KanCare from other factors, like changes to the gender, race, or age of Medicaid beneficiaries. The model then estimated the effect of all relevant factors on Medicaid claim costs. The model showed that the estimated effect of KanCare on per person costs was a 20% increase. It is likely these additional costs were a result of increased use of certain Medicaid services after KanCare was implemented. However, as discussed in the next section, our ability to conclude on which services were primarily responsible for cost increases was limited due to data reliability issues.

Although the regression results showed an estimated 20% increase in claims costs after KanCare, our trend analysis showed actual Medicaid claims costs have remained stable at about \$2.7 billion since 2012. As discussed below, the other factors controlled by the

regression model (such as age, race, and gender of beneficiaries) likely offset this 20% increase, keeping total claim costs stable.

**Other factors, such as changes in the age, race, and gender of Medicaid beneficiaries likely offset the estimated cost increase after KanCare’s implementation, but we could not isolate their specific effects.** The goal of our regression analysis was to isolate, as much as possible, KanCare’s effect on Medicaid claim costs from these other factors that could also affect costs. For example, decreased enrollment of high-cost Medicaid populations, like the elderly, could also cause Medicaid costs to decline. To control for this and other factors, we designed the regression model to treat KanCare’s effect on cost as the primary variable of interest. Although the regression results imply these other factors, like age, race, and gender, offset KanCare’s cost increase, time restraints prevented us from designing our models to clearly report the unique effect of every other factor. Consequently, although we are confident these other factors offset the claims increase after KanCare’s implementation, we could not isolate or report their individual effects.

**Despite some limitations, our regression analysis is the most appropriate study to evaluate KanCare’s estimated effect on costs and service use.** We did not identify any other KanCare studies that utilized regression to isolate KanCare’s effect on claims cost or service use. For this reason, we believe our analysis produced the most appropriate results available to evaluate KanCare’s estimated effect on these variables. However, it is possible that state, federal, and other policy changes made since 2013 could influence the results of our regression analysis. For example, KDHE officials reported changes to the reimbursement rate for sleep cycle support under the state’s HCBS program January 2016. These increased rates could be captured in the regression results and could be attributed to KanCare. Additionally, the data reliability issues discussed above could also have some effect on the regression results. Although they are potential limitations, we do not believe they are significant enough to affect the overall conclusions of this section.

---

## **KANCARE’S EFFECT ON MEDICAID SERVICE USE**

---

***KanCare Appears to Have Increased the Use of Four of the Five Medicaid Services We Could Evaluate***

**We also used regression analysis to isolate the effect KanCare had on beneficiaries’ use of five major Medicaid services.** We originally wanted to evaluate all 12 major Medicaid services, but significant data reliability issues prevented us from evaluating seven of those services. The five remaining services we could evaluate included three preventative and two non-preventative services.

- Primary care measures beneficiary visits to physicians, internalist, specialists, and other medical services. [preventative service]
- Behavioral health measures beneficiary use of addiction, counseling, and other mental health services. [preventative service]
- Dental measures beneficiary use of preventative and some restorative dental procedures. [preventative service]
- Nursing facility measures the number of days beneficiaries' stay in a nursing facility for the elderly. [non-preventative service]
- Inpatient care measures the number of days beneficiaries are admitted in a hospital. [non-preventative service]

Like the regression models we used to evaluate cost, our regression models for service use attempt to isolate the effect of KanCare apart from all other relevant factors, such as the age, gender, and race of Medicaid beneficiaries. However, as was the case above, it is possible that state and federal policy changes made since 2013 could influence the results of our regression analysis.

**KanCare increased the use of three preventative services, which was consistent with the expectations of a managed care model.** The regression results showed that beneficiaries' use of primary care, dental, and behavioral health services increased by 8% to 45% since KanCare was implemented. *Figure 1-4* on the next page summarizes KanCare's effect on service use for the five services we reviewed. As the figure shows:

- **Use of primary care services increased by 45% since KanCare's implementation.** KDHE's definition of primary care is broad, and includes several types of preventative services, including those provided by physicians, internalist, and specialists. Use of all these services could prevent the need for more intensive services in the future.
- **Use of behavioral health services increased by 8% since KanCare's implementation.** Behavioral health includes counseling, addiction, and other services that could help prevent the need for more intensive services in the future.
- **Use of dental services increased 15% since KanCare's implementation.** Dental includes preventative cleanings for children and other services which if utilized could prevent the need for more intensive dental services in the future.

The use of these preventative services has increased since KanCare's implementation, implying more beneficiaries are receiving these service because of KanCare. This is consistent with KanCare's goal to increase preventive services for Medicaid beneficiaries.



**Figure 1-4  
Summary of Regression Results for  
Medicaid Service Use**

Service Category	CY 2016 Medicaid Claims Costs	<u>Isolated</u> Effect of KanCare on Service Use
Primary Care	\$130,688,721	45%
	5%	
Dental	\$54,063,180	15%
	2%	
Behavioral Health	\$209,491,430	8%
	8%	
Inpatient	\$383,910,244	2%
	14%	
Nursing Facility	\$416,215,081	16%
	15%	
<b>Seven Services We Could Not Evaluate (a): HCBS, Transportation, Vision, Outpatient ER, Prescription Drug, Federally Qualified Health Centers, and Outpatient Non-ER</b>	\$1,507,649,031	Could Not Determine
	56%	
<b>Total</b>	<b>\$2,702,017,687</b>	<b>Could Not Determine</b>
	<b>100%</b>	

(a) Estimated costs is the difference between total program costs and the five services we could evaluate.  
Source: LPA analysis of 2011 to 2016 KDHE Medicaid Claims Data, adjusted for inflation (audited).

**KanCare had little to no effect on inpatient care, implying its emphasis on preventative care did not reduce beneficiaries' time in a hospital.** Inpatient care reflects the number of days beneficiaries are admitted in a hospital. With an increased emphasis on preventative care, we expected the number of days beneficiaries' stay in the hospital to decrease after KanCare's implementation. However, the regression results showed the number of inpatient care days increased slightly (2%) after KanCare's implementation. Consequently, it appears that moving the state's most expensive beneficiaries (i.e. the elderly and individuals with disabilities) from a fee-for-service model to managed care did not help reduce the need for inpatient care as intended.

**KanCare’s increased use of nursing facility care, which was not consistent with the expectations of a managed care model.** KDHE defines nursing care as a skilled nursing facility for the elderly. Although KanCare changed how care is managed, it did not change the number of elderly beneficiaries served in nursing facilities. Additionally, as a form of long-term care, we did not expect KanCare’s focus on preventative care to have a significant effect on beneficiaries’ use of this service. However, the regression results showed nursing facility service use increased by 16% after KanCare’s implementation. It was not immediately clear to us or KDHE officials the reason for this increase, but it is clearly inconsistent with KanCare’s goal to reduce Medicaid costs for the elderly through increased care coordination.

**Data reliability issues and a significant policy change prevented us from evaluating seven other major Medicaid services.** We reviewed the 12 Medicaid service datasets to ensure their overall reliability.

- **We were unable to evaluate six Medicaid services because of data limitations.** Our review showed five services contained significant outliers or inaccuracies that prevented us from using them. For example, prescription drug costs fluctuated between \$24 million and \$1.4 million between the first and third quarter of 2013. KDHE officials told us these differences were due to inconsistent coding and reporting by the MCOs. Although the prescription drug data had the most significant errors, four other services (transportation, federally qualified health centers, vision, and outpatient emergency room services) also contained inaccurate data that prevented us from using the data in the regression analysis. Finally, we were unable to evaluate a sixth service (non-emergency room services) because we lacked reliable data for related services such as emergency room use.
- **We were unable to evaluate Home and Community Based Services (HCBS) because of policy changes in how time was billed for that program.** The state’s HCBS program serves individuals with disabilities, the elderly, and other beneficiaries with specific medical or behavioral conditions in a home and community setting rather than in an institution. KDHE officials told us that policy changes in 2014 changed how time was billed for services for the Intellectual and Developmental Disability waiver. For example, homecare services went from being billed daily to hourly. As a result, the data we received from KDHE contained both daily and hourly utilization data, preventing us from making a meaningful comparison of HCBS utilization. Although we could calculate change in cost for HCBS, we were unable to conclude on the results of the cost analysis without the utilization data.

---

## KANCARE'S EFFECT ON MEDICAID OUTCOMES

---

***Significant Data  
Reliability Issues  
Prevented us from  
Evaluating KanCare's  
Effect on Health  
Outcomes***

In addition to an evaluation of KanCare's effect on Medicaid costs and services, our audit objective also required us to evaluate KanCare's effect on health outcomes for Medicaid beneficiaries. However, a lack of sufficiently detailed and reliable data prevented us from performing this analysis.

**The Kansas Foundation for Medical Care's health outcome data lacked sufficient detail for us to evaluate KanCare's isolated effect on Medicaid health outcomes.** As the state's external quality review organization for Medicaid, the Kansas Foundation for Medical Care (the Foundation) is responsible for validating and analyzing various data to measure the quality of the state's Medicaid program. As part of that review, the Foundation reviews the state's Healthcare Effectiveness Data and Information Set. Although this data measures some health outcomes of the Medicaid population, it is not maintained on a per-person basis, which was needed to evaluate the isolated effect of KanCare on beneficiaries' health outcomes. Consequently, we worked with KDHE officials to obtain individual Medicaid claims related to beneficiaries' health.

**KDHE's health outcomes data was unreliable for five of the seven datasets we collected, which prevented us from analyzing the isolated effect of KanCare on Medicaid health outcomes.** We worked with KDHE to identify and collect data that reflected beneficiaries' health outcomes, including the number of preventative screenings, hospital readmission, and avoidable hospital admissions (e.g., diabetes, asthma, etc.) beneficiaries received. KDHE's data was on an individual basis and would have been suitable for our regression analysis. However, our review of this data uncovered significant errors in five of the seven datasets. For example, the number of avoidable admissions fluctuated by about 400% (from about 4,000 to 20,000) from 2011 to 2012. These inaccuracies were likely the result of difficulties KDHE had in correctly pulling data from its complex Medicaid systems. We did not have sufficient time to correct the errors we identified and ultimately decided we lacked sufficient evidence to conclude on KanCare's effect on beneficiary health outcomes.

---

## KANCARE'S EFFECT ON MEDICAID ELIGIBILITY, OFFERED SERVICES, AND COVERAGE LEVELS

---

### ***Implementing KanCare Did Not Affect the State's Medicaid Eligibility Requirements***

We reviewed the state's Medicaid plan and interviewed officials from KDHE and CMS to determine whether KanCare had any effect on Medicaid eligibility requirements.

**Individuals must meet specific demographic, income, citizenship, and other requirements to be eligible for Medicaid benefits in Kansas.** States and the federal government develop criteria that applicants must meet to be approved for Medicaid benefits. In Kansas, applicants must meet certain demographic categories, such as being a child, a parent, an individual with disabilities, or elderly to be eligible for Medicaid benefits. Additionally, some applicants may be required to meet income requirement based on federal poverty guidelines. Federal income requirements in 2016 varied from about \$12,000 for a one-person household to about \$41,000 for an eight-person household. Other applicants are held to resource requirements based on their total held assets. Finally, applicants in Kansas are also required to be United States citizens and Kansas residents.

**Our review of the state's Medicaid plan showed KanCare did not change Medicaid eligibility requirements.** KDHE officials we spoke to were not aware of any changes to the state's eligibility requirements caused by KanCare. However, CMS told us any eligibility changes would be documented in the state's Medicaid plan. Specifically, federal regulations require all the state's Medicaid eligibility rules be documented in the state's Medicaid plan and be approved by CMS. Additionally, any changes to the state's Medicaid plan must also be approved by CMS and documented as an amendment to the state plan. We reviewed the state's plan and its amendments to determine if any changes to the state's eligibility rules were made after KanCare's implementation in 2013. We saw no evidence of eligibility requirements changing because of KanCare.

**The Affordable Care Act made some minor changes to the state's Medicaid eligibility criteria in 2014.** Specifically, income eligibility under the Act was determined using a new modified adjusted gross income method. This affected eligibility determination for children, pregnant women, and parents. However, these changes were because of the Act, not KanCare. CMS reported these changes were minor and should not have significantly affected Medicaid eligibility in the state, but we did not do any work to verify this statement.

---

***KanCare Did Not Significantly Affect Services Offered under Medicaid, but Did Change Who Provided Case Management Services***

We reviewed the state's Medicaid plan and interviewed officials with the Kansas Department of Aging and Disability Services, KDHE, and CMS to determine whether KanCare affected the types of Medicaid services offered to beneficiaries.

**CMS' special terms and conditions for KanCare required the state to offer, at a minimum, the same types of services as before KanCare.** CMS' special terms and conditions established about 100 different program requirements related to its approval of the state's KanCare program. Among other things, CMS required the state to maintain, at a minimum, the same types of services it offered prior to KanCare. Based on CMS regulations, the state could add services as part of its transition to KanCare but was prevented from reducing or eliminating them.

**KanCare did not significantly change the services offered under the state's Medicaid program, but added a few services not previously available to beneficiaries.** The additional services that became available under KanCare are described below.

- **Beneficiaries receive annual dental cleanings and a few other services from the MCOs that would not be available without KanCare.** Most notably, these value-added benefits include preventative dental cleanings for adults, which were not covered prior to KanCare. They also include other benefits, such as weight loss program memberships and access to community programs for youth. The MCOs provide these services to their members at no cost to the state.
- **It is possible that services related to transplant and bariatric care were added in part because of KanCare.** We identified amendments to the state plan after 2013 that allowed specific organ transplant and bariatric surgery (aids in weight loss) to be covered by the state's Medicaid program. KDHE officials told us they were unsure exactly why these services were added but told us that including these services under KanCare's capitated rate system likely influenced the state's decision to add them. However, we could not verify these claims.

**KanCare changed who provides case management services to beneficiaries.** Prior to KanCare, beneficiaries who relied on mental health, aging, or disability services were eligible to receive targeted case management under the state's Medicaid plan. Targeted case management helped beneficiaries and their families evaluate and monitor their needed services. Under KanCare, the function of targeted case managers was transferred to managed care coordinators assigned by the MCOs. Stakeholders we spoke to told us this transition may have been disruptive to beneficiaries and their families because the new case coordinators may not have been familiar with beneficiaries' cases or may not have been local.

The only exceptions to this rule were for individuals on the Intellectual and Developmental Disability waiver and individuals with severe and persistent mental illness, who in addition to being assigned a MCO care manager, were allowed to retain their targeted case managers.

---

***Coverage for Most Medicaid Services Remained the Same Before and After KanCare's Implementation***

MCOs contract with networks of medical, behavioral, and other specialty providers across the state to deliver care to Medicaid beneficiaries. It is the MCOs' responsibility to contract with enough providers to ensure beneficiaries have adequate access to medical care across Kansas. We evaluated KDHE's Medicaid provider data to determine the adequacy of current MCO provider networks compared to Medicaid networks prior to KanCare.

**KDHE places limits on how far Medicaid beneficiaries must travel to access 29 Medicaid services across the state, which we refer to as coverage requirements.** KDHE developed coverage requirements for 29 Medicaid services. These requirements establish the maximum distance a beneficiary should have to travel to reach a Medicaid provider's office. This distance varies by service and by county type (i.e., urban or rural). For example, a beneficiary should have to travel no more than 20 miles to reach a primary care physician in an urban county, and 30 miles in a rural county. Generally, KDHE allows greater distances for specialty services and in rural counties. Throughout this section, we refer to these distance standards as coverage requirements.

**With a few exceptions, network coverage for Medicaid services did not change significantly after KanCare was implemented.** *Figure 1-5* on the next page compares provider network coverage for 29 services before (2012) and after (2016) KanCare's implementation. Coverage for these services are based on KDHE's requirements for how far beneficiaries must travel for service in urban and rural counties described above. As the figure shows, most services covered about the same proportion of the state after KanCare as it did before KanCare (within 5%). Specifically, coverage for 21 of 29 services (72%) in urban counties, and 19 of 29 (66%) services in rural counties, changed by 5% or less after KanCare's implementation.

However, coverage for a few services did change significantly. For example, as *Figure 1-5* shows, plastic surgery networks covered 23% less of the state's urban counties, but 16% more of the state's rural counties after KanCare. Although coverage for a few other services changed more than 5%, those changes did not significantly affect network coverage adequacy for those services.

**Figure 1-5  
Provider Network Coverage Based on KDHE Network Requirements  
(CY 2012 and 2016)**

Urban Counties				Rural Counties			
Services	% Coverage (a)		% Change	Services	% Coverage (a)		% Change
	Pre-KanCare (2012)	Post-KanCare (2016)			Pre-KanCare (2012)	Post-KanCare (2016)	
Hospital	100%	100%	0%	General Surgery	100%	100%	0%
Optometry	100%	100%	0%	Hospital	100%	100%	0%
Primary Care Providers	100%	100%	0%	Internal Medicine	100%	100%	0%
Ophthalmology	90%	99%	9%	Ophthalmology	100%	100%	0%
Physical Therapy	99%	99%	-1%	Primary Care Providers	100%	100%	0%
Internal Medicine	98%	99%	1%	Retail Pharmacy	100%	100%	0%
General Surgery	97%	98%	1%	Orthopedics	100%	97%	-3%
Dental Primary Care	98%	95%	-3%	Otolaryngology	96%	97%	1%
Orthopedics	97%	95%	-2%	Cardiology	100%	96%	-4%
Urology	88%	93%	4%	Urology	96%	96%	0%
Otolaryngology	89%	92%	3%	Optometry	91%	95%	4%
Cardiology	93%	92%	-2%	Psychiatrist	85%	94%	9%
Neurology	89%	91%	1%	Dermatology	94%	93%	-1%
Lab	88%	90%	2%	Hematology/Oncology	100%	93%	-7%
Podiatry	88%	90%	2%	Nephrology	96%	93%	-2%
Occupational Therapy	86%	85%	0%	Neurology	78%	93%	15%
Psychiatrist	82%	84%	3%	Allergy	86%	92%	6%
Hematology/Oncology	90%	84%	-6%	Pulmonary Disease	100%	91%	-9%
X-Ray	85%	83%	-2%	OB/GYN	95%	90%	-5%
Pulmonary Disease	83%	79%	-5%	Dental Primary Care	95%	89%	-6%
Dermatology	65%	77%	12%	Podiatry	73%	88%	15%
OB/GYN	80%	77%	-3%	Physical Medicine	89%	86%	-3%
Gastroenterology	85%	76%	-10%	Gastroenterology	88%	78%	-9%
Nephrology	82%	75%	-7%	Plastic Surgery	59%	76%	16%
Retail Pharmacy	73%	74%	0%	Physical Therapy	67%	65%	-2%
Physical Medicine	84%	71%	-13%	Neonatology	66%	62%	-4%
Allergy	81%	70%	-11%	X-Ray	21%	39%	18%
Plastic Surgery	78%	55%	-23%	Occupational Therapy	32%	37%	5%
Neonatology	47%	45%	-2%	Lab	34%	35%	1%

Legend
100%
90 - 99%
80 - 89%
70 - 79%
60 - 69%
50 - 59%
<50

(a) These numbers are an average of each MCOs coverage of urban and rural counties.  
Source: LPA Analysis of KDHE 2012 and 2016 Provider Network Data (audited).

**In 2016, about half of the 29 Medicaid service networks we evaluated covered 80% to 99% of the state based on KDHE’s requirements.** As *Figure 1-5* shows, only three services in urban counties and six services in rural counties covered 100% of the state based on KDHE’s requirements in 2016. However, as the figure also shows, about half (16 of 29) of the services in rural and urban counties still covered 80% to 99% of the state based on KDHE’s requirements. In these cases, provider networks fell slightly below the state’s requirements, which could result in some minor to moderate coverage gaps across the state.

**Six service networks covered just 35% to 65% of the state based on KDHE's requirements.** It appears the state's Medicaid provider networks have historically had problems maintaining adequate coverage for these services. As noted below, it is possible reporting issues with two of these services (lab and x-ray) may undercount coverage for these services.

- **Neonatology and plastic surgery networks covered 55% or less of the state based on KDHE's requirements for urban counties in 2016.** As *Figure 1-5* shows, provider networks for neonatology and plastic surgery covered just 45% and 55% of the state based on KDHE's requirements for urban counties respectively. In these cases, the MCOs provider networks are significantly below the state's requirements, resulting in significant coverage gaps across the state.
- **Physical therapy, occupational therapy, neonatology, lab services, and x-ray services networks covered 65% or less of the state based on KDHE's requirements for rural counties in 2016.** As *Figure 1-5* shows, provider networks for neonatology was also an issue for rural counties, as networks covered just 62% of the state based on KDHE's requirements for this service. Additionally, provider networks for physical and occupational therapy were also poor, as they covered just 65% and 37% of state, respectively. However, it was unclear if x-ray and lab services were also counted under hospital services. KDHE's guidance requires these services be reported separately from hospitals, but it is possible the MCOs may have reported them together. This would make coverage for lab and x-ray appear much worse than it really is.
- **Provider networks for five of these six services also had poor coverage prior to KanCare's implementation.** As *Figure 1-5* shows, provider network coverage for all five services in rural counties was also very low before KanCare, covering 34% to 67% of the state based on KDHE's requirements. Similarly, provider networks for neonatology in urban counties was also very low, covering just 47% of the state before KanCare. The only exception was plastic surgery in urban counties, which covered 78% of the state based on KDHE's requirements in 2012 before covering just 55% of the state in 2016. In general, these coverage levels indicate the state has historically struggled to attract or maintain medical professionals for these services, especially in rural parts of the state.

**The data the MCO's submit to KDHE had duplicative, missing, and outdated provider information.** We identified several cases where the same provider was listed multiple times in the provider data. KDHE officials also told us it is difficult to keep the provider list up-to-date and may contain providers who no longer accept Medicaid beneficiaries. We took steps to clean the data and believe it is reliable for our audit, but it is possible some duplication or outdated information remains which could have a minor influence on our results.



---

***We Could Not Analyze Providers' Actual Capacity To Serve Medicaid Beneficiaries Because KDHE Did Not Require MCOs to Submit That Data***

**We could not evaluate MCO network capacity because KDHE has not consistently required MCOs to report this data.** We evaluated the MCO's geographic provider coverage for specific services based on KDHE's network requirements. However, historically, KDHE only required the MCOs report the number and location of providers in their networks, not the number of Medicaid clients they serve or could serve. Because it was not required, the three MCOs did not report providers' capacity to serve additional Medicaid beneficiaries. Capacity is important because some providers may only accept a limited number of Medicaid beneficiaries, while others may already have full patient loads. As a result, providers may be listed as available across the state, but unable to serve any additional beneficiaries. In late 2016, KDHE officials told us they began requesting capacity data from the MCOs. However, KDHE officials told us the data they received was not always current or complete.

**Starting in July 2018, new CMS regulations will require states to assess MCO networks' capacity to serve Medicaid beneficiaries.** In 2016, CMS issued a new Medicaid managed care rule which introduced new regulations on Medicaid programs administered through managed care plans. Among other things, states will be required to evaluate whether MCO provider networks have enough providers to ensure certain services are available in a geographic area. This requirement will go into effect in July 1, 2018. KDHE officials told us they plan to have Medicaid providers enroll in the state's Kansas Medical Assistance Program portal. They further said providers will be able to log in to the portal and update capacity-related information.

---

**OTHER FINDINGS**

---

***KDHE Lacks a Process to Ensure the Accuracy of MCO Data Used to Calculate State Payments***

We interviewed officials with the Kansas Department of Health and Environment (KDHE) and one of the state's contractors in charge of processing MCO claims, to determine what controls the state has in place to ensure the validity of the claims data MCOs submit to the state. Claims data must be accurate to ensure future state payments to the MCOs are correct.

**MCOs submit claims data to KDHE, which is used to calculate future state payments to the MCOs.** Medicaid providers bill the MCOs for services delivered to Medicaid beneficiaries. In turn, the MCOs are responsible for processing and paying provider claims. The MCOs must periodically report claims data to KDHE, including which services were paid for, and the total amount the MCOs paid to its providers. This information is self-reported by the MCOs and submitted to KDHE for their review. It is critical

that the MCOs claims data are accurate because this data is ultimately used by the state's actuary to calculate future MCO capitated payments.

**Although KDHE has a process to ensure MCOs claims are allowable, they lack a process to ensure they are accurate.** We interviewed KDHE and contractor staff to understand what processes exist to verify the accuracy of MCO claims data.

- **KDHE and DXC use the state's Medicaid Management Information System to ensure MCO payments are allowable.** Although the MCOs pay providers' claims directly, the state's claims processing contractor, DXC, maintains records of those payments in the state's Medicaid Management Information System (the system). KDHE and DXC officials explained a process by which the system compares reported payments against the state's maximum allowed amount for each service, ensuring data submitted to the actuary represents allowable costs under the state's Medicaid plan.
- **KDHE does not have a process to ensure reported costs accurately reflect MCOs actual costs.** We expected KDHE to have a process to check a sample of MCO reported costs against original provider claims to verify the accuracy of reported costs. KDHE and DXC officials told us no such process exists. KDHE officials told us it was unlikely MCOs could overreport their costs because it would require them underpaying providers. KDHE officials told us providers would alert them to these issues. However, one stakeholder we interviewed mentioned underpaid claims being an issue for the providers they represent. Because this control does not exist, we compared a small judgmental sample of MCO reported costs to provider claims to ensure costs were accurate.

**We compared a judgmental sample of 19 provider claims from two Medicaid providers against MCO reported costs and found no significant discrepancies.** These 19 claims showed how much the MCOs actually paid the providers. We worked with DXC staff to compare the actual paid amount in each claim to what the MCOs reported to KDHE. In all but one case, the paid amounts matched MCO reported costs. In the one exception, the paid amount exceeded what the MCO reported to KDHE. Although inaccurate, this type of error would not inappropriately increase the MCO's capitated payment rates.

Although our review of 19 claims did not uncover instances of improper reporting, this was a very small, non-representative sample of claims. As such, there is still a risk that MCOs could improperly report costs to KDHE, resulting in incorrect state payments to the MCOs. KDHE could compare a larger, more representative sample of provider claims to MCO reported costs to help reduce this risk.

---

***One Managed Care Organization Inappropriately Included Interest Penalties in the Claims It Submitted to KDHE***

To encourage prompt payment of claims, K.S.A. 39-709(f) requires MCOs pay interest to providers on valid claims not paid within 30 days. However, MCOs should not include these interest payments in the data they submit to KDHE to avoid inappropriately inflating claims costs and therefore future state payments to the MCOs.

**We verified one MCO, Sunflower, improperly included interest payments in the claims data it submitted to KDHE.** We interviewed officials from all three KanCare MCOs to determine how they handled interest payments. Officials from Amerigroup and United told us they did not include interest paid in claims submitted to KDHE. However, officials from Sunflower told us they did report interest paid in their claims data. To confirm this information, we asked each MCO to submit five late claims on which they paid provider interest. We compared the fifteen total claims against data in the state's system. The claims data did not include interest amounts for Amerigroup or United but did include interest amounts for Sunflower. It is important to note that although we did not find interest included in the claims for Amerigroup or United, our data was based on a non-representative sample of self-reported data.

MCO officials we spoke to had different understandings of whether or how to report interest payments to KDHE. It is possible clear guidance from KDHE, along with continued monitoring of MCO claims, could help prevent this issue from occurring in the future.

**Including interest in its claims payments may have inappropriately inflated state payments to Sunflower.** Interest payments on the fifteen claims we reviewed were typically only a few dollars. However, in total the three MCOs reported they paid about \$1.8 million (about \$500,000 to \$700,000 each) in interest payments since 2014. KDHE's contracted actuary uses past claims to calculate future MCO payments. Because Sunflower included interest payments on its claims totals, it is possible those interest payments were also included in the actuary's capitated payment calculations. KDHE officials told us they were not aware of this issue until our report but would begin addressing it with the three MCOs immediately.

---

***Stakeholders Expressed Concerns Over Claims Processing, Administrative Burdens, and Poor Communication Under KanCare***

**We interviewed nine associations that represent a variety of Medicaid providers and customers to collect their thoughts on KanCare.** Those associations included the Kansas Hospital Association, the Kansas Medical Society, Interhab, the Kansas Health Care Association, the Kansas Advocates Network, the Kansas Optometric Association, Kansas Action for Children, and the Kansas Dental Association, and the Kansas Council for Intellectual and Developmental Disabilities.

- **Seven of nine stakeholders told us they were concerned about the timeliness or accuracy of claims payments, although three told us these issues had improved since KanCare was implemented.** Seven out of nine stakeholders told us provider submitted claims were improperly denied, inaccurately reimbursed, or were not paid timely. Not receiving timely or accurate payments can be problematic for providers because their businesses depended on revenue from these claims. Three stakeholders told us that although payment delays or inaccurate reimbursements continue, they have improved since the beginning of KanCare.
- **Four of nine stakeholders told us claims processing issues resulted in increased administrative burdens for providers under KanCare.** Stakeholders told us that MCOs sometimes pay more or less than what providers billed for services. In both scenarios, providers must work with the three MCOs to be reimbursed the correct amount. Stakeholders told us that prior to KanCare, the state was responsible to ensure claims were paid accurately. Upon KanCare's implementation, that responsibility shifted to providers. Four stakeholders told us this creates additional administrative work for Medicaid providers.
- **Four of nine stakeholders mentioned communication issues between providers, the MCOs, or the state.** One stakeholder group told us communication has become difficult for providers under KanCare because providers have to work with three different health care organizations (Amerigroup, Sunflower, and United) and two state agencies (Kansas Department of Health and Environment and the Kansas Department of Aging and Disability Services). Poor communication between providers and both the state and MCOs can make it difficult for providers to express their concerns and address potential issues. However, officials from the Kansas Optometric Association told us they were satisfied with the MCOs performance and communication under KanCare.

---

***KDHE Appears to Have Difficulty Providing Timely and Accurate Medicaid Data***

Four of the same nine stakeholders we interviewed also mentioned issues regarding the timeliness and accuracy of Medicaid data requests. Their concerns, along with our experience obtaining Medicaid data during this audit, are summarized below.

**Four of nine stakeholders we interviewed expressed concerns over the timeliness or accuracy of Medicaid data requested from KDHE.** Four stakeholders told us they had concerns about the accuracy of the data they received from KDHE. Two of those four told us they had better experiences with data requests prior to KanCare’s implementation. In addition, one stakeholder expressed concern about the timeliness of the state’s response for their previous data requests.

**We had similar experiences attempting to get accurate data from KDHE during this audit, which delayed our evaluation.** As discussed in previous sections, this audit required KDHE to provide a significant amount of Medicaid data. We acknowledge that the size and complexity of our requests created unique challenges for KDHE staff. However, it was several months before we received our complete data request. Further, once obtained, we discovered significant inconsistencies with the data, only some of which KDHE staff were able to remedy through subsequent data submissions. KDHE officials told us data submitted by the MCOs was inconsistent, resulting in some of the types of errors we identified. Regardless of the cause, these kind of data inaccuracies makes it difficult for us, KDHE, or any other stakeholder, to evaluate the performance of KanCare and its three MCOs.

**Several complicating factors hinder KDHE’s ability to produce accurate or timely data.** KDHE officials told us the three MCOs have been inconsistent in how they code and report claims. This, coupled with the enormous number of Medicaid claims KDHE receives, makes it difficult to produce accurate, systemwide Medicaid reports. Additionally, it requires extensive knowledge and understanding of the state’s Medicaid program and data analytics to accurately query KDHE’s Medicaid data in a timely manner. During our audit several KDHE staff, including one of their primary data analysts, left KDHE. This turnover likely resulted in a loss of institutional knowledge of the state’s Medicaid system, contributing to some of the delays and data issues we experienced as part of this audit.



## Conclusion and Recommendations

---

### **Conclusion**

Although state payments to the three MCOs has increased steadily since 2013, Medicaid claim costs for beneficiaries have remained stable—and even decreased slightly on a per-person basis—during that same time. However, our analyses suggest that KanCare is not responsible for containing claims cost. Rather, our analyses estimate that both claims costs and service use increased since KanCare’s implementation in 2013. As such, it is likely that other factors such as the age, race, and gender of Medicaid beneficiaries have offset these increases to keep actual claims costs stable.

A lack of reliable Medicaid data limited our ability to fully conclude on KanCare’s effect on Medicaid costs and service use, and entirely prevented an analysis of its effect on health outcomes. Several factors appear to contribute to this problem. Those include inconsistencies in how Medicaid data is coded and reported, the large and complex amount of Medicaid data maintained, and challenges related to retaining employees with both a thorough understanding of how Medicaid works and how to appropriately summarize Medicaid data.

---

### **Recommendations**

#### **Kansas Department of Health and Environment**

1. To address issues related to inaccurate Medicaid claims data (pages 30 - 31), KDHE should:
  - a. set clear expectations and provide feedback to the MCOs on how to code and report claims data.
  - b. develop a process to periodically query and review reported claims data to ensure the data is accurate, complete, and reliable enough to be used for management and policymaker decisions.
  - c. consider allocating additional staff resources and training dedicated to querying and assessing the accuracy of MCO claims data.
  - d. consider contractual penalties against the MCOs if they continue to submit inaccurate or inconsistent data.
2. To address the issue related to a lack of network capacity data (page 27), KDHE should:
  - a. continue working with CMS to develop specific provider capacity requirements as part its new network access standards.

- b. begin collecting and evaluating provider capacity data by CMS' July 2018 deadline.
3. To address the issue of a lack of controls to ensure MCOs' self-report costs reflect their actual costs (page 27), KDHE should develop a controls process to compare a sample of provider claims or remittance receipts against MCOs submitted cost data.
4. To address the issue related to MCO interest payments being inappropriately included in the MCO self-reported costs (page 29), KDHE should:
  - a. set clear expectations with all three MCOs to ensure interest is no longer reported in claims data.
  - b. review a robust sample of claims for all three MCOS to identify the extent to which interest has been included in MCO submitted claims data since KanCare was implemented in 2013.
  - c. work with its contracted actuary to determine the extent to which including interest in the MCO claims data has inflated the rates used to calculate state payments to the MCOs.
  - d. consider reimbursement from the MCOs if it finds that including interest in the claims data resulted in the state overpaying the MCOs.



## APPENDIX A Agency Response

On April 2, 2018 we provided copies of the draft audit report to the Kansas Department of Health and Environment. The department generally concurred with the audit's findings and recommendations but expressed concerns with the results of some of our analyses. We worked with KDHE officials and edited our draft language to address several of their concerns. Ultimately, agency officials had some remaining concerns about our analysis, which is included in the department's formal response. The department's concerns, and our response to those concerns, are summarized below.

- **KDHE officials were concerned that we could not account for specific state, federal, and other Medicaid policy changes made during our research period.** According to KDHE officials, not accounting for these program changes could have inflated our estimate of KanCare's effect on Medicaid costs. We agree with KDHE officials that we were unable to account for these changes. We also agree that it is possible these changes could have affected our results by either over or underestimating KanCare's effect on costs. However, as noted in the report, although this represents a potential limitation, we did not believe it was significant enough to affect the overall conclusions of our analysis.
- **KDHE officials were concerned that we could not account for any increases in high cost claims that occurred during our research period.** According to KDHE officials, not accounting for increases in the number of high cost claims could have inflated our estimate of KanCare's effect on Medicaid costs. We agree we did not specifically control for increases in high costs claims during our research period. However, our review of KDHE's Medicaid claims data showed no significant changes in the frequency or amount of high costs claims (i.e., claims that exceeded \$100,000) during our research period. As such, we do not believe high cost claims significantly affected the results of our analysis.

KDHE's full response is included as this Appendix. Following the agency's written response is a table listing the department's specific implementation plan for each recommendation.

STATE OF KANSAS

DEPARTMENT OF HEALTH AND ENVIRONMENT  
CURTIS STATE OFFICE BUILDING  
1000 SW JACKSON ST. SUITE 540  
TOPEKA, KS 66612-1368



PHONE (785) 296-1500  
FAX (785) 559-4269  
WWW.KDHEKS.GOV

GOVERNOR JEFF COLYER, M.D.  
JEFF ANDERSEN, SECRETARY

April 13, 2018

Matt Etzel  
Principal Auditor  
Legislative Division of Post Audit  
800 SW Jackson Street, Ste 1200  
Topeka, KS 66612

The Kansas Department of Health and Environment appreciates the work performed by Legislative Post Audit in the "Medicaid: Evaluating KanCare's Effect on the State's Medicaid Program" report, but would like to cite a few concerns with the report.

Concern #1: The report did not account for policy changes over the research period. State Medicaid programs are constantly updating policies due to federal regulatory action. These policies always have a fiscal impact whether it be in time to implement, additional resources to perform the work or additional costs in covering a drug or services. Without accounting for these changes, the attributable portion of costs reported would be inflated.

Concern #2: The report did not account for statute or changes introduced through legislative action during the research period. Most every piece of legislation includes a fiscal note. These fiscal notes estimate the cost to the agency for implementing the programs passed through legislation. Without accounting for these changes, the attributable portions of the costs reported would be inflated.

Concern #3: The report did not specifically account for differences in high dollar claims in the pre-KanCare and post-KanCare period. High dollar claims including supporting new high dollar drugs, can greatly affect the cost it takes to administer a state Medicaid program. Without accounting for these costs, overall spending would be inflated.

The Kansas Department of Health and Environment would like to thank Legislative Post Audit for working collaboratively and openly on this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeff Andersen".

Jeff Andersen  
Secretary  
Kansas Department of Health and Environment

## Itemized Response to LPA Recommendations

**Audit Title: Medicaid: Evaluating KanCare’s Effect on the State’s Medicaid Program**

**Agency: Kansas Department of Health and Environment**

LPA Recommendation	Agency Action Plan
<b>Question 1: What Effect Did Transitioning to KanCare have on the State’s Medicaid Costs, Services, Provided and Client Health Outcomes?</b>	
1. To address issues related to inaccurate Medicaid claims data, KDHE should:	
a. Set clear expectations and provide feedback to the MCOs on how to code and report claims data.	The MCOs are contractually obligated to submit encounter data accurately and timely. There is also a pay for performance measure for financial accuracy and timely filing of encounters and the MCOs have upwards of 3 million dollars at risk every year.
b. Develop a process to periodically query and review reported claims data to ensure the data is accurate, complete, and reliable enough to be used for management and policymaker decisions.	The Business Operations team currently has oversight of the encounter submissions by the MCOs. This team consists of four employees and a manager and oversees 16 contractors / subcontractors. To accomplish the goals outlined in this report, more personnel would be required. We are presenting this request for additional staffing in May to the House Appropriations committee.
c. Consider allocating additional staff resources and training dedicated to querying and assessing the accuracy of MCO claims data.	Additional staff are being requested in May 2018.
d. Consider contractual penalties against the MCOs if they continue to submit inaccurate or inconsistent data.	The MCOs have upwards of 3 million dollars at risk in the pay for performance measure for encounter accuracy and timeliness.
2. To address the issue related to a lack of network capacity data, KDHE should:	
a. Continue working with CMS to develop specific provider capacity requirements as part its new network access standards.	In process as part of the RFP and procurement of KanCare 2.0.
b. Begin collecting and evaluating provider capacity data by CMS’ July 2018 deadline.	This process is currently underway and being led by our MCO management team and business operation teams.
3. To address the issue of a lack of controls to ensure MCOs’ self-report costs reflect their actual costs, KDHE should develop a control process to compare a sample of provider claims or remittance receipts against MCOs submitted cost data.	We believe this is a really good idea. With the current staffing model we will not be able to do this often, but we are going to begin to evaluate how we can at least perform this audit annually.
4. To address the issue related to MCO interest payments being inappropriately included in the MCO self-reported costs, KDHE should:	
a. Set clear expectations with all three MCOs to ensure interest is no longer reported in claims data.	This has already been communicated to Sunflower (Centene).
b. Review a robust sample of claims for all three MCOs to identify the extent to which interest has been included in MCO submitted claims data since KanCare was implemented in 2013.	This has been completed and only Sunflower (Centene) had included any interest in their claims. We will continue to monitor this going forward.
c. Work with its contracted actuary to determine the extent to which including interest in the MCO claims data has inflated the rates used to calculate state payments to the MCOs.	Optumas has been alerted to this as well and will be taking this into consideration when developing 2019 rates.
d. Consider reimbursement from the MCOs if it finds that including interest in the claims data resulted in the state overpaying the MCOs.	Currently in process.



## APPENDIX B Regression Methodology

This appendix contains a detailed description of our methodology to determine the effect KanCare had on costs by service and total costs, utilization, and outcomes. It focuses on the steps we used: collecting the data, staging the data, and analyzing the results through regression.

### 1. Collecting the data

- **We worked with officials from the Kansas Department of Health and Environment (KDHE) to obtain cost and demographic data for each Medicaid beneficiary from 2011 to 2016.**
  - Demographic Data: We needed to collect information about the type of people on Medicaid and how they changed over time. Using enrollment data, we collected such factors as age, gender, race, or geographic location, for each Medicaid beneficiary enrolled in Medicaid between 2010 and 2016.
  - Total Cost Data: We needed to collect the total amount billed for all services a beneficiary received per quarter between 2011 and 2016. We collected the amounts paid to providers for services to a given member in a quarter. This data included amounts paid under the fee-for-service model separately from those paid under the managed care model, but it includes all services for which providers were paid.
  
- **We also worked with KDHE officials to obtain cost and service use data for 12 specific services from 2011 to 2016. However, data reliability issues and state policy decisions limited our review to 5 of the 12 services.** We received cost and service use data by beneficiary, for the 12 main Medicaid service categories listed below. However, data reliability issues and state policy changes limited our review to behavioral health, dental, inpatient, nursing facility, and primary care services.
  - Behavioral Health: This classification includes all mental health services provided such as addiction treatment, but it does not include services provided in psychiatric residential treatment facilities.
  - Dental: This classification includes all dental services for adults and children covered by Medicaid.
  - Federally Qualified Health Centers (FQHC): FQHCs provide primary care services in underserved parts of the state. This classification captures care received at FQHCs across the state.
  - Home and Community Based Services (HCBS): The state's HCBS program serves individuals with disabilities, the elderly, and other beneficiaries with specific medical or behavioral conditions in a home and community setting rather than in an institution. In total, the program includes seven different waivers.
  - Inpatient Care: This classification includes services for an individual who has been admitted to a hospital and the services provided have the inpatient claim type classification.
  - Nursing Facility: This classification includes any services that were provided by a nursing facility or skilled nursing facility for the elderly.

- Outpatient Emergency Room: This classification includes services received in an emergency room as an outpatient claim.
  - Outpatient Non-Emergency Room: This classification includes services where an individual was admitted to a hospital with an outpatient claim type but excludes any emergency services under that claim type. Examples include X-rays and surgeries where the patient can go home on the same day such as septoplasties and hernia repair surgeries.
  - Prescription Drugs: This classification captures prescription drugs purchased by Medicaid beneficiaries.
  - Primary Care Physicians: This classification includes services such as pediatricians, internists, and family practitioner's visits. It also includes services such as visits to midwives, rehabilitation practitioners, and psychiatrists.
  - Transportation: This classification includes non-emergency transportation services for Medicaid beneficiaries.
  - Vision: This classification includes basic exams and other eye care provided to Medicaid beneficiaries.
- **We also worked with KDHE officials to receive data related to beneficiaries' health outcomes, but data reliability issues prevented us from concluding on these outcomes.**
    - Avoidable admissions: We needed to collect information on the number of avoidable admissions had decreased under KanCare, so we collected outcomes based on admissions for conditions that would not result in inpatient admissions if appropriate prior treatment had occurred.
    - Birth outcomes: We needed to collect information on whether birth outcomes had changed under KanCare. Vital statistics provided four birth outcomes: whether prenatal care was received on time, whether care was adequate, whether birth weight was low, and whether the baby was born at term, as well as who had paid for the care from 2010 – 2016.
    - Hospital readmissions: We needed to collect information on whether hospitals had been forced to readmit fewer patients under KanCare. We collected any individuals who had been admitted to a hospital between 1 and 31 days after their last admission between 2011 and 2016.
    - Immunizations: We needed to collect information on how immunizations had changed under KanCare. We collected information on whether an administered immunization had been paid for by state Medicaid services between 2011 and 2016.
    - Preventive screenings and services: We needed to collect information on whether preventive screenings and services had increased after the implementation of KanCare. To determine changes in screenings, we collected paid and denied claims among the MCOs and Fee for Service for 2011 and 2016.
    - Well visits: Well visits are annual exams to measure the overall health and wellness of children and adolescents. We needed to collect information on how well visits among children, babies, and adolescents had changed under KanCare. We collected fee for service claims and MCO amounts paid to providers on well visits for those aged 0-9

for well child and well-baby visits, and 12-21 for well adolescent visits from 2011 through 2016.

## 2. Staging the data

- **We combined the data files provided by KDHE to create several individual datasets including cost, utilization, outcome, and demographics information.**
  - We had to combine these datasets so that we could analyze each service or outcome rather than the services or outcomes in each time period.
  - KDHE provided the data we requested as a collection of files separated by quarter. In the case of the outcomes and cost and utilization files, the data were divided by whether they were paid for under fee for service or KanCare
  
- **We merged the demographic data with the cost, utilization, and outcomes data so we could conduct analyses of what changed in services people were receiving before and after the implementation of KanCare.**
  - We needed to connect the cost, utilization, and outcomes data to the demographics data so that we could track factors other than KanCare over time.
  - We connected these files by merging them together based on unique identifiers assigned by KDHE to each beneficiary.
  - We merged each of the cost and utilization and outcomes data with the demographics separately to prepare them for the analysis. We did not need to merge birth outcomes with demographics, as the Department of Vital Statistics provided the birth outcomes data with demographics information already.
  
- **We reviewed the data to determine overall reliability and found that many data sets had issues that prevented further analysis.**
  - Our review showed that several individual service datasets were unreliable due to inaccurate or inconsistent data. Ultimately, this limited our ability to conclude on KanCare’s effect on service use and cost to just five services, which also limited our ability to interpret post-KanCare cost trends.
  - Data reliability issues also prevented us from evaluating KanCare’s effect on beneficiaries’ health outcomes. Five of the seven health outcome datasets were unreliable because of inaccurate data. These inaccuracies were likely the result of difficulties KDHE had in correctly pulling data from its complex Medicaid systems. We did not have sufficient time to correct the errors we identified and ultimately decided we lacked sufficient evidence to conclude on KanCare’s effect on beneficiary health outcomes.

## 3. Analyzing the data

- **We chose a fixed effects regression model to analyze costs and service use because the observations in the data depended on each other.** The datasets we received from KDHE fit the definition of panel data, as they include an observation for every quarter a beneficiary

could receive services. A panel data structure requires using a model that would remove variation in use of services and costs due to unobserved time invariant personal factors such as level of health or preference of when to use health services. We made a reasonable assumption that these personal factors are correlated with demographic variables we use in the regressions making a fixed effects model the most appropriate for our regression analysis. Moreover, fixed effects models are commonly used in other Medicaid research with similar data types. We believe a fixed effect model is the most appropriate model for our objectives, as other models might produce bias regression estimates. Finally, we also used common statistical tests, such as the Hausman and F-Test, to verify that our assumptions and model choice are correct.

- **The models we chose controlled for changes in the Medicaid population to make sure that demographic factors were not affecting what each model concluded about KanCare.** We controlled for demographic information that might affect a person's outcomes, and the cost and number of services they might need. We controlled for Medicaid population group (such as adults and children), gender, county, race, and age to make sure that these factors were not affecting how we evaluated KanCare's isolated effect on Medicaid costs and service use. These controls and the fixed effects models allowed us to be confident that any effects our models related to the implementation of KanCare were not caused by demographic changes of Medicaid beneficiaries.
- **We chose ordinary least squares regression with fixed effects to see if KanCare affected total costs or costs for specific services.** In this case, costs in the Medicaid system have a continuous range, which means that ordinary least squares is appropriate. The cost data, however, are also in panel form, meaning that we need to add fixed effects to correctly model the data.
- **We transformed the cost variable to evaluate how KanCare affected costs on a percent change basis.** To do this, we took the logarithm of the costs and made other minor adjustments to evaluate the results of the regressions on a percent change basis. This method helped account for variations in the data and is frequently used by statisticians when modeling costs.
- **We chose Poisson regression with fixed effects to evaluate how KanCare affected service use.** KDHE's data counts the number of times beneficiaries used each Medicaid service during our period of analysis. Service is captured as a count, ranging from zero to any whole positive number. Typical, a Poisson regression with fixed effects is best suited to evaluate count data similar to KDHE's use data. As such we relied on this type of regression for this analysis.