TEAM KENTUCKY

CABINET FOR HEALTH AND FAMILY SERVICES

OFFICE OF DATA ANALYTICS
DIVISION OF ANALYTICS

# COLORECTAL CANCER SURVEILLANCE PATTERNS AFTER INITIAL TREATMENT FOR YOUNG ADULTS WITH MEDICAID INSURANCE

Summary Prepared by the Office of Data Analytics Division of Analytics

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**What is Known on This Topic?**
Every year, over 140,000 new patients are diagnosed with colorectal cancer (CRC) in the United States. Despite its prevalence, treatments for CRC are relatively successful when compared to those for other types of cancer. Because of this, consistent surveillance to detect recurrence of CRC is imperative to ensure long-term survivorship and well-being of patients.

**What Did this Project Do?**
Using Kentucky Medicaid data, surveillance patterns of individuals with colorectal cancer were evaluated. When compared to established guidelines for CRC surveillance, this study found that only 30% of eligible Medicaid beneficiaries received the breadth of recommended procedures over the study period. However, no reliable patterns of discrepancy could be found on the basis of age, race, sex, or geographic region.

**What Could Medicaid Do with These Conclusions?**
Based on the unfavorable outcomes found by this study, potential policy recommendations to improve CRC surveillance include the introduction of financial incentives for providers of post-cancer care, improvement of Medicaid retention rates for individuals in this population, incentivization of primary care physicians' involvement in surveillance, universal platforms for radiologic image sharing, and support for telehealth adoption.

## Introduction

In the United States, colorectal cancer (CRC) represents the fourth most common cancer diagnosis. Among all states, Kentucky has reported the second highest diagnosis rate for individuals under 50 years old – a population that is also well-represented in the state's Medicaid system.

This prevalence, along with the established value of early identification of CRC recurrence, creates a need for the Kentucky Medicaid program to support a framework of surveillance among at-risk populations. The National Comprehensive Cancer Network (NCCN) currently recommends an approach that includes frequent office visits in combination with blood draws for carcinoembryonic antigen (CEA) every 3-6 months, a CT scan of the chest, abdomen, and pelvis every 6-12 months, and a colonoscopy within one year of initial treatment.[1]

In order to determine a baseline of surveillance patterns among CRC patients under Kentucky Medicaid, this study evaluated Medicaid claims among those individuals with a CRC diagnosis following a claim for an initial treatment for CRC. Utilization and frequency of surveillance procedures were calculated and compared in accordance with the recommendations outlined above. The long-term goal of this research was to better understand how such individuals receive care so that gaps in treatment and targets for intervention can be identified, ultimately improving patient outcomes.

## Project Methods & Results

Using Medicaid claims from 2010-2018, the study population was narrowed to individuals aged 18 to 63 with a CRC diagnosis after receiving an initial surgical treatment. In order to identify a CRC diagnosis, ICD-9 and ICD-10 codes listed on claims were utilized. The population was further limited to include only those beneficiaries with continuous Medicaid enrollment through 24 months after an initial surgical treatment, which was identified through the Current Procedural Terminology (CPT) codes and their respective dates noted in the claims data. After the study population was established, surveillance patterns were evaluated yearly – for example, the number of CT scans a patient received over a year's time. Procedures that aligned with a surveillance activity were only considered if they occurred at least 90 days after the initial treatment, as to allow initial treatment to be completed. After the 90-day period, procedures representing a surveillance activity were identified through 820 days from the date of initial surgery. These procedures were also defined by CPT codes of interest and are outlined on the following page.

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**Key Colorectal Cancer Surveillance Elements:**

**A.) Carcinoembryonic antigen (CEA) Test**
- A blood test for a specific glycoprotein that helps inform treatment and management.

**B.) Endoscopy**
- Example - colonoscopy

**C.) Physician office visits**
- Example – a claim from a physician with an evaluation and management code.

**D.) Imaging**
- Example – Positron Emission Tomography (PET) scan.

Study authors used the above list to quantify the volume of procedures and services utilized by beneficiaries that met inclusion criteria for the study. Results were presented by demographic variables, including race and gender. Table 1 displays the results according to the race of the patient.

**Table 1.** *Utilization Patterns of by Patient Race*

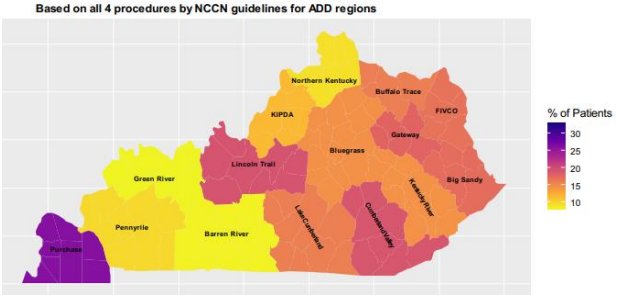
| Post-Operative Period | Racial Group | Total Patients | CEA | Endoscopy | Office Visit | Imaging |
|---|---|---|---|---|---|---|
| 91 – 356 days | Black | 94 | 40.4% | 26.6% | 92.6% | 63.8% |
| | Other | 309 | 40.5% | 22.3% | 95.8% | 73.1% |
| | White | 1,059 | 42.7% | 25.3% | 97.0% | 76.1% |
| 366 – 820 days | Black | 93 | 35.5% | 35.5% | 88.2% | 72.0% |
| | Other | 317 | 37.5% | 33.7% | 94.6% | 71.9% |
| | White | 1,078 | 40.8% | 39.8% | 94.6% | 73.3% |
| 91 – 820 days | Black | 94 | 45.7% | 55.3% | 97.9% | 85.1% |
| | Other | 317 | 47.6% | 49.5% | 96.9% | 85.2% |
| | White | 1,078 | 51.0% | 54.3% | 98.0% | 88.3% |

**Note:** Table 1 appears on page 10 of the final report.

Study authors noted that physician office visits were the most commonly utilized of the categories. Therefore, while the overall results suggest lower levels of surveillance after initial treatment, patients were maintaining connection to the healthcare system.

The study also investigated surveillance based on geography. Figure 1 displays the results of that analysis broken down by Kentucky's Area Development Districts (ADD). The Purchase ADD in Western Kentucky had a notably higher rate of colorectal cancer surveillance compared to other regions.

**Figure 1**. *Percent of individuals adherent to the NCCN guidelines for colorectal cancer surveillance*




*"Only 30% of potentially eligible individuals received all four of the guideline-recommended surveillance studies, i.e., blood work, imaging, colonoscopy, and office visits. Even less individuals received these studies at the recommended frequency. There was no clear pattern of disparity by age, sex, race, or geographic region. Over 90% of individuals did have claims for office visits, which suggest the majority of individuals are connected to the healthcare system. Yet, there is a disconnect between surveillance recommendations and the actual care received to the colorectal cancer survivors."*

### Discussion and Conclusion

This study evaluated patterns of CRC surveillance among Kentucky Medicaid Beneficiaries Aged 18 to 65 between 2010 through 2018 with continuous enrollment through 24 months following an initial surgical treatment. During this time period, utilization of procedures that correspond to surveillance recommendations set by the NCCN were identified and rates of adherence were calculated.

The results of this research found that only ~30% of potentially eligible individuals received all four of the guideline-recommended surveillance procedures, with even less at the recommended frequency. Additional analyses that stratified the study population by age, sex, and geographic region, found no reliable patterns of discrepancies among these groups.

Despite the low surveillance rates, over 90% of individuals in the study population incurred claims for physician office visits, which suggests that there is opportunity for the healthcare system in Kentucky to improve surveillance adherence for those who already access healthcare resources.

Such opportunities could be leveraged through targeted health policy – some recommendations include:

- Introduction of financial incentives for providers of post-cancer care, such as those for achieving defined rates of care quality.
- Improvement of Medicaid retention rates for individuals in this population.
- Incentivization of primary care physicians' involvement in surveillance so to reduce travel barriers among patients to specialty providers.
- Universal platforms for radiologic image sharing to promote greater transparency between health systems. Kentucky Health Information Exchange is suited for this purpose.
- Greater support for telehealth adoption.

### References

1. Treatment by Cancer Type. NCCN. https://www.nccn.org/guidelines/category