

# Research Brief

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## Medicaid Managed Care and the Utilization of Office-Based Services Among Kentucky Medicaid Beneficiaries with Chronic Disease

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### BACKGROUND

#### ***The Burden of Chronic Disease on Kentuckians***

The burden of chronic disease is high in Kentucky, particularly for mortality related to cancer, diabetes, and cardiovascular disease (CVD). Kentucky consistently has had one of the highest cancer-related mortality rates in the United States. In 2010, Kentucky's cancer-related mortality rate was an estimated 235 deaths per 100,000 people. In 2020, the rate decreased to 177.3 deaths per 100,000 people but remained among the highest in the country.<sup>1,2</sup> Also, in 2010, Kentucky ranked 8<sup>th</sup> in the United States for CVD-related mortality at 299 deaths per 100,000 people. Finally, Kentucky had the 5<sup>th</sup> highest diabetes-related mortality rate in the nation in 2017 (27.7 per 100,000 people), representing an increase from the 7<sup>th</sup> highest rate in 2014.<sup>3</sup>

There are significant geographic disparities in mortality rates across Kentucky. Eastern Kentucky, for example, experiences disproportionately higher rates of all three types of mortality compared to other areas of the state. In 2010, nearly all counties in Eastern Kentucky had a higher-than-average cancer-related mortality rate (greater than 300 per 100,000 people) compared to the state (235 deaths per 100,000 people).<sup>4</sup>

#### ***Impact on Medicaid Beneficiaries***

Chronic disease is a high-cost domain for insurers, particularly Medicaid, because Medicaid beneficiaries usually have poorer health status in general. In 2019, the Kentucky Medicaid program spent significantly more than the national average per adult enrollee at \$6,081 versus \$3,840.<sup>5</sup> In 2019, 60% of Kentucky Medicaid beneficiaries were adults, the fourth-highest share of adults in a Medicaid program in the country after Oregon (62%), California (61%), and the District of Columbia (61%).<sup>6</sup>

Given the remarkably high burden of cancer, CVD, and diabetes on Kentuckians' health and the extent of Medicaid coverage in Kentucky, it is important to assess the impact of these conditions on the utilization of care and, ultimately, the impact of Medicaid reforms on beneficiaries with chronic disease.

#### ***Key Kentucky Medicaid Reforms in the 2010s***

Kentucky's Medicaid program underwent fundamental changes in the 2010s. Two major changes were:

- A restructuring of the program that involved the expansion of Medicaid Managed Care (MMC) statewide in 2011, and
- The expansion of the Medicaid program to cover newly eligible beneficiaries under the Affordable Care Act (ACA).

The 2011 reform ended the traditional fee-for-service Medicaid program, where healthcare providers were paid for services performed. Instead, Medicaid health care services were outsourced to private health insurance companies, also known as managed care organizations (MCOs). Under this arrangement, the state paid the MCOs a fixed amount per patient in advance to cover the cost of healthcare services for Medicaid beneficiaries (*i.e.*, capitation). The MCOs were then responsible for organizing provider networks and arranging care delivery for beneficiaries. The state used competitive bidding to select three MCOs and, in November 2011, they began offering Medicaid services. Region 3, which includes the City of Louisville and sixteen surrounding counties, was not exposed to the 2011 reform. In this region, a non-profit MCO maintained a monopoly status in providing Medicaid services until 2013, when for-profit MCOs were allowed to enter the region's Medicaid market.

While Kentucky Medicaid has undergone additional structural changes since the late 1980s, the focus of this study was the 2011 shift from fee-for-service to Medicaid Managed Care (MMC), which shifted the delivery of healthcare services to Medicaid beneficiaries in seven of eight regions of the state's Medicaid program, namely Regions 1, 2, 4–8 (not-Region 3, hereafter). Not-Region 3, then, refers to the regions of the state that were impacted by MMC.

**Figure 1:** Map of Medicaid Managed Care Regions in Kentucky, 2011



Source: Marton et al. (2017)

Only one study has examined the effect of the 2011 restructuring on medical care utilization in Kentucky's Medicaid program. Marton et al. (2017) used 2010-2013 Medicaid claims data to construct a longitudinal panel of beneficiaries under the age of 65. The study found that statistically significant decreases in the utilization of many important healthcare services occurred in both adults and children after the implementation of MMC. An increase in utilization was measured only in children's dental visits and preventive care in adults.<sup>7</sup>

## OBJECTIVES

The objective of this study was to measure the effect of MMC implementation in Kentucky Medicaid regions 1, 2, and 4-8 (not-Region 3) on healthcare utilization. To this end, these regions were

compared to Region 3, which did not go through a significant Medicaid market change when MMC was implemented in other regions. The study also identified racial, geographic, and gender disparities and trends in service utilization and costs associated with the shift to managed care. This research brief focuses on findings related to office-based care utilization among Medicaid beneficiaries in expansion regions, specifically office-based primary and preventive care, physician, physician assistant, and nursing visits.

## METHODS

This study used Kentucky Medicaid claims data from 2010-2019 to study adult beneficiaries between the ages of 19 to 64 with at least one of the following conditions, as identified by the International Classification of Diseases Clinical Modification (ICD-9-CM and ICD-10-CM): cancer, diabetes, and/or cardiovascular disease (CVD). Individuals were placed into one of eight groups, based on their condition. The medical conditions, the individual assignment into them, and the number of individuals in each group can be found in Table 1.

To study the long-term impacts of MMC in Kentucky, a longitudinal sample was created consisting of adult Medicaid beneficiaries who:

- were diagnosed with any chronic disease during the first two quarters of 2010
- were never diagnosed with HIV/AIDS, and
- could be assigned a Charlson comorbidity score based on the algorithm developed by Glasheen et al. (2019).<sup>8</sup>

**Table 1. Longitudinal Sample by Medical Condition**

Total Sample=76,741	
Medical Condition Group	n
Metastatic Cancer	1,371
Any Malignancy Cancer	4,132
Complicated Diabetes with CVD	2,704
Uncomplicated Diabetes with CVD	568
Uncomplicated Diabetes	1,270
Complicated Diabetes	4,069
CVD	17,365
Other Chronic Diseases	44,721

Medicaid claims data was used to identify the place of care (POS) and, where necessary, supplemented with information from the class of service code (COS). For this study, any claim with the POS coded as “Office” and COS codes as either “Preventive Care”, “EPSDT-Related Services”, “Clinical Social Worker”, “Primary Care”, “Family Planning”, or “EPSDT” was categorized as primary and preventive care. EPSDT refers to early and periodic screening, diagnostic, and treatment visits.

Two measures of utilization were calculated for each disease group: the annual utilization rate and the mean annual number of visits. Utilization rate was defined as the percentage of adult beneficiaries with one of this study’s diseases who used a specific type of care at least once among all adult beneficiaries with that disease. The mean annual number of visits was defined as the average number of times a specific type of care was used.

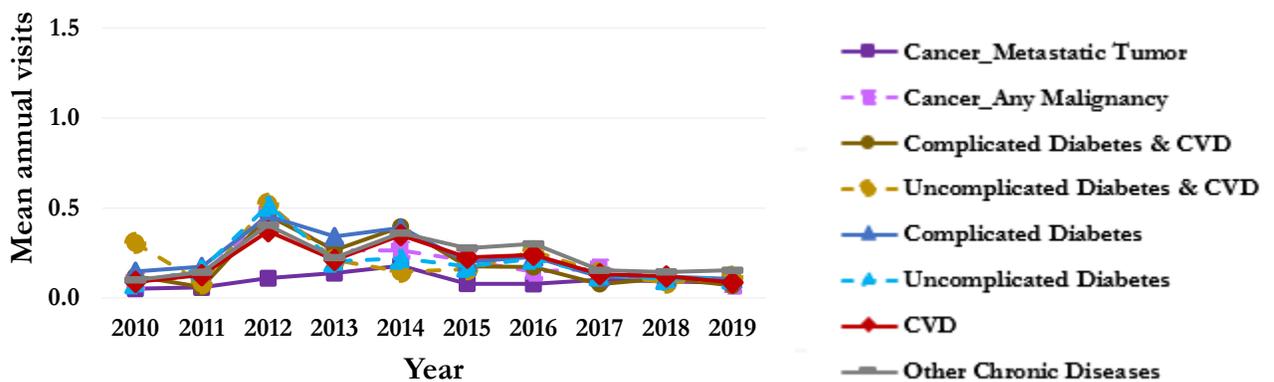
This brief focuses on changes in the mean annual number of visits for primary and preventive care, office-based physician, physician assistant, and nursing visits in which change in utilization was measured after the MMC implementation. No such changes were measured in other categories of office-based care, namely, mental and behavioral care, dental care, and vision care.

**KEY FINDINGS**

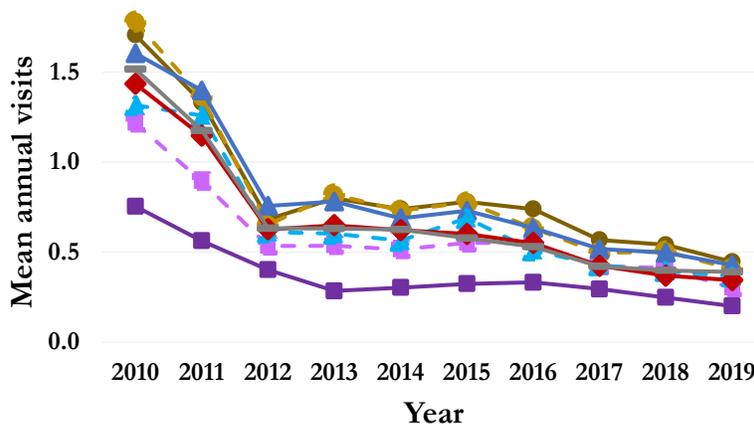
**1. The use of primary and preventive care decreased in regions that switched to MMC compared to Region 3.**

One to three years after the implementation of MMC in Kentucky, there were marked differences in the use of primary and preventive care between regions where MMC was implemented and Region 3, which did not have a Medicaid market change. These differences were particularly striking in the first three years of the 2010s, immediately following implementation. Region 3 experienced an increase in the mean annual number of visits in 2012, followed by a fairly steady decrease from 2013 to 2019. In not-Region 3, there was a sharp decrease in mean annual visits from 2010-2012, followed by a steady decrease from 2013-2019 (Figure 2).

**Figure 2. The Mean Annual Number of Visits per Beneficiary for Office-Based Primary and Preventive Care by Disease Group, 2010 to 2019, Region 3 vs. Not-Region 3**



**Not-Region 3 (MMC Expansion Regions)**

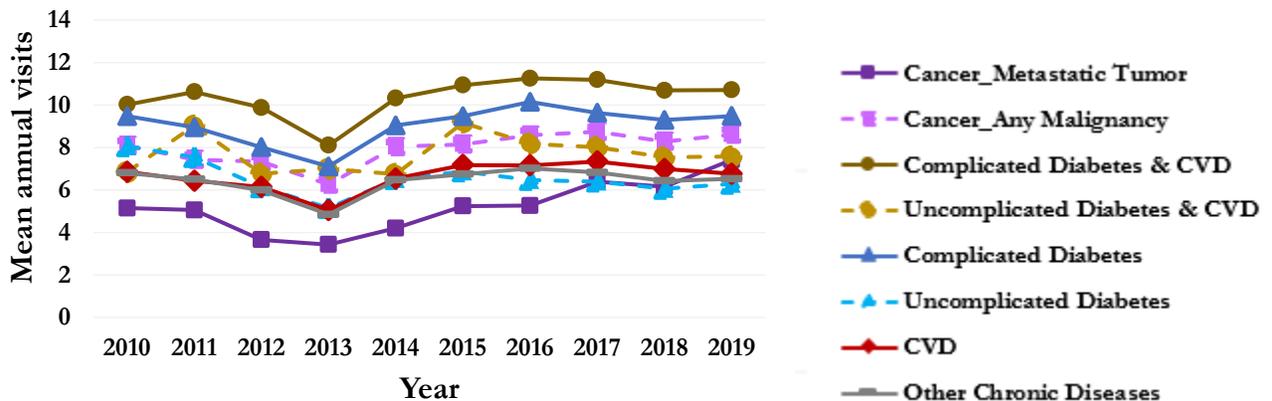


**2. There were sharp declines in office-based physician visits among Medicaid beneficiaries in MMC expansion regions compared to Region 3.**

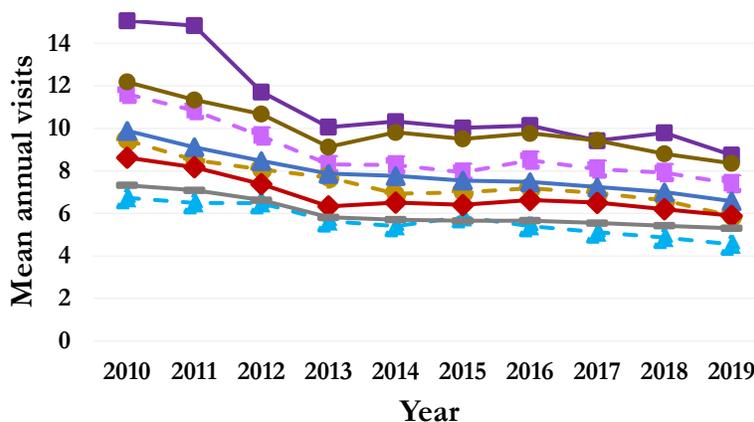
The percentage of Region 3 adult beneficiaries who had at least one physician visit decreased by 2%–7% (depending on the disease group) from 2010 to 2013. The average number of physician visits in not-Region 3 substantially decreased from 2010 to 2013 and then continued to decrease at a slow pace beginning in 2014 (Figure 3). Adult beneficiaries with metastatic cancer experienced the most noticeable decrease from an average of 14.8 visits in 2011 to 11.7 in 2012 and, finally, 8.8 in 2019.

**Figure 3. The Mean Annual Number of Visits per Beneficiary for Office-Based Physician Visits by Disease Group, 2010 to 2019, Region 3 vs. Not-Region 3**

**Region 3**



**Not-Region 3 (MMC Expansion Regions)**



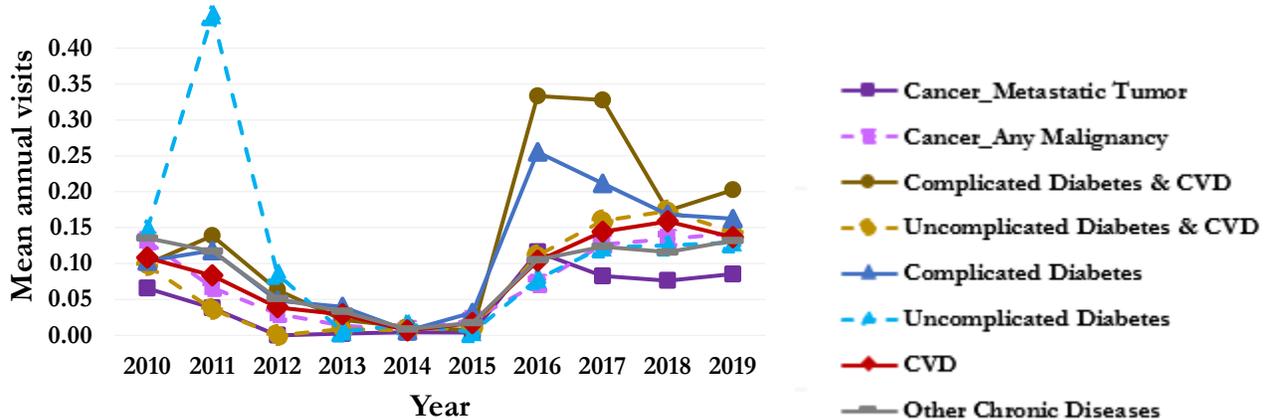
**3. MMC expansion led to an increase in office-based physician visits among Medicaid beneficiaries.**

The rate of utilization of physician assistant services decreased in the first half of the 2010s in Region 3 and increased in other regions, especially after the implementation of MMC. In Region 3, between 5% to 6% of adult beneficiaries with a chronic disease had at least one office-based physician assistant visit in 2010. By 2014, utilization had decreased to less than 1%. In other regions, the rate

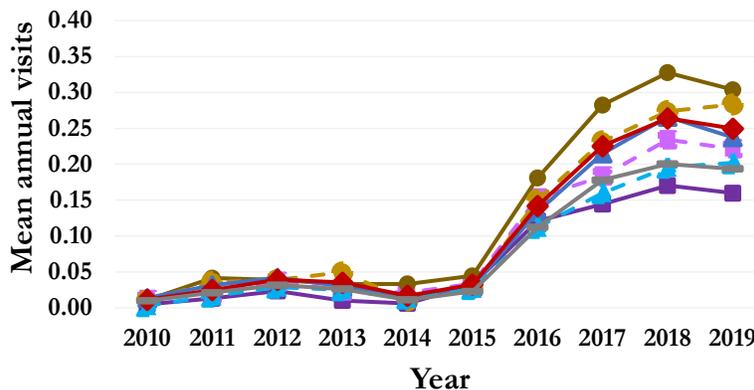
increased from less than 1% in 2010 to up to 3% in 2012. There was an additional decrease to about 1% by 2014. From 2014 to the end of the decade, however, the rate of utilization of physician assistant services rapidly increased in both Region 3 and not-Region 3. The pattern of change in the average number of physician assistant visits in the regions was similar to their corresponding rate of utilization of physician assistants' services (Figure 4).

**Figure 4. The Mean Annual Number of Visits per Beneficiary for Office-Based Physician Assistant Visits by Disease Group, 2010 to 2019, Region 3 vs. Not-Region 3**

**Region 3**



**Not-Region 3 (MMC Expansion Regions)**



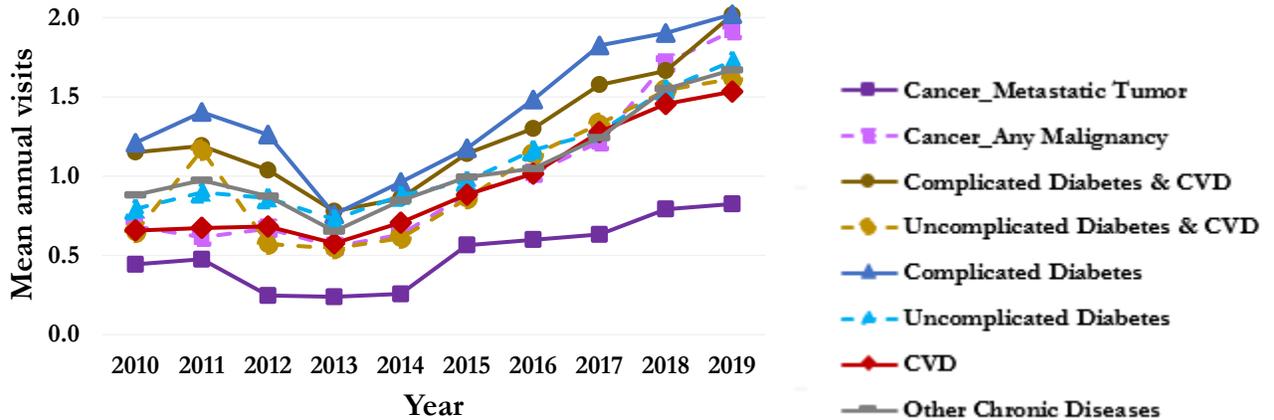
**4. MMC expansion led to an increase in office-based nurse visits among Medicaid beneficiaries.**

The rate of utilization of office-based nursing visits decreased in the first half of the 2010s in Region 3, but increased in other regions that went through the MMC implementation. In 2010, between 15% to 33% of adult beneficiaries with a chronic disease in Region 3 had at least one nurse visit. By 2014, the percentage decreased between 2% to 7% (depending on the disease group), except among those with uncomplicated diabetes and CVD. In Region 3, the mean annual number of visits decreased from 2010-2014 and then steadily increased beginning in 2015. Not-Region 3 experienced

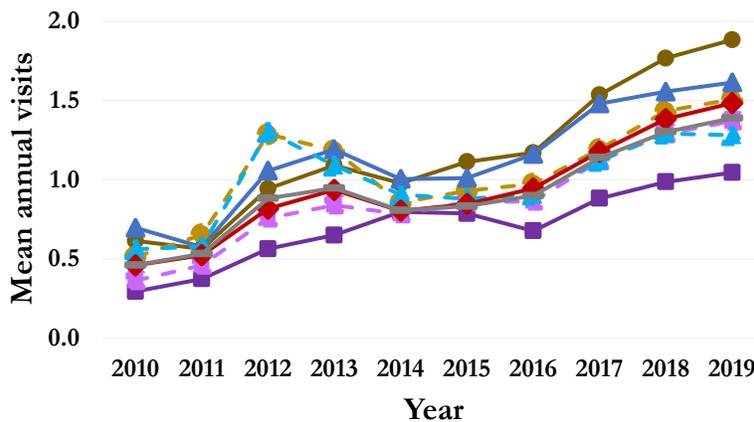
an increase from 2010-2013, followed by a decrease in 2014. Similar to Region 3, there was a steady increase in annual visits beginning in 2015. The average number of nurse visits per beneficiary in not-Region 3 remained below 1.5 in 2013.

**Figure 5. The Mean Annual Number of Visits per Beneficiary for Office-Based Nursing Visits by Disease Group, 2010 to 2019, Region 3 vs. Not-Region 3**

**Region 3**



**Not-Region 3 (MMC Expansion Regions)**



**CONCLUSION**

Overall, there were marked differences in office-based primary and preventive care, physician, physician assistant, and nurse visits in not-Region 3 (MMC expansion region) compared to Region 3.

There were sharper decreases in office-based primary and preventive care and physician visits in not-Region 3 compared to Region 3, accompanied by overall decreases in the use of office-based primary and preventive care. Increases in office-based physician assistant and nursing visits were observed among not-Region 3 beneficiaries but not at a high enough rate to substitute for the decrease in office-based physician visits.

**POLICY IMPLICATIONS**

The impact of persistent decreases in the utilization of preventive and primary care during the 2010s,

particularly following the expansion of Medicaid managed care, should be further monitored to assess short and long-term health outcomes of beneficiaries. One strategy to increase the use of primary and preventive care might include requiring managed care organizations to encourage beneficiaries to use these services by expanding their provider networks and decreasing the wait time to see a provider. The state may also consider changing the number of managed care organizations it contracts with in an effort to influence provider-MCO negotiating power and structure contracts that promote preventive care. Finally, it is important to institutionalize a process for assessing the health impacts of a Medicaid policy change. This can be achieved through inter-sector collaborations with statewide partners, as direct health outcomes can be measured using electronic health records or by conducting independent health surveys.

## CONTACT INFORMATION

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