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Shifting Ground:

Healthcare Access in Post-Expansion, Post-Pandemic Clay, Jackson, and Platte Counties

WITH SUPPORT FROM:

JACKSON COUNTY PUBLIC HEALTH

KANSAS CITY MEDICAL SOCIETY FOUNDATION
CHARITABLE CARE, EDUCATION, PREVENTION & WELLNESS

METROCARE + WYJOCARE
VOLUNTEER DOCTORS FROM KCMS

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ABSTRACT

This study explores who lacks access to what types of care—and why—in the post-Covid, post-Medicaid expansion environment. In response to healthcare workforce shortages, expanded MO HealthNet eligibility, and Medicaid unwinding, the KCMS Foundation Board commissioned updated data to guide program decisions and community partnerships.

Findings from this report are intended to inform program development, collaboration, and advocacy efforts in the Metro Care service area (Clay, Platte, and Jackson Counties, MO). Since 2020, Metro Care has seen shifts in patient needs and access, with continued high emergency department use signaling persistent care gaps. These insights will shape KCMS Foundation's work and, we hope, support aligned efforts across the region.

This study describes a comprehensive analysis of current healthcare access gaps in Missouri's Jackson, Clay, and Platte counties. The study employed a mixed-methods approach, integrating quantitative, qualitative, and policy review methodologies. Quantitative data analysis included existing datasets 2021-2023 Patient Abstract Data (PAS) for inpatient and Emergency room visits as well as publicly available data on county health outcomes. Qualitative insights were garnered from interviews with frontline social service staff, care providers, and additional healthcare leaders. An in-depth review of MO HealthNet coverage lent context to the qualitative and quantitative data. This multifaceted approach provided a comprehensive understanding of the complex interplay of factors contributing to access barriers. The quantitative analysis examined several critical areas of emergency department (ED) and Inpatient (IN) utilization across all three counties to highlight evolving use patterns, disparities in services, and the ongoing impact of Medicaid expansion. Concurrently, qualitative study examined the common barriers faced by residents in the Kansas City metropolitan area when accessing healthcare. Interviews were conducted with frontline social service workers to determine clients' barriers to equitable care, changes since the pandemic and Missouri Medicaid expansion, and their suggestions for improvement.

Quantitative analysis for ED utilization per 1,000 showed that while all three counties experienced an increase in ED utilization, Jackson County exhibited the highest ED visit rates across all three counties with an additional 4,756 visits in 2023 compared to 2021. Insurance status was a strong predictor of ED utilization. Medicaid patients had substantially higher ED use than those not on Medicaid. In 2021, being insured by Medicaid was associated with about 62% higher odds of having an ED visit relative to non-Medicaid patients (OR=1.62, 95% CI 1.60–1.65, $p<0.001$). This disparity persisted into 2023 with only a slight reduction in magnitude (OR=1.56, 95% CI 1.53–1.58, $p<0.001$). Patients living in the most deprived areas (top quartile of ADI) were significantly more likely to use the ED than those in the least deprived areas. Qualitative interviews identified barriers such as lack of reliable transportation (76.5%), lack of housing (52.9%), complicated Medicaid enrollment and renewal processes (29.4%), and significant wait times for health services, particularly mental health (58.8%) and specialty care (35.3%). Populations experiencing more barriers than others included undocumented individuals (41.2%), unhoused individuals (35.3%), and those with limited English proficiency (LEP) (23.5%). Participants identified that Medicaid expansion significantly increased coverage (47.1%) but were mitigated by complications of unwinding (17.6%), diminishing its effectiveness at improving access to care.

The results from this study indicates the need for increased care coordination, which necessitates that case managers and community health workers be prioritized. Patients with Medicaid were

more likely to have frequent ED visits and more extended hospital stays, which suggests increased care coordination could improve health outcomes. In addition, better access to chronic and specialty care could significantly decrease complications and ED visits particularly for those without insurance as identified in this study. This analysis should be used to prioritize and plan interventions that improve healthcare access for vulnerable populations and geographic areas across the Kansas City metro.

Keywords: Healthcare access, Medicaid expansion, vulnerable populations, Mixed-methods approach, Healthcare disparities, Data-driven recommendation.

EXECUTIVE SUMMARY

Purpose

This study was conducted to answer the question, *"In a post-COVID, post-Medicaid expansion healthcare environment, who doesn't get what type of care, and why?"*

Recognizing that healthcare workforce shortages in the aftermath of a global pandemic, expansion of eligibility of MO HealthNet, and Medicaid unwinding have impacted the community health infrastructure and community health data, the board of directors of KCMS Foundation called for updated data to inform decision-making for our program services and with our community's stakeholders.

The findings and recommendations in this report are intended to support program development, community collaborations, and advocacy for systems change in the Metro Care catchment area of Clay, Platte, and Jackson Counties in Missouri. The Kansas City Medical Society Foundation's Metro Care program has seen significant shifts in patient need and access to care since 2020. Yet, we knew that local emergency departments were not empty; we knew that there was a lack of access to care driving increasing ED utilization. This report will drive our program development and community engagement. We hope that it can be similarly useful for our partners and collaborators.

Findings

ED service utilization across Clay, Jackson, and Platte counties revealed multiple interconnected patterns based on population characteristics and economic status, as well as health insurance plans and clinical requirements. Multiple distinctive patterns of healthcare delivery and ongoing system problems became apparent through this analysis of the three-year data.

Jackson County recorded the highest ED usage rate for its population and maintained elevated odds of ED usage throughout the entire study period. A combination of high population numbers, extensive health issues, and lower socioeconomic conditions creates this observed pattern. The analysis of Jackson County residents showed elevated odds of ED use in 2022, following adjustments for age, race, insurance type, and medical comorbidities. Their odds matched those of Clay County only in 2023, according to the statistical analysis. The evidence from these data points suggests that typical variables may not reveal all aspects of the systemic barriers present in Jackson County, indicating the need for deeper investigations of the problem. Platte County's ED use increased steadily during 2023, resulting in higher adjusted rates than Clay County, although it had consistently lower raw ED visit numbers. The emerging ED utilization pattern requires immediate investigation, as it may be a result of population shifts, unexplained obstacles to nonemergency care, or policy changes with unforeseen impacts.

Insurance-Linked Disparities and Medicaid Expansion Effects

The analysis showed that Medicaid enrollment had the most significant unadjusted effect on ED utilization rates, with patients on Medicaid showing 56% to 62% higher odds of ED usage. The analysis of multiple factors revealed that sociodemographic and clinical elements significantly reduced Medicaid-related ED use and created statistical insignificance during certain years. The reduced strength of Medicaid coverage as an independent variable suggests that it functions as an indicator of other risk factors, including low-income status, minority background, and comorbidity severity, rather than being the primary cause of ED visits. Although Medicaid recipients required longer inpatient stays and experienced more Tier 1 CCS conditions, the analysis indicates both access issues and inadequate care coordination for this population.

Socioeconomic Disadvantage (ADI) and ED Reliance

The Area Deprivation Index (ADI) demonstrated small yet regular connections to emergency department visits. The state ADI scores demonstrated a direct relationship to ED visit odds, increasing them by 1-2% with each unit change. National ADI rankings failed to establish an independent influence on access patterns, as localized socioeconomic disadvantage proved more effective in explaining state-level access. These results demonstrate that community-based investments focusing on regional disadvantaged areas within Missouri create more effective intervention plans.

Demographic and Racial Disparities

The unadjusted gender distribution of emergency department use showed minimal differences, but post-adjustment analyses revealed males experienced 15-18% higher odds of ED use throughout the entire study period. The shift toward these results highlights the importance of considering health-seeking behavior and disease burden in data analysis, as raw data may conceal essential information.

The racial differences in ED usage remained strong and continued throughout the study period. Black patients needed ED services 47-54% more often than White patients during every year, which demonstrates persistent barriers to receiving outpatient care promptly. Asian patients showed lower usage of emergency departments, and Hispanic patients demonstrated an unstable pattern of reduced emergency department utilization. The observed disparities indicate that structural racism and access limitations, alongside cultural differences in healthcare behaviors, continue to affect ED usage, thus requiring dedicated equity-focused solutions.

Comorbidity Profiles and Clinical Drivers of ED Use

Acute-onset conditions that lacked proper management raised ED usage, yet patients with chronic or specialty-managed diseases showed decreased ED use. Bone and neurologic disorders generated the highest adjusted risk of ED visits, with bone disorders more than doubling the risk and showing an increasing trend throughout the years. The unadjusted models showed increased ED reliance associated with respiratory and renal diseases. Still, the adjusted models did not confirm this effect, which suggests that demographics and insurance status may play a role. Patients with cancer, heart disease, metabolic disorders, and pregnancy-related conditions experienced lower odds of visiting the emergency department, which suggests better-structured specialty pathways or lower use of emergency care. These findings reveal a significant gap in the process of delivering continuous healthcare and integrating various medical services. The healthcare system often provides fragmented treatment to patients with manageable and complex medical conditions. Still, specialist-managed patients and patients with mental health or cancer may not use ED services enough or may be diverted to different healthcare systems. The evaluation process must consider how patients with chronic health conditions navigate the healthcare system.

Structural Gaps and Unmet Needs

Area EDs experienced a persistently high number of nonemergency visits, particularly in Clay and Platte counties, as their emergency and urgent care cases accounted for nearly half of the total ED traffic. Increasing ED visits, alongside a decrease in inpatient admissions, indicate that patients are using ED services because outpatient care remains somewhat inaccessible, after Medicaid expansion. The extended length of stay (LOS) observed among Medicaid and Medicare patients demonstrates problems with care coordination and discharge planning that affect people with public health insurance. The continuous high ED and inpatient utilization in Jackson County reveals fundamental issues with the healthcare system that policymakers must address despite the region's advanced health infrastructure.

Qualitative Findings: Persistent Barriers and Access Gaps

This qualitative analysis examined the widespread healthcare obstacles and service gaps affecting the Kansas City metropolitan region, while also investigating the impact of Missouri Medicaid expansion and the COVID-19 pandemic. Frontline social service workers documented various elements that affect their clients' healthcare accessibility and how these factors interact with health determinants based on social factors.

Persistent Barriers to Equitable Access

Unstable transportation remained the main challenge for patients seeking healthcare due to inadequate Medicaid transportation services. Unstable housing served as one of the most commonly mentioned persistent barriers to healthcare access. Participants explained that homelessness

creates universal challenges because it restricts patients from abandoning their belongings and prevents them from obtaining safe healing spaces and accessing healthy food or maintaining phone and charger functionality for healthcare and insurance management. Research supports other studies, which show that positive health results depend on both the basic requirements of housing and transportation systems.

Service Gaps within Healthcare

Multiple healthcare professionals throughout the interviews reported long waiting periods, specifically for mental health services. The shortage of healthcare providers, combined with limited care options available to uninsured patients, led to extended wait times for medical services. The data revealed three significant healthcare service gaps, which were expensive medications, restricted dental care, and emergency room abuse, because it represented the main accessible care option for uninsured or underinsured patients.

Population-Specific Barriers

The groups that faced the most significant challenges to healthcare access consisted of undocumented immigrants, homeless populations, and individuals with limited English language skills. The clients from these groups encountered multiple financial and logistical barriers, as well as fears, identification challenges, and cultural differences, which complicated their access to the healthcare system.

Multiple interviews revealed specific health conditions that create challenges for accessing healthcare and managing diseases. The high cost of diabetic medications, together with provider follow-up requirements and medical device storage needs, made diabetes a significant concern among patients. Health conditions that face greater challenges in obtaining healthcare access include mental health disorders, along with physical limitations and cardiovascular disease.

Impacts of Medicaid Expansion and Pandemic

Interviewees in the study expressed diverse viewpoints regarding the impact of Medicaid expansion in the state of Missouri. About half of the interviewees stated Medicaid coverage increased after the expansion. The process of unwinding the temporary pause on Medicaid eligibility renewals presented administrative challenges, confusion over renewal procedures, and therefore reduced timely access to vaccination coverage among vulnerable populations. Interviewees expressed conflicting opinions about Medicaid's impact on healthcare access given the concurrent expansion of Medicaid eligibility and the Medicaid unwinding process.

Modifications to the healthcare system that emerged due to the pandemic had varied impact on patient access to care. Most people interviewed welcomed the increased use of telehealth because it benefited patients who had mobility restrictions or no transportation options. However,

interviewees pointed out that people who lacked reliable internet access and dependable electronic devices missed out on expanded telehealth services. The pandemic led to healthcare worker departures which significantly decreased healthcare workforce capacity and increased wait times, and to in-person enrollment restrictions, thereby limiting Medicaid enrollment options.

Suggested Systemic Changes

Several participants mentioned their desire to transform healthcare through universal coverage and removing the dependency on insurance status. Multiple participants recommended expanding the number of community health workers and case managers who could assist Kansas City metro residents through the complicated healthcare system.

Recommendations

1. **Monitor impact of Medicaid expansion and prepare to address changes that diminish access to Medicaid coverage.**
    a. Medicaid access improves patient health access for dermatology nephrology, mental health, pulmonology, and obstetrics for patients with Medicaid coverage. Evidence of better control in reduced ED visits.
    b. Additional strategies are needed to improve patient access for orthopedics, neurology, and dermatology.
    c. Among uninsured, lack of timely, reliable access to dermatology, nephrology, mental health, pulmonology, obstetrics, orthopedics, and neurology, continue to drive ED utilization.
    d. Plan to address proposed administrative changes that will reduce access to Medicaid coverage.

2. **Strengthen care coordination.**
    a. Protect and enable case managers, community health workers, care coordinators and navigators who:
        i. Support patient access to care
        ii. Address social drivers of health / reduce drivers of ED utilization
        iii. Serve as effective connectors to Medicaid and ACA eligibility, thus serving as key drivers of revenue
        iv. When enabled and effective, coordinating staff can reduce disease burden on patient health, thereby reducing cost by impacting acuity and complexity

    Enabling strategies include prioritizing investment in removing barriers to access to primary and specialty care before the ED visit, including cost for indigent patients, timeliness, location and transit, adherence factors such as medications, supplies, and health education

    b. Collaborative solutions to increase timely access to care for uninsured patients

c. Integrating community health workers into care teams as a cost-reduction strategy while advocating for MO HealthNet reimbursement for cost-saving services.
d. Facilitating timely, location-based services in ADI areas
e. Align incentives and cost-displacement analysis to support comprehensive, wraparound care

3. **Expand access to specialty care through donations by independent physician groups, hospitals, ambulatory surgery centers, and health systems.**

4. **Address geographic and racial health disparities.**
    a. Development of a high-concordance workforce
    b. Investment in community-based primary care
    c. Investment in roles that help pts effectively understand, navigate and engage with preventive and routine healthcare.

5. **Expand community-based urgent and preventive care.**

6. **Develop and enhance regional and county-specific policy and planning frameworks.**

7. **Integrate ADI into risk stratification models to support proactive resource allocation.**

Next Steps

1. KCMS Foundation will assess our role in supporting these recommendations through direct services, community collaborations, and policy. We will engage our partners and community stakeholders to best align our work with existing programs and services.

2. Encourage all community stakeholders; public, private, and nonprofit to utilize this report in shared strategic planning and resource development.

RECOMMENDATIONS

1. **Monitor Impact of Medicaid Expansion and Ongoing Re-enrollment Changes:** Post-expansion Medicaid trends suggest expanded coverage has increased access to care through the EDs. Ongoing monitoring of coverage stability, outpatient use, and ED diversion programs is essential, especially in considering the expected impact of the "Big, Beautiful Bill" implementation through 2029. This will require collaboration and data-sharing across organizations in the Kansas City metro for the most accurate depiction of the situation, as well as advocacy for services which effectively support access to care through ED diversion programs. Cost-displacement analysis can guide effective investment strategies supporting improved patient health outcomes and reduced ED usage for uninsured and publicly insured populations.

2. **Strengthen Care Coordination for Medicaid and High-Utilizing Groups:** Although Medicaid was not an independent predictor of ED use in all years, Medicaid enrollees still exhibited longer inpatient stays and greater reliance on EDs. A comprehensive plan would focus on improving timely access to both primary and specialty care for uninsured and publicly-insured individuals. Data-informed strategies include:

    a. Case management programs, community health worker integration, partnerships with Medicaid managed care organizations and community programs for indigent care to address gaps in access. Implementing and scaling up comprehensive case management programs will proactively engage high-risk patients with personalized care plans and follow-up support;

    b. Investment in collaborative solutions to increase timely access to care for uninsured individuals;

    c. Integrating community health workers into care teams will provide culturally relevant assistance, education, and navigation. The lack of Medicaid reimbursement for community health workers is a fundamental systemic barrier to this crucial and necessary step and should continue to be addressed in policy advocacy;

    d. Extending clinic hours, offering telehealth options, and utilizing mobile health units to increase the availability of appointments and prioritize continuity of care, facilitates seamless transitions between providers, and offers extended hours or urgent care alternatives; and

    e. Partnering with MCOs to align incentives around preventive care will help reduce service fragmentation and support comprehensive, wraparound care.

3. **Expand Access to Specialty and Subspecialty Care for Chronic Conditions:** Bone, brain, and skin disorders were strong predictors of ED use, suggesting limited access to orthopedics, neurology, and dermatology. Strengthening community referral networks and expanding access to outpatient specialty services can improve routine healthcare access and decrease need for ED visits for people with these conditions. For patients without insurance, increased access to respiratory and renal care (as indicated by the univariable analysis) and diabetic and mental health care (as indicated by the qualitative assessment) will improve patient health outcomes.

4. **Address Geographic and Target Racial and Geographic Disparities with Culturally Tailored Interventions:** Persistent higher ED use in ADI and among Black residents calls for targeted interventions to address systemic barriers. Interventions should focus on improving continuity of care through meaningful access to affordable, timely, culturally competent healthcare, including health education, wellness, and navigation services in identified geographic areas with higher ED use. Long-term investment in developing a high-concordance workforce is essential, as is investing in community-based primary care, care navigators and community health workers (CHWs) can help patients effectively navigate the healthcare system and connect them to preventive services.

5. **Expand Community-Based Urgent and Preventive Care:** High rates of non-urgent ED use in Clay and Platte counties indicate gaps in timely outpatient services. Regional investment should prioritize patient access to care strategies, especially those that support ED diversion programs; wrap-around services for social drivers of health, aligned charitable care policies, after-hours clinics, telehealth, mobile health units, and same-day primary care access in high-ADI ZIP codes. Further, care in these settings should have a prevention mindset, rather than a solely reactive treatment approach.

6. **Develop and Enhance Regional and County-Specific Policy and Planning Frameworks:** Given the diverging trends in ED use across counties, a targeted and coordinated policy response is crucial. County and regional needs assessments and coordinated community health planning at multiple levels must have input from the community organizations that support programs to address social drivers of health. Specifically, Jackson County requires system-level investment in mental health, chronic disease infrastructure, and discharge planning. Platte County, though historically low-utilizing, shows early signs of rising burden and needs proactive outreach.

7. **Strengthen Care Coordination for Medicaid and High-Utilizing Groups:** Although Medicaid was not an independent predictor of ED use in all years, Medicaid enrollees still exhibited longer inpatient stays and greater reliance on EDs. Case management programs, community health worker integration, and partnerships with Medicaid managed care organizations can address these gaps. This comprehensive strategy focuses on improving timely access to both primary and specialty care. Key components include extending clinic hours, offering telehealth options, and utilizing mobile health units. These efforts are designed not only to increase the availability of appointments but also to develop patient-centered medical homes. This approach prioritizes continuity of care, facilitates seamless transitions between providers, and offers extended hours or urgent care alternatives to redirect non-emergency visits away from the ED. Telehealth platforms should be utilized to overcome geographical barriers and enhance convenience for patients. Additionally, implementing and scaling up comprehensive case management programs will proactively engage high-risk patients with personalized care plans and follow-up support. Integrating community health workers into care teams will provide culturally relevant assistance, education, and navigation. Partnering with MCOs to align incentives around preventive care will help reduce service fragmentation and support comprehensive, wraparound care.

8. **Integrate ADI into Risk Stratification Models:** The ADI is an extremely helpful tool and its predictive value reinforces its use in planning and targeting interventions. Researchers have identified the ADI as the most helpful tool in informing health equity interventions (Powell et al., 2023). Embedding ADI into population health dashboards and risk stratification tools will enable proactive resource allocation.

INTRODUCTION

Access to healthcare is a fundamental determinant of health and well-being for people and communities, yet it remains unevenly distributed throughout the United States. In Missouri, particularly within the Kansas City metropolitan area—including Jackson, Clay, and Platte counties—significant barriers persist for low-income, uninsured, underinsured, and medically indigent populations. These barriers contribute to poor health outcomes, widening disparities, community health and economies.

Since 2020, this region has experienced seismic shifts impacting our community's healthcare capacity and the ability of our residents to access healthcare. The social and economic effects of an historic state referendum and global pandemic have fundamentally changed our community's healthcare infrastructure, for better and for worse. In 2025, federal law will require additional changes over the next five years.

In 2020, voters in Missouri passed a constitutional amendment expanding Medicaid eligibility to individuals earning up to 138% of the federal poverty level, extending healthcare insurance coverage to people who previously could not qualify for Medicaid or subsidies for marketplace coverage. Applications for expanded MO HealthNet became available in August of 2021. At the same time, the global pandemic resulted in a national pause of Medicaid eligibility reviews as well as widespread and ongoing shortages in healthcare staffing across the region. In 2023, Medicaid eligibility reviews resumed in what is now known as Medicaid unwinding.

Many residents continue to face obstacles in accessing essential services such as primary care, specialty care, behavioral health, therapies, and prescription medications. These challenges are compounded by systemic issues such as limited provider availability, administrative burdens, and gaps in Medicaid coverage for certain services.

The Kansas City Medical Society Foundation and its Metro Care program gets surgeries, procedures, and other medical care donated to people with low incomes and no access to insurance. Navigating these changes with our community partners demands research. This study provides insight into the changing healthcare landscape and opportunities for Metro Care, the KCMS Foundation, and our community leaders to chart a path forward for every resident of our region.

Recognizing the need for a deeper understanding of these issues, the Kansas City Medical Society Foundation (KCMS Foundation)—in partnership with Jackson County Public Health—has initiated a Healthcare Access Gap Analysis. This initiative aims to identify and address the root causes of healthcare access disparities in the Kansas City metropolitan area. The findings will inform both direct service programming and broader systems-change initiatives designed to improve healthcare equity.

The analysis employed a mixed-methods approach, integrating:

- **Quantitative analysis** using PAS data to assess the prevalence of conditions that could be managed in primary care settings, and to examine disparities by race, gender, age, income, insurance status, and geography.
- **Qualitative analysis** from interviews with frontline social service staff to understand the lived experiences of residents navigating the healthcare system post-Medicaid expansion.

- **Gap analysis** using root cause frameworks and GIS mapping to visualize and prioritize geographic and demographic disparities in access to care.
- **MO HealthNet policy review** to understand what healthcare limits exist for Missouri residents.

The population of focus for this analysis was Clay County, Jackson County, and Platte County. According to the American Community Survey (2023):

- **Clay County** has a total population of 255,566 with a median age of 37.6 years. The median household income is $86,150.
- **Jackson County** has a total population of 717,021 with a median age of 36.9 years. The median household income is $67,178.
- **Platte County** has a total population of 108,751 with a median age of 38.7 years. The median household income is $95,748.

This comprehensive approach identified factors that hinder access to medically necessary services, and hence the development of actionable, data-driven recommendations that can guide policy reform, resource allocation, and community-based interventions.

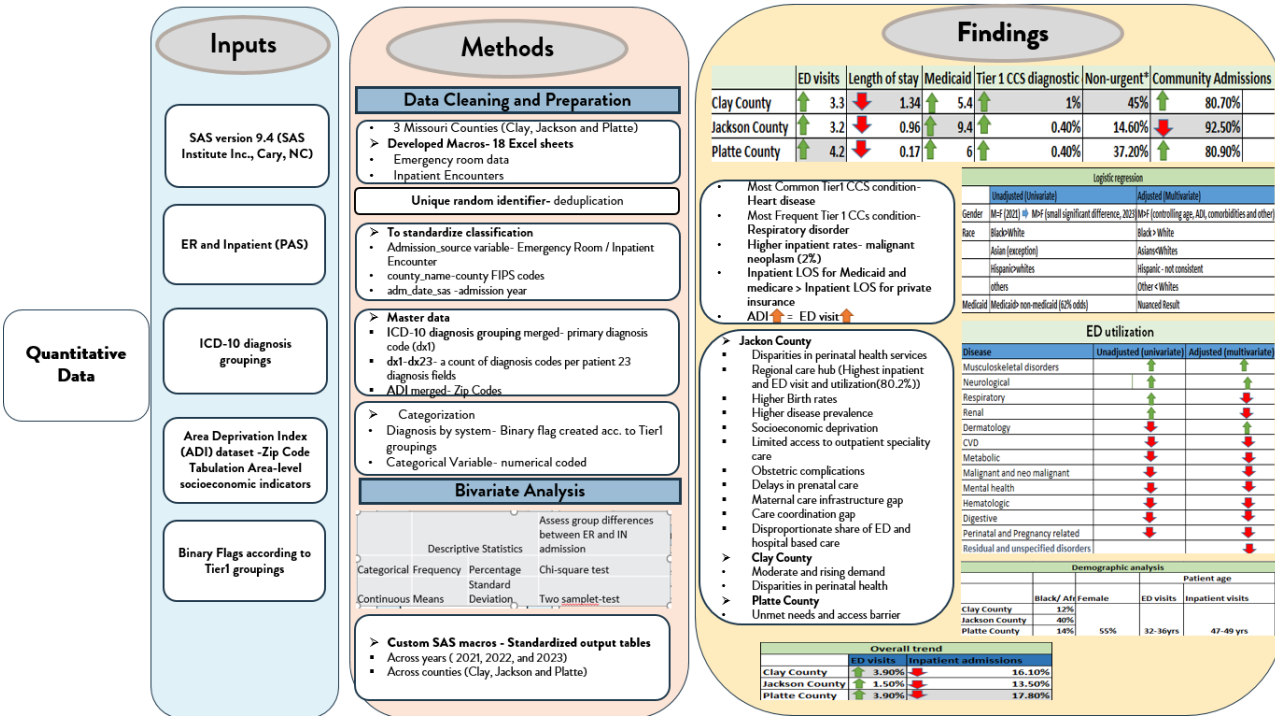
OBJECTIVES

Medicaid Policy Review on Expansion

1. To understand Medicaid coverage of services, related access gaps and policy on expansion. Assessment of healthcare services not covered by expanded Medicaid for MO HealthNet recipients who are otherwise eligible.

Quantitative

1. Comprehensively analyze emergency room (ER) data to identify prevalence of conditions typically managed in primary care or by specialists seen in the ER to reveal healthcare access gaps within the Kansas City metropolitan area for Missouri residents.
2. Identify and understand key barriers preventing residents from accessing medically necessary healthcare services, particularly non-emergency services.
3. Examine healthcare disparities based on demographics (race, gender, age, income, insurance status) and geographic location (ZIP codes) using quantitative data sources, to identify population groups and areas experiencing the most significant disparities.
4. Prioritize and rank data-driven healthcare access gaps and barriers affecting Missouri residents.
5. Develop actionable recommendations to address these access gaps and reduce healthcare disparities across the region.

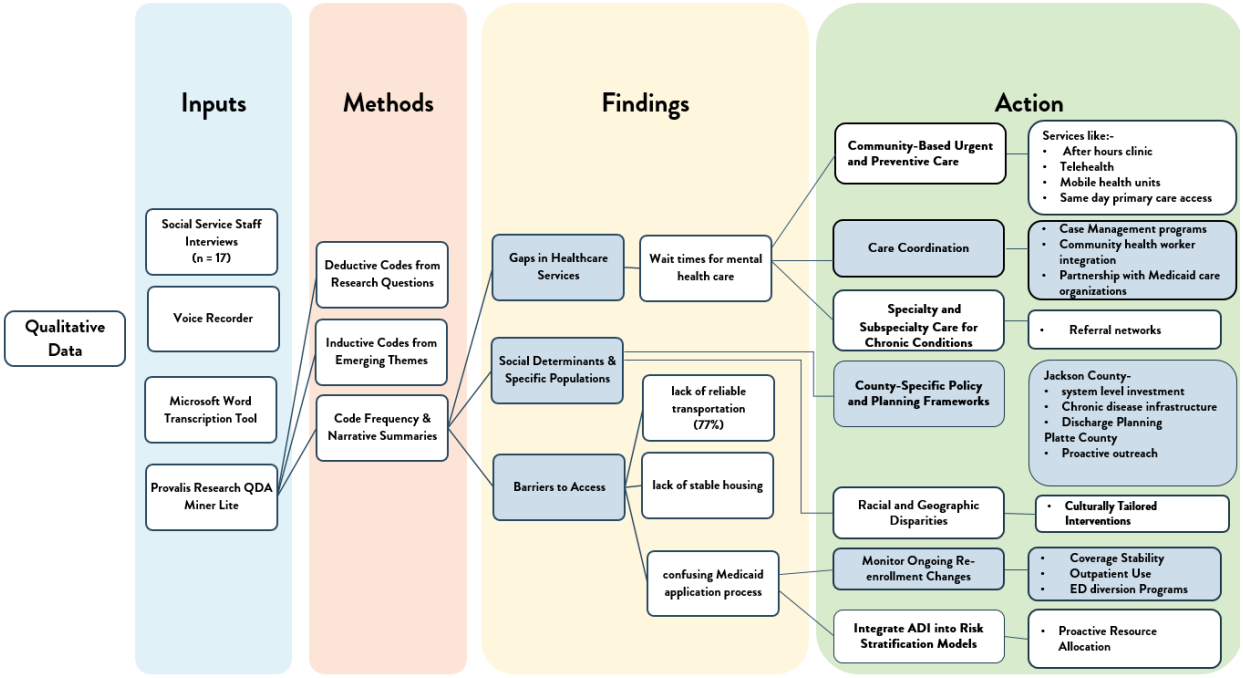


Objective Category	Specific Objectives
Utilization Trends	Assess differences in ED utilization rates across Jackson, Clay, and Platte counties between 2021 and 2023 and across years; Assess differences in inpatient admissions rates across counties and years; Compare ED vs. inpatient utilization by insurance type.
Tier 1 CCS Conditions Utilization	Compare ED visit rates for Tier 1 CCS conditions (heart, mental health, kidney/genitourinary, blood, bone, brain, malignant, metabolic, perinatal/pregnancy, skin) across counties from 2021 to 2023; Compare inpatient admission rates for Tier 1 CCS conditions across counties from 2021 to 2023; Calculate average number of inpatient and ED visits per 1,000 residents by CCS category and identify the top 3 categories per county.
Seasonality & Medicaid Expansion Impact	Analyze seasonal trends in ED and inpatient visits by admission/discharge dates and stratify by demographics and insurance type post-Medicaid expansion; Evaluate changes in ED utilization since 2021 following Medicaid expansion.
Barriers to Medically Necessary Care	Quantify non-urgent/elective ED visits by insurance type and county; Determine percentage of inpatient admissions for CCS conditions originating from ED visits; Compare LOS for inpatient admissions by CCS category and insurance type; Assess differences in inpatient admissions and ED visits for CCS conditions by insurance type. Assess changes in ED utilization post-Medicaid expansion by demographics and insurance type; Compare average LOS for inpatient admissions by insurance and diagnosis between 2021 and 2023.
Prioritizing Data-Driven Gaps	Identify ZIP codes with the highest ED visit rates per 1,000 residents and analyze correlation with ADI scores; Assess association between insurance type and ED visits for ACSCs; Analyze trends in ED visits for Tier 2 conditions (respiratory, digestive) over time and assess change post-Medicaid expansion.

Disparity Analysis by Demographics	Evaluate whether demographic variables (age, sex, race/ethnicity) and insurance type predict ED utilization for Tier 1 CCS conditions; Determine if demographic factors predict inpatient admissions for preventable conditions across counties; Compare ED visit rates by race/ethnicity for each CCS category across counties; Assess disparities in inpatient admissions by insurance and diagnosis category.
Coverage Gap Assessment under Medicaid Expansion	Determine association between insurance type and ED visits to highlight coverage gaps; Compare utilization between Medicaid and non-Medicaid by CCS category; Identify percentage of ED visits and inpatient admissions for services among Medicaid recipients.

Qualitative

1. To understand post-expansion barriers in accessing healthcare services, including primary care, specialty care, therapies, prescription medications, durable medical equipment/adaptive technology.



Objective Category	*Specific Objectives*
Common Barriers to Healthcare Access	What are the most frequent challenges residents face when accessing various healthcare services (primary care, specialty care, therapies, medication, medical equipment, etc.? Barriers include, but are not limited to enrollment, eligibility, affordability, transportation, language access, and cultural competency.
Impact of Medicaid Expansion	How has Medicaid expansion affected access to care for your clients? Have you observed improvements, persistent challenges, or new barriers emerging?

Variations in Access	Do different populations (e.g., low-income, uninsured, underinsured) experience different access barriers? How do these barriers intersect with other social determinants of health?

MEDICAID POLICY REVIEW

Medicaid Expansion Timeline

January 2014 —The federal government begins providing funds for states who opt to expand Medicaid eligibility; 25 states expand eligibility starting January 1, 2014

March 2020 - pause in Medicaid eligibility reviews began in March 2020 as part of the Families First Coronavirus Response Act

August 2020 – Missourians vote to add the Medicaid expansion amendment to the state constitution, making Missouri 1 of 41 states expanding Medicaid

February 2021 — Missouri submits Medicaid expansion State Plan Amendment to the Centers for Medicare and Medicaid Services (CMS).

May 2021 – A group of individuals eligible for the Medicaid expansion filed a lawsuit against the state after Gov. Parson withdrew the State Plan Amendment and announced the expansion would not happen because the bill did not cite a source of revenue

June 2021 — Judge rules Missouri does not have to expand Medicaid; plaintiffs appeal

July 2021 – The Missouri Supreme Court rules that the Medicaid expansion amendment is allowed under the constitution and that funding will come from the legislature's budget appropriation

August 2021 – Applications open for expanded Medicaid coverage

October 2021 – Applications begin to be processed and coverage is granted retroactively to July 2021

February 2022 – The Missouri House passed a bill that would impose work requirements on those eligible for Medicaid expansion, requiring funding to be subject to legislative appropriations each year. The 2022 legislative session ends without the Senate passing the bill and is not written into law

May 2023 – Missouri General Assembly passes bill to extend postpartum Medicaid coverage from 60 days to one year postpartum

June 2023 – The one-year "unwinding" process begins, where yearly verification for Medicaid is re-implemented as the COVID-19 state of emergency ends. This process removes individuals who fail to demonstrate eligibility from Medicaid

July 2023 – Governor Parson signs the extended postpartum coverage into law

January 2024 – The federal government requires all states to provide 12 months of continuous eligibility for children under 19 who receive CHIP or Medicaid coverage

May 2024 – Missouri lawmakers pass a bill barring Planned Parenthood from receiving Medicaid reimbursements; Governor Parson signs the bill into law

August 2024 – Planned Parenthood was notified of its removal from Missouri's Medicaid program by the Department of Social Services; Planned Parenthood filed a lawsuit against the state, seeking a court order to block the new law; the case remains pending.

July 2025 – The federal budget reconciliation bill, commonly referred to as the "Big, Beautiful Bill," is passed in the Senate and the House, and is signed into law by the President. This bill enacts major changes to Medicaid at the federal level, including the implementation of work requirements and more frequent eligibility checks for enrollees.

Source: KFF, 2024; KFF, 2025

Legal Action Associated with Medicaid Expansion and Impact on Services, Providers, and Economy

Pushback from Legislature

In 2020, Missourians voted to expand Medicaid and increase the number of people eligible for health coverage under MO HealthNet (Missouri's Medicaid program). However, expansion faced adversity from Missouri government officials. A bill that separated funding for the newly expanded group from the remainder of Medicaid funding did not pass through the House or Senate. This led Governor Parson to withdraw the Medicaid expansion amendment, citing that it did not disclose a funding source when it was on the ballot (JCPH, 2021).

Advocates for Medicaid expansion filed a lawsuit to keep Medicaid expansion from being withdrawn. Still, the Missouri Circuit Court ruled in favor of Missouri legislatures and deemed removing the Medicaid expansion amendment constitutional. This decision was appealed, and the case was brought to the Missouri Supreme Court, where it was ruled that Medicaid expansion must be implemented (JCPH, 2021).

Reproductive Health

While the Missouri Supreme Court set Medicaid expansion back into motion, there was still pushback, particularly on reproductive and postpartum health. The 2021 legislative session was tasked with renewing the Federal Reimbursement Allowance (FRA), a critical source of funding for Medicaid that imposes taxes on medical facilities. During the renewal process, Missouri legislators tried to add two amendments, one preventing Medicaid enrollees from choosing specific kinds of birth control and another decreasing the choice enrollees have on where they seek care. Both of

these amendments were attempts to eliminate funding for birth control methods deemed by legislators to be "abortion drugs or devices." However, while Medicaid nor the federal government does not fund abortion procedures, other reproductive healthcare services these clinics provide must be reimbursed, similarly to other healthcare clinics. Further, the amendment stated that intrauterine devices (IUDs) and emergency contraception were abortive devices, which is not valid. After Governor Parson called a special session, the FRA was successfully renewed without the passing of the proposed amendments (JCPH, 2021).

Postpartum Health

Previously, pregnant women enrolled in MO HealthNet received postnatal coverage until just sixty days after delivery, contributing to a significant gap in coverage for women. It is estimated that 55% of postpartum women enrolled in Medicaid will experience a coverage gap 6 months after delivery. Further, Missouri has had historically high rates of maternal mortality, ranking 44th in the United States, with even higher rates in Jackson County and among women of color. The majority of maternal deaths occur after six weeks postpartum, and pregnancy can aggravate some pre-existing conditions, demonstrating the need for maternal Medicaid coverage to be extended (JCPH, 2023). On July 7th, 2023, Governor Parson signed two bills that expanded Medicaid and CHIP coverage to postpartum women for an entire year after delivery in hopes of decreasing the maternal and infant mortality rates in Missouri. This change began to be implemented in November 2023 (DSS, 2023). It was estimated that Missouri could use $1.5 billion in federal funding to extend postpartum Medicaid coverage to one year and would have a great return on investment. This is because postpartum healthcare costs much less than prenatal healthcare. Expanding Medicaid overall has positively impacted providers by reducing hospital closures and decreasing the number of unpaid services (Missouri Foundation for Health, 2020).

Missouri HealthNet (Medicaid) Eligibility Requirements

Medicaid in Missouri consists of many MO HealthNet programs. Non-disabled adults between the ages of 19 and 64 may now be eligible for coverage through MO HealthNet if they:

- Live in Missouri and are a United States citizen (or qualified non-citizen)
- Make less than the **annual income limit** for their household size
- Are not eligible for or receiving any of the following:
    - MO HealthNet for Pregnant Women
    - MO HealthNet for Families
    - MO HealthNet for the Aged, Blind & Disabled
    - Medicare Part A or B
    - MO HealthNet Coverage for Former Foster Care Youth

Note: These requirements include the adult expansion group. Medicaid expansion in Missouri did not change the services covered under MO HealthNet. It only expanded eligibility requirements, so more Missourians qualify for Medicaid (DSS, 2024a).

Individuals and their children may be eligible for MO HealthNet for Families if they:

- Live in Missouri and are a United States citizen (or qualified non-citizen)
- Have (or apply for) a Social Security Number
- Make less than the **annual income limit** for their household size
- Cooperate with child support for medical support

Seniors aged 65 or older may be eligible for MO HealthNet for the Aged, Blind, and Disabled if they:

- Live in Missouri and are a United States Citizen (or qualified non-citizen)
- Have (or apply for) a Social Security Number
- Make less than the annual income limit (85% of the federal poverty level) for their household size or spend-down income to the limit with medical costs
- Do not own resources (including cash and securities) over the resource limit for their household size (this does not include their home, one vehicle, household goods, or particular other property)
- Are not a resident of a public, private, or endowed institution (unless it's a public medical institution)

Children and youth aged 18 and under may be eligible for MO HealthNet for Kids if they:

- Live in Missouri and are a United States citizen (or qualified non-citizen)
- Have (or apply for) a Social Security Number
- Live in a household making less than the annual income limit for their household size

People with disabilities may be eligible for MO HealthNet for the Aged, Blind, and Disabled if they:

- Live in Missouri and are a United States citizen (or qualified non-citizen)
- Have (or apply for) a Social Security Number
- Are permanently and totally disabled, meaning they are unable to be gainfully and substantially employed for one or more years due to physical or mental incapacity
- Have applied for other benefits (ex. social security)
- Make less than the annual income limit for their household size or spend down income to the limit with medical costs
- Do not own resources (including cash and securities) over the resource limit for their household size (this does not include their home, one vehicle, household goods, or particular other property)
- Are not a resident of a public institution (unless it's a public medical institution)

Pregnant women may be eligible for MO HealthNet for Pregnant Women if they:

- Live in Missouri and are a United States citizen (or qualified non-citizen)
- Have (or apply for) a Social Security Number
- Make less than the annual income limit for their household size

Adults who are blind or visually impaired may be eligible for MO HealthNet for the Aged, Blind, and Disabled if they:

- Live in Missouri and are a United States citizen (or qualified non-citizen)
- Have (or apply for) a Social Security Number
- Are legally blind (vision less than 5/200)

- Do not have a sighted spouse who can provide support
- Make less than the annual income limit for their household or spend-down to the limit with medical costs
- Do not own resources (including cash and securities) over the resource limit for their household size (not including home, clothes, furniture, household equipment, jewelry, or any other property)
- Are not public asking for donations
- Are not a resident of a public institution (unless it's a public medical institution)

Enrollment and Coverage Trends

Coverage Trends in Missouri over Time

After the process of expansion began, around 400,000 additional Missourians enrolled in MO HealthNet due to expanded eligibility requirements. At the same time, the national pause in eligibility reviews enabled more people to retain MO Health Net coverage.

In 2023, after the state of emergency for COVID-19 ended in the United States, the federal government began requiring states to enter into a process called unwinding. During the state of emergency, Medicaid enrollment in Missouri saw an all-time high, and Missouri temporarily stopped verifying eligibility each year for Medicaid recipients. The process of unwinding refers to the continuation of verifying eligibility for Medicaid recipients each year. When the process began in June 2023, nearly 200,000 Missourians would lose HealthNet coverage over the coming months. Thirty thousand individuals reside in Jackson County (McBride, 2024).

During the unwinding phase, children experienced the largest loss of coverage among all demographic groups, followed by individuals with disabilities, custodial parents, the adult expansion group, pregnant women, and the elderly. One possible reason for the significant drop in coverage for children is that they have historically represented one of the largest populations of Medicaid enrollees. However, it remains unclear why so many children lost coverage, especially since the eligibility requirements for them are less stringent (McBride, 2024).

Uninsured rates in Jackson County have decreased yearly since 2021, with the latest data estimating 9.6% of Jackson County being uninsured. Uninsured rates in Clay County similarly reduced from 2021 to 2022 but increased slightly in 2023. Platte County uninsured rates increased somewhat from 2021 to 2022 but decreased by almost 50% in 2023 (U.S. Census, 2024). Medicaid enrollment in all three counties followed similar patterns – increasing after Medicaid expansion and decreasing after unwinding (Washington University, 2024).

According to 2023 U.S Census ACS data, Jackson County residents are most likely to be uninsured if they identify with these categories:

- Adults, particularly 19-25 years of age
- Male
- Other race, Hispanic or Latino, or American Indian and Alaska Native

- Live in a home with a male reference person and no spouse, or living with other families
- Born outside of the U.S., particularly non-citizens
- Do not have a disability
- Educational attainment less than a high school diploma
- Worked less than full time or did not work at all in the last 12 months
- Yearly household income less than $75,000 a year, particularly $25,000-$49,000 a year

According to 2023 U.S Census ACS data, Clay County residents are most likely to be uninsured if they identify with these categories:

- Adults aged 19 to 25
- Male
- Other races, Hispanic or Latino, or Black or African American
- Live in a non-family household, particularly with a single male reference person
- Born outside of the U.S., particularly non-citizens
- Have a disability
- Less than high school graduate or high school graduate education level
- Worked less than full-time in the last 12 months
- Household income of $25,000-$49,999 or less than $25,000

MO HealthNet Caseload by Category of Aid

The proportions of MO HealthNet caseload on the basis of aid category have followed similar trends since 2018, with children consistently making up the majority of Missouri's caseload. This is followed by the adult expansion group (after expansion started in 2021), persons with disabilities, the elderly, custodial parents, and pregnant women/women's health services.
Since the unwinding process began in 2024, Missouri has experienced a decline in Medicaid enrollment among children, individuals with disabilities, and custodial parents. This decrease may be due to a reduction in MO HealthNet recipients who still meet eligibility requirements after the pandemic. However, there has been a slight increase in the number of pregnant women enrolling in Medicaid, as well as an increase in the adult expansion group (McBride, 2025).

Impacts of July 2025 Federal Budget Reconciliation Act Passage

Most recently, the Federal government enacted a law that would increase the requirements for individuals to keep their Medicaid coverage. Under this law, able-bodied adults aged 19-64 will need to provide documentation that shows they work at least 80 hours a month, are enrolled in school, or completing 80 hours of community service. In addition, Medicaid eligibility will need to be reviewed every six months, rather than once a year.

These changes are projected to significantly decrease the rates of Medicaid coverage in Missouri, with 1 in 8 expected to lose coverage, or 12% of current Medicaid enrollees (Manatt Health, 2025). In Jackson County, it is estimated that 13,400 to 19,100 will lose coverage (JCPH, 2025). Some

Missourians may lose coverage, simply from administrative errors, such as lacking reliable internet access, being unable to provide proper work documentation, lost paperwork, among other errors. Further, this act adds more significant administrative work for the Missouri Department of Social Services with the requirement of eligibility checks twice yearly. The Family Support Division has estimated similar changes may take upwards of $35 million to implement and will add stress to an already struggling infrastructure (State of Missouri, 2025).

Impact on Healthcare Providers

Medicaid expansion across the U.S. is known to have an overall positive impact on healthcare providers and hospitals. While reducing the risk of hospital closure, expansion can also support health clinics and offices by eliminating some barriers that keep medical professionals from effectively managing the care of their patients. Particularly, Medicaid expansion supports rural health providers and hospitals by decreasing uncompensated care and keeping rural hospitals open (Missouri Foundation for Health, 2020).

Services Covered and Not Covered

Services Required by Federal Government to be covered under Medicaid

- Inpatient hospital services
- Outpatient services, including those delivered in rural health clinics and federally qualified health centers
- Physician services, including psychiatry
- Family planning services and supplies
- Nursing facility services and home care
- Skilled home health services, including durable medical equipment
- Lab and X-ray services
- Nurse-midwife, certified family nurse practitioner, and certified pediatric nurse practitioner services
- Home health services
- Non-emergency medical transportation
- Screening and treatment services to children under age 21 under the Early and Periodic Screening, Diagnostic, and Treatment (EPSDT) program, also known as the Healthy Children and Youth program in Missouri

Optional Services Covered Under Medicaid, not required by Federal Law

- Pharmacy
- Rehabilitation
- Mental health services (may be mandatory in some instances)
- In-home care
- Dental services

It is important to note that, due to the state needing to cover a higher percentage of Medicaid costs as a result of the "Big Beautiful Bill," these optional services could be cut first in order to keep costs down.

Covered for Adult Expansion Group in Missouri

- Reproductive health services:
  - STD testing and treatment
  - Family planning and preconception discussions
- Maternal health services:
  - Prenatal and postnatal care
  - Breastfeeding support
  - During pregnancy and one year after birth:
    - Transportation to medical appointments
    - Pharmacy coverage
    - Vision and dental services
    - Diabetes management
    - Podiatry services
    - Behavioral health services
    - Physical therapy
- Primary care:
  - Yearly well visits
  - Visits for illness
  - Preventive screenings
  - Care management
- Emergency and inpatient care:
  - Emergency room visits
  - Ambulance services
  - Inpatient overnight stays
- Other:
  - Pharmacy
  - Nursing facility stays
  - Substance use treatment
  - Lead poisoning treatment
  - Laboratory tests and x-rays
  - Necessary outpatient procedures
  - Smoking cessation counseling
  - Tuberculosis treatment
  - Specialist visits with referral from primary care provider
  - Transplant services

Limited Coverage for Adult Expansion Group in Missouri

- Asthma care
- Chiropractic services
- Alternative therapy for chronic pain

- Comprehensive rehabilitation for serious head injuries
- Diabetes education, prevention, and supplies
- Dental and vision services
- Durable medical equipment
- Rehabilitative skilled therapy
- Hearing aids
- Home health services
- Occupational, physical, and speech therapy
- Podiatry services
- Transportation to medical appointments

Not Covered for Adult Expansion Group in Missouri

- HIV treatment
- Adult day health care

Source: Missouri Department of Social Services, 2024b

Limitations to Services based on Eligibility

If individuals are ineligible for MO HealthNet for adults and children through managed care, but eligible for MO HealthNet for Pregnant Women, for the Aged, Blind, and Disabled, for Families, or for Medicare beneficiaries, there may be unique limitations to the services they can access.

If pregnant women qualify for MO HealthNet during their pregnancy, but do not qualify for general MO HealthNet, they will lose coverage one-year postpartum. During pregnancy and one-year postpartum, MO HealthNet for Pregnant Women covers all provider visits related to pregnancy, delivery costs, medication/supplements, mental health services, transportation to medical appointments, loss and stillbirth care, and treatment for chronic or pre-existing conditions. If pregnant women are already covered by MO HealthNet under a managed care plan, they may be eligible for additional coverage that is not available to those covered by MO HealthNet for Pregnant Women, such as coverage for a breast pump if the mother is over the age of 21, home births, doula services, care management services, and dental care during pregnancy (MDSS, n.d.).

Individuals eligible for coverage under MO HealthNet for the Aged, Blind, and Disabled, (MHABD) must have a household income under 85% of the federal poverty level, based on household size, or spend down their income enough on medical costs for the remainder of their income to be under 85% of the federal poverty level (FPL). Similarly, individuals who receive Medicare may qualify for MO HealthNet to cover co-pays or other services not fully covered under Medicare. Qualified Medicare beneficiaries must have a household income less than 100% of the FPL and adults aged 65 and up, must have a household income less than 85% of the FPL. MHABD coverage plans are provided through a fee-for-service program, rather than a managed care program, which can make it more difficult to find in-network providers. The services covered are very similar to managed care MO HealthNet, however, depending on eligibility, there are limitations on dental, vision, hearing,

comprehensive day rehabilitation, transportation to appointments, and podiatry care. MHABD also differs from managed care MO HealthNet in that it provides more coverage for long-term care, home health, hospice, HIV treatment, diabetes prevention, chiropractic services, and alternative pain therapy (MDSS, 2023).

Impact on Economy

The fiscal impact of Medicaid expansion in Missouri has not been extensively studied, but many estimates were made before expansion. These estimates found that Medicaid expansion would be almost revenue-neutral and save the state around $39 million in the first year alone. Many states that had expanded Medicaid before Missouri's expansion saw improved hospital financial performance, decreasing the risk of hospital closure. It was predicted that Missouri would see similar results (Huang et al., 2019).

The federal government essentially funds Medicaid. Missouri's state budget for fiscal year 2023 appropriated $16.9 billion for Medicaid, but only $3.1 billion comes from Missouri's state revenue, with the majority of the difference being paid by the federal government. Federal funding covers 65% of the majority of MO HealthNet programs and 76.5% of MO HealthNet for Kids. Medicaid expansion was considered almost revenue-neutral because federal funds covered 90% of the expansion group's care (Khan, 2023).

Medicaid expansion has been known to boost state economies by increasing the demand for supply and other necessary inputs that keep healthcare systems functioning. Expansion can also support employers; studies in Michigan and Ohio have shown that Medicaid expansion leads to fewer sick days or other medical-related time off taken by individuals, allowing them to work more efficiently (Missouri Foundation for Health, 2020).

Impact on Health Outcomes

While it can take years to measure changes in health outcomes, there are some initial findings of other states that adopted Medicaid expansion in the years prior to Missouri's expansion. Findings included a significant increase in primary care usage, mental health, and preventive services after expansion. Medicaid expansion has also been linked to increased diagnosis rates, management, and treatment of chronic diseases, including earlier diagnosis rates of cancer. Some studies have also shown a higher rate of prescription medications used to treat opioid use disorders and overdoses (Missouri Foundation for Health, 2020).

Self-reported studies have shown a decrease in psychological distress and poor mental health days and an increase in the overall health of beneficiaries in expansion states. Studies have also suggested that Medicaid expansion is associated with lower infant and maternal mortality rates. There have been mixed results regarding Medicaid expansion's impact on emergency room visits and its effect on decreasing health disparities (Missouri Foundation for Health, 2020).

Conclusion

Missouri Medicaid expansion was approved by Missouri voters in 2020 and implemented in 2021. It led to 400,000 additional Missourians enrolling in MO HealthNet, providing affordable healthcare. After the state of emergency ended for COVID-19, around 200,000 people were dropped from Medicaid due to the reinstatement of eligibility verification each year. The effects of expansion in Missouri have not yet been widely studied, as it can take years to measure health outcomes. However, results from other states that have expanded Medicaid led us to believe that expansion has had many benefits for providers, Missourians, and the economy. More recent changes to Medicaid enacted by the federal government may lead to a significant decrease in MO HealthNet enrollment.

METHODS

Quantitative

Statistical Methodology for Bivariate Analysis

All analyses were conducted using SAS version 9.4 (SAS Institute Inc., Cary, NC). The primary outcome variable was admission source, categorized as Emergency Room (ER) or Inpatient (IN). Descriptive statistics were calculated for all variables, with categorical variables summarized as frequencies and percentages, and continuous variables summarized as means with standard deviations.

To assess group differences between ER and IN admissions, chi-square tests were used for categorical variables (e.g., gender, insurance type, comorbidity indicators), while two-sample t-tests were used for continuous variables (e.g., area deprivation index, number of diagnoses). A p-value of <0.05 was considered statistically significant.

Importantly, this analysis was conducted separately for each calendar year (2021, 2022, and 2023) and stratified by county: Clay, Jackson, and Platte. This approach allowed for assessment of trends and variability across both time and geographic locations. All datasets were cleaned and harmonized prior to analysis, and custom SAS macros were used to generate standardized output tables across years and counties.

Emergency department (ED) visit rates were calculated as the number of ED visits per 1,000 population for each of the three counties—Clay, Jackson, and Platte—across the years 2021 to 2023. County-level population estimates were derived from U.S. Census data and remained constant over the years. The ED visit rate was computed using the formula: (Number of ED Visits ÷ Population) × 1,000.

To further understand healthcare utilization by diagnosis type, ED and inpatient visit rates per 1,000 residents were calculated by Clinical Classification Software (CCS) categories and stratified by county.

To evaluate predictors of ED utilization, separate univariable logistic regression analyses were conducted for each year (2021, 2022, and 2023). The binary outcome variable was defined as whether or not an individual had at least one ED visit during the study year. Covariates in the univariable models included age (continuous), sex (male vs. female), race/ethnicity (White [reference], Black, Asian, Other, and Hispanic/Latino), national and state-level Area Deprivation Index (ADI) scores (continuous), county of residence (Clay as reference, compared to Jackson and Platte), Medicaid insurance status (yes vs. no), and presence of specific CCS diagnostic categories (binary indicators for each). Odds ratios (ORs), 95% confidence intervals (CIs), and p-values were reported. Figures 3A through 3C provide forest plots for each year, visually displaying the direction and strength of association for each covariate on a logarithmic scale.

Multivariable logistic regression models were also developed to assess the independent associations between predictors and ED utilization after adjusting for potential confounding variables. These models included all covariates listed above and were stratified by year. Race and county were included as categorical variables with White and Clay serving as reference categories, respectively.

Each CCS category was entered into the model as a separate binary variable. The resulting adjusted odds ratios and 95% confidence intervals are presented in Table 6. All statistical models were checked for multicollinearity using variance inflation factors (VIFs), and robust standard errors were applied to account for heteroskedasticity.

Monthly emergency department (ED) visit counts were analyzed separately for each county using time series methods. The data included all ED visits from January 2021 through December 2023. First, the dataset was restricted to visits occurring between 2021 and 2023. Each ED visit record included a county identifier and admission date. To aggregate data at the monthly level, the admission date was converted and records were collapsed to provide the total number of ED visits per county per month. For each county, a numeric time variable and labels representing each month-year (e.g., "02-2021") were generated to facilitate plotting and interpretation. Descriptive time series plots of monthly ED visits were created for each county, with x-axes labeled by month-year to visualize trends and seasonal patterns. To formally test for seasonal effects, we constructed linear regression models for each county, regressing monthly ED visit counts on the categorical month-of-year variable (January through December). This approach estimates the difference in visit counts for each month relative to the reference month in January, providing insight into within-year variation and the presence of significant seasonal peaks or troughs. For exploratory forecasting, we fit autoregressive integrated moving average (ARIMA) models of order (1,1,1) to the monthly ED visit series for each county. Forecasts for the final quarter of 2023 were generated where model diagnostics permitted. Model fit was evaluated by the proportion of explained variance (R^2) and visual inspection of fitted versus observed values.

Missing data were addressed through a combination of listwise deletion for individuals with missing outcome data and multiple imputation for select covariates with less than 5% missingness. Specifically, continuous variables such as age and ADI were imputed using multiple imputation by chained equations (MICE), and missing categorical predictors were imputed using mode imputation if the proportion missing was low and not systematically biased. Data completeness was assessed prior to model construction, and sensitivity analyses were conducted to evaluate the robustness of findings to missing data handling strategies.

All statistical analyses were performed using SAS version 9.4. Statistical significance was defined as a two-sided p-value less than 0.05. All tables and figures were generated using reproducible scripts and independently verified for accuracy.

The Missouri Health and Senior Services provided existing inpatient and emergency department Patient Abstract datasets for Clay, Jackson and Platte counties. Prior to the release of these anonymized dataset, the research team at Jackson County Public Health formally requested approvals from other jurisdictions (Kansas City, Independence, Platte and Clay Health Departments) for the state to release the data to conduct the study. For the three counties, there were 1,686,286 lines of data.

Qualitative

Study Design

This qualitative study followed a saturation method, where qualitative interviews were conducted until no new themes emerged. Qualitative interviews were thematically analyzed using a deductive and inductive coding approach.

Sampling Strategy

Potential participants were identified by the KCMS Foundation through their existing relationships with social service organizations, FQHCs, and hospitals, and health departments in the Kansas City metropolitan area. Eligible participants were frontline social service workers, serving individuals in the Kansas City, MO metro, including, but not limited to, social workers, community health workers, housing coordinators, and case managers. 24 potential participants were asked to participate and 17 qualitative interviews were conducted. Participants were offered a $50 Amazon gift card upon completion of their qualitative interview.

Qualitative Data Collection & Setting

Each participant completed an individual, one-hour, semi-structured interview with the research team. All participants were asked the same set of questions, along with probing questions as needed for additional information. Interview questions were organized into the following categories: Introduction & Demographic Questions, Unmet Needs, Barriers to Accessing Healthcare, Gaps in Healthcare Services, and Suggestions for Improvement. Job title, organization type, length of time working in the field, priority populations, and daily tasks were asked at the beginning of the interview. Education level and age group were asked after interviews were conducted during the analysis phase. Interviews were recorded using a voice recorder for analysis and were conducted in person or virtually via Zoom, as decided by the participant. Interviews were conducted starting in May 2025 and were completed in mid-June 2025.

Data Analysis

A combination of inductive and deductive coding was utilized for thematic analysis of the qualitative interviews. Interview audio recordings were transcribed using the Microsoft Word transcription tool. Transcripts were imported into Provalis Research QDA Miner Lite, a qualitative data analysis software. An initial set of deductive codes was developed based on the study's research questions, relevant literature, and common themes emerging early in the qualitative interviews. As coding progressed, inductive codes were developed to capture emerging themes that were not identified during the deductive coding process. Each transcript was reviewed line-by-line, and meaningful segments of text were assigned appropriate codes, sub-codes, and sub-sub-codes. Code definitions were refined as needed throughout the analysis to most accurately capture emerging themes.

Once all transcripts had been deductively and inductively coded, the Code Frequency tool in QDA Miner Lite was used to identify the most common themes across interviews within each category of questions. This tool generated frequency counts and percentages for each code. Graphs were created within QDA Miner Lite, also using the Code Frequency tool, by selecting the appropriate rows of data and using the Chart tool. Patterns, sub-themes, and illustrative quotes were identified through close reading, and themes were synthesized into narrative summaries.

Ethical Considerations

This qualitative study was approved by the University Health Institutional Review Board (IRB). All participants provided signed informed consent before participating. No potential risks to participants were identified and personal identifiers for participants remained anonymous during the analysis and presentation of results.

RESULTS

Quantitative

Statistical Methodology for Bivariate Analysis

This report presents an analysis of healthcare access patterns in the Kansas City metropolitan area, focusing on emergency department (ED) and inpatient utilization trends across Clay, Jackson, and Platte counties from 2021 to 2023. The findings highlight evolving use patterns, disparities in service access, and the ongoing impact of Medicaid expansion.

Across all three counties, ED visits consistently outpaced inpatient care by a factor of approximately 4:1 from 2021 to 2023. The proportion of ED visits increased gradually in Clay County from 74.8% in 2021 to 78.1% in 2023. Similar upward trends were noted in Jackson County, where ED utilization rose from 77.0% to 80.2%, and in Platte County, from 74.1% to 78.3%. Jackson County exhibited the highest ED utilization rate consistently across all years, reinforcing its critical role as the region's acute care safety-net facility. Notably, the sharpest rise in ED share occurred in Jackson between 2022 and 2023, increasing by 3.1 percentage points.

Length of stay (LOS) for ED visits remained stable across counties and years, averaging under 0.2 days. In contrast, inpatient LOS demonstrated a notable decline in Clay and Platte counties by 2023. Clay County's inpatient LOS fell from 4.85 days in 2021 to 3.51 days in 2023, while Platte experienced a reduction from 4.73 days to 3.77 days. Jackson County maintained consistently higher inpatient LOS, fluctuating between 5.22 and 5.05 days, suggesting a sustained higher acuity case mix or discharge planning challenges relative to the other counties.

ED utilization by insurance type revealed an increase in Medicaid patient encounters in all three counties following Medicaid expansion. In Clay County, Medicaid visits rose from 22.7% (18,429 patients) in 2021 to 28.1% (23,822 patients) in 2023. Jackson County experienced the most significant increase, from 32.3% (104,624 patients) to 41.7% (137,181 patients), indicating a larger population of newly eligible beneficiaries or previously unmet healthcare needs. Platte County maintained the lowest proportion of Medicaid ED visits but still experienced a rise from 19.2% (5,427 patients) to 25.2% (6,771 patients) during this period.

Analysis of Tier 1 CCS diagnostic categories indicated that heart disorders were among the most common conditions, with prevalence increasing slightly across all counties. In Jackson County, heart disorder visits rose from 8.0% to 8.4%, while Clay increased from 6.4% to 7.4%, and Platte from 8.5% to 8.9%. Conversely, visits for mental health disorders declined marginally in each county. Jackson's proportion decreased from 7.3% in 2021 to 6.9% in 2023, Clay from 6.9% to 6.3%, and Platte from 7.2% to 6.9%.

Respiratory disorders consistently ranked among the top three most frequent CCS diagnoses for both ED and inpatient encounters in all counties throughout the study period. The pre-pandemic prevalence rates for respiratory category are lower for all three counties recording 9.60%; 6.60% for Clay County, 10.70%; 7.80% for Jackson County and 8.90%; 6.00% for Platte County for the asthma and COPD measures respectively. Comparing pre-pandemic and pandemic era (2022) data, no significant increase was observed in the prevalence of asthma and COPD for Clay County. Jackson

County experienced a decline and Platte County had ~ 17% increase in asthma. (*CDC PLACES, 2019 (2021 Data Release) & 2022 (2024 Data Release).* All three counties experienced an increase in ED visits from 2021 to 2022, and a decline in 2023, inpatient visits consistently declined from 2021 through 2023 except for Platte County that stayed the same from 2021-2022. While COVID-19 might have impacted these rates due to a decline observed in 2023 when COVID-19 was no longer a public health emergency, persistent high rates of respiratory-related visits in the ER compared to inpatients highlight ongoing gaps in chronic disease management, preventive care infrastructure, ED reliance for managing respiratory disorders and possibly environmental health exposures contributing to acute exacerbations.

In terms of overall trends, ED visits increased steadily across the three-year span, with Clay and Platte counties each recording a 3.9% rise, and Jackson County a smaller increase of 1.5%. Simultaneously, inpatient admissions declined sharply: Clay decreased by 13.5%, Jackson by 16.1%, and Platte by 17.8%.

Non-emergent ED utilization patterns varied by county. In 2021, the proportion of urgent and elective ED visits was highest in Clay County at approximately 45%, followed by Platte at 37.2%, and lowest in Jackson at 14.6%. The persistently higher rates in Clay and Platte indicate barriers to timely primary or urgent care access, while Jackson's comparatively lower rates suggest a broader availability of alternative urgent care services or more stringent ED triage protocols.

The majority of inpatient admissions originated from community settings rather than other healthcare facilities. This proportion was consistently highest in Jackson County, remaining around 92.5% in 2021 and 92.4% in 2023. Clay and Platte counties also experienced increases in direct community-origin admissions, with Clay rising from 80.7% to 87.6%, and Platte from 80.9% to 86.7%. This pattern reinforces the ED's gatekeeping role in regional acute care access, particularly in Jackson County.

Length of stay analyses by insurance category showed that inpatient LOS for Medicaid and Medicare patients was consistently longer than for privately insured individuals. Additionally, patients admitted for heart and mental health conditions experienced the longest average LOS, especially in Jackson County, confirming the higher acuity and complexity of these clinical presentations.

Demographic analysis revealed stable population profiles across the study period. Jackson County consistently reported a higher proportion of Black/African American patients, at approximately 40%, compared to 12–14% in Clay and Platte counties. Female patients constituted a majority of visits in all counties, around 55%, and the average patient age remained consistent, with ED visits averaging 32–36 years and inpatient visits 47–49 years.

Post-Medicaid expansion, all counties experienced growth in Medicaid ED visits without a proportional increase in inpatient admissions, indicating persistent coverage gaps in preventive and outpatient services. This pattern was especially pronounced in Jackson and Clay counties. This finding is consistent with the theme identified in the qualitative insights highlighting wait times for specialty appointments and limited specialty care options which may lead to increased use of the emergency room.

Additional findings include higher inpatient rates for malignant neoplasms in Jackson County, accounting for approximately 2% of admissions, with these cases rarely originating from the ED.

Pregnancy-related conditions were notably more frequent among inpatients in Jackson and Clay counties, pointing to possible disparities in perinatal health services. External causes of injury maintained a steady burden on ED resources but seldom led to inpatient admissions.

In summary, several key patterns emerge from these findings. Rising ED utilization over time reflects growing demand for emergency services. The COVID-19 pandemic in 2020 produced a temporary dip, followed by a rebound in 2021, indicating deferred care returning alongside new healthcare demands. Capacity planning for EDs and hospitals must account for such fluctuations, particularly in crisis periods.

Geographic disparities are evident, with Jackson County functioning as a regional care hub, consistently reporting the highest ED and inpatient use. Smaller counties like Platte, though lower in absolute visits, showed significant per capita demand, suggesting unmet needs or access barriers.

Insurance patterns followed expected trends, with Medicaid patients exhibiting higher ED reliance and longer inpatient stays. These findings support investment in care coordination programs for publicly insured and uninsured populations, aiming to divert non-urgent cases from EDs and improve chronic disease management. Meanwhile, the longer LOS among Medicare patients highlights the need for enhanced discharge planning and post-acute care options for older adults.

Emergency Departments serve as the principal entry point for hospital admissions, especially in Jackson County, which underscores the importance of maintaining ED operational efficiency and timely patient flow. Investing in telehealth and mobile clinics to reach patients before conditions escalate, the use of health levies to fund community centers and clinics, integrating care coordination programs to guide patients towards appropriate care settings can help in the systemic shift towards increase health care system capacity, manage health needs at the lowest possible level of complexity and reduce over-reliance on the ED. The stable admission proportions suggest effective triage practices, but the longer stays for transferred cases reflect the complexities of coordinating care for critically ill patients (Dunser et al., 2024).

Rates of ED utilization per 1,000

Over the three-year period from 2021 to 2023, emergency department (ED) utilization in Clay, Jackson, and Platte counties revealed important differences in both overall rates and condition-specific healthcare demand. When expressed per 1,000 residents, the annual ED visit rates showed consistent increases in each county, though the magnitude and trajectory of those changes varied.

In Clay County, ED utilization rose gradually over the three years. The county recorded 298.6 visits per 1,000 residents in 2021, increasing slightly to 300.7 in 2022, and reaching 310.4 in 2023. This represents a modest 4% rise over the study period, which translates to an additional 3,240 ED visits in 2023 compared to 2021, assuming a stable population base. While not dramatic, this upward trend suggests increasing reliance on emergency care among Clay residents.

In contrast, Jackson County consistently exhibited the highest ED visit rates across all three counties, with a more notable increase over time. In 2021, Jackson reported 417.8 ED visits per 1,000 residents, which rose slightly to 418.4 in 2022 and then to 429.5 in 2023. This 2.8% increase over three years equated to roughly 4,756 additional ED visits in 2023 compared to 2021. These elevated and increasing rates may reflect systemic challenges rather than individual behaviors. Contributing

factors include a combination of higher population-level disease burden, socioeconomic disadvantage, and structural barriers to accessing timely outpatient care—such as lack of reliable transportation/unreliable Medicaid-provided transportation caused by poor infrastructure, as well as a limited number of providers and community health workers and case managers who can effectively help patients navigate the often-complex healthcare system. Notably, Jackson County patients also had significantly higher adjusted odds of ED utilization in regression models, supporting the interpretation that ED reliance is not random, but rather indicative of a broader reliance on ER as a default access point for care. This suggests a need for systemic interventions aimed at strengthening outpatient care capacity, improving care coordination and addressing SDOH.

Platte County consistently reported the lowest ED visit rates of the three counties, with figures of 261.0 in 2021, 266.9 in 2022, and 271.3 in 2023 per 1,000 residents. This gradual increase of approximately 3.9% corresponds to just over 1,100 additional ED visits during the study period. While Platte's ED usage remained lower overall, multivariable models revealed that by 2023, its adjusted odds of ED use had exceeded those in Clay County, suggesting a subtle but important shift in healthcare access or burden in this region.

When ED utilization was further examined by CCS condition categories, more pronounced disparities became evident. Jackson County not only had higher overall ED use but also dramatically higher condition-specific rates for nearly every major disease group. Respiratory disorders, for example, had an astonishingly high ED visit rate of 6,728.6 per 1,000 residents in Jackson, compared to 1,160.9 in Clay and just 497.8 in Platte. These figures suggest multiple ED visits per person, likely reflecting a high prevalence of asthma, COPD, or recurrent respiratory infections, possibly compounded by environmental exposures or limited pulmonary specialty care. Inpatient admission rates for respiratory conditions echoed this trend, with Jackson reporting 1,161.2 admissions per 1,000 residents, again surpassing Clay (292.7) and Platte (123.7).

A similarly stark pattern emerged for mental health conditions. In Jackson, the ED visit rate for mental disorders was 3,051.2 per 1,000 residents—five times higher than Clay (608.7) and more than ten times higher than Platte (264.6). Inpatient admissions followed suit, with Jackson at 1,432.8, far exceeding Clay (284.1) and Platte (117.6). These data suggest a critical mental health crisis in Jackson County, possibly driven by under-resourced outpatient mental health infrastructure, gaps in continuity of care, or greater psychiatric comorbidity. Qualitative findings also report long wait times in mental health care) due to limited mental health providers and occasionally barriers to accessing care. Cardiovascular (heart-related) conditions also followed this trend, with Jackson again reporting the highest ED visit rate (3,108.5), followed by Clay (641.9) and Platte (305.0). Inpatient admissions mirrored these differences, reinforcing the possibility that acute cardiac events—such as myocardial infarctions or decompensated heart failure—are more common or more often managed emergently in Jackson. Neurological (brain-related) conditions, including strokes and seizures, were similarly more prevalent in ED data from Jackson County, with an ED visit rate of 3,572.2 compared to 657.5 in Clay and 290.6 in Platte. Bone and musculoskeletal complaints also drove ED visits, with Jackson reporting a staggering 3,885.3 visits per 1,000 residents for bone-related conditions, vastly exceeding Clay's 661.1 and Platte's 265.1. Though bone-related conditions are common in emergency settings, the volume seen in Jackson suggests a disproportionate reliance on ED services for injuries or chronic pain, potentially pointing to deficits in orthopedic or physical therapy access.

Gastrointestinal and kidney-related conditions revealed similar disparities. Jackson had nearly 3,000 digestive-related ED visits per 1,000 residents, compared to just 574.4 in Clay and 255.3 in Platte. Kidney-related visits were 3,051.1 in Jackson, with lower but still significant rates in Clay (506.1) and Platte (232.0). These high numbers suggest ongoing challenges in chronic disease management and late-stage presentation for complications in Jackson County, particularly among patients with renal disease.

Pregnancy-related ED utilization also peaked in Jackson, with a rate of 1,368.0 per 1,000 residents in 2021. By comparison, Clay's rate was 190.9, and Platte's was 82.8. Inpatient deliveries and obstetric admissions were similarly higher in Jackson, suggesting both a higher birth rate and possibly greater obstetric complications or delays in prenatal care. These findings may indicate gaps in maternal care infrastructure and care coordination for pregnant individuals. Notably, the closure of the delivery and Neonatal Intensive Care Unit (NICU) at Research Medical Center in September 2025 is expected to further impact access to maternal and neonatal care in the region (KSHB 41 News, 2025). The change may lead to increase ED utilization for pregnancy-related conditions in the future, underscoring the need for proactive planning and support for the affected communities. In contrast, ED visit rates for cancer-related diagnoses (neo-malignant) were very low across counties but remained highest in Jackson (37.1 per 1,000 vs. 8.6 in Clay and 4.5 in Platte). Similarly, conditions categorized as "residual" or uncategorized symptoms were seen more frequently in Jackson (574.5 ED visits per 1,000) than in Clay (119.1) or Platte (51.5). These patterns may reflect greater complexity of patient presentations in Jackson, where nonspecific complaints or undiagnosed conditions more often result in emergency visits. These findings illustrate not just a higher volume of ED utilization in Jackson County, but a consistently greater burden of acute and chronic conditions requiring emergency care. In nearly every CCS category, Jackson far exceeded Clay and Platte in both ED and inpatient rates. This pattern is likely multifactorial, driven by a combination of higher disease prevalence, socioeconomic deprivation, limited access to outpatient specialty care, and possible fragmentation in the primary care system.

Meanwhile, Clay County represents a middle ground—neither the highest nor lowest in most categories—while Platte County maintains the lowest rates across the board. However, the uptick in Platte's adjusted ED utilization by 2023, along with modest increases in raw ED visit rates, signals a potential emerging trend that should be monitored closely. To summarize, Jackson County bears a disproportionate share of ED and hospital-based care, and Clay County shows moderate and rising demand, while Platte County, though lower overall, is experiencing gradual increases in utilization. These differences underscore the need investment in "upstream" healthcare interventions; community-based care, behavioral health services, and chronic disease management. Continued tracking of these trends will be vital to informing equitable health policy and reducing unnecessary ED reliance across the region.

Logistic Regression Results (Univariable Analysis)

A univariable analysis was conducted to examine the relationship of each single independent variable and the outcome (ED utilization). In this analysis, we examined each predictor in isolation without adjusting for other variables. Univariable analysis was useful to identify strong predictors,

revealing disparities and identifying temporal trends. However, this might be limited in its ability to draw conclusions about causality or the independent effect of each variable, as it does not account for confounding factors. This can lead to overestimation of effect sizes. The univariable analysis showed significant patterns in emergency department (ED) utilization across different patient subgroups and health conditions. All results reported are crude models and not adjusted. Key findings are organized by theme below:

County Differences: We observed notable differences in ED use by county. Using Clay County as the reference (with the lowest ED utilization rate), patients from Jackson County had consistently higher ED visit likelihood in both years. In 2021, Jackson County residents had about 13% higher odds of an ED visit compared to Clay County (OR≈1.13, 95% CI 1.11–1.14, $p<0.001$), and this remained virtually the same in 2023 (OR≈1.13, 95% CI 1.12–1.15, $p<0.001$). In contrast, Platte County showed a slightly lower ED utilization in 2021 (OR≈0.96, 95% CI 0.93–0.99, $p=0.02$ vs. County A), but by 2023 this difference had disappeared (OR≈1.01, 95% CI 0.98–1.04, $p=0.70$). This indicates that Platte County's ED usage caught up to the reference county over time, while Jackson County's utilization remained significantly higher across years.

Medicaid vs. non-Medicaid: Insurance status was a strong predictor of ED utilization. Medicaid patients had substantially higher ED use than those not on Medicaid. In 2021, being insured by Medicaid was associated with about 62% higher odds of having an ED visit relative to non-Medicaid patients (OR=1.62, 95% CI 1.60–1.65, $p<0.001$). This disparity persisted into 2023 with only a slight reduction in magnitude (OR=1.56, 95% CI 1.53–1.58, $p<0.001$). These findings demonstrate that Medicaid beneficiaries – who are typically lower-income – were significantly more likely to rely on the ED for care. The consistency of the effect across three years highlights an ongoing gap in healthcare utilization between Medicaid and non-Medicaid groups.

- **Area Deprivation Index (ADI) Differences:** Socioeconomic deprivation of a patient's neighborhood (measured by the Area Deprivation Index) showed a significant but modest association with ED usage. Higher ADI (more disadvantaged area) was linked to slightly increased ED visit likelihood. In 2021, each one-point increase in the state-level ADI corresponded to about a 3–4% increase in the odds of an ED visit (OR≈1.04 per ADI point, 95% CI 1.03–1.04, $p<0.001$). The effect was similar in 2023 (OR≈1.03 per point, 95% CI 1.03–1.03, $p<0.001$), indicating a consistent influence of neighborhood disadvantage on ED use over time. In practical terms, patients living in the most deprived areas (top quartile of ADI) were significantly more likely to use the ED than those in the least deprived areas. It is worth noting that the national ADI (ranking deprivation relative to the whole country) did not show a meaningful independent effect on ED utilization in our adjusted model (OR ~1.00, $p>0.5$). This suggests that within-state socioeconomic differences were more relevant to ED use than national-level comparisons.
- **Gender Differences:** Gender had a minimal impact on ED utilization, with only a very small difference emerging by 2023. In 2021, male and female patients used the ED at almost the same rate – there was no statistically significant difference (male vs. female OR≈0.99, 95% CI 0.97–1.00, $p=0.08$). By 2023, males showed a slight increase in ED usage relative to females (OR=1.02, 95% CI 1.00–1.03, $p=0.04$). This 2023 gender effect reached significance but remained very small in magnitude. In summary, across both years the rates of ED visits for men and

women were essentially comparable, indicating no clinically meaningful gender disparity in ED utilization.

- **Racial/Ethnic Differences:** There were pronounced racial and ethnic disparities in ED utilization. Black patients consistently had significantly higher ED usage than White patients. In 2021, Black patients had about 1.78 times the odds of visiting the ED compared to Whites (OR≈1.78, 95% CI 1.76–1.81, $p<0.001$). This disparity remained high in 2023 (OR≈1.84, 95% CI 1.81–1.87, $p<0.001$), indicating no improvement in the Black–White gap over time. Hispanic patients also used the ED more frequently than Whites, but their gap narrowed between 2021 and 2023. In 2021, Hispanics had about 50% higher odds of an ED visit compared to Whites (OR=1.50, 95% CI 1.46–1.54, $p<0.001$). By 2023 this was reduced to roughly 32% higher odds (OR=1.32, 95% CI 1.29–1.35, $p<0.001$), suggesting some improvement in access or utilization patterns for the Hispanic population over the two-year span. Patients of "Other" races (including multiracial and those not categorized as Black/White/Asian/Hispanic) also had elevated ED use in both years, though their relative odds decreased slightly (2021 OR≈1.51, $p<0.001$; 2023 OR≈1.42, $p<0.001$ compared to Whites). Asian patients were an exception: in 2021, Asians showed no significant difference from Whites in ED visits (OR≈1.02, 95% CI 0.96–1.09, $p=0.35$). However, by 2023 Asians had a modest increase in ED utilization (OR≈1.07, 95% CI 1.00–1.14, $p=0.05$ vs. Whites), indicating a slight uptick that just reached statistical significance. Overall, these findings highlight persistent higher reliance on ED services among Black and Hispanic communities in particular, though the Hispanic-White disparity appears to be diminishing somewhat from 2021 to 2023.
- **Comorbidity Factors:** We examined a broad range of patient comorbid conditions (grouped by organ system) and their relationship to ED utilization. Notably, some health conditions were associated with significantly higher ED use, while others were associated with lower ED use, after adjusting for all other factors. These patterns were generally consistent in 2021 and 2023, with a few changes in magnitude over time.

Conditions associated with higher ED utilization include:

- **Musculoskeletal (Bone) disorders:** Patients with musculoskeletal conditions (e.g. arthritis or other bone/joint disorders) had markedly higher ED usage. In 2021 they had more than double the odds of an ED visit compared to those without such conditions (OR≈2.32, 95% CI 2.25–2.40, $p<0.001$). This association became even stronger in 2023 (OR≈3.20, 95% CI 3.09–3.33, $p<0.001$), suggesting an increasing impact of bone/joint issues on ED demand over time (possibly due to pain crises, injuries, or limited outpatient care options for these conditions).
- **Neurological (Brain) disorders:** The presence of neurologic conditions (such as stroke, seizures, or dementia) was linked to significantly higher ED utilization. Neurologic comorbidities roughly doubled the odds of an ED visit. ORs increased from about 2.44 in 2021 (95% CI 2.35–2.52, $p<0.001$) to 2.78 in 2023 (95% CI 2.68–2.89, $p<0.001$). This indicates that patients with brain-related disorders consistently relied more on ED services, and this reliance grew slightly in the later data. These conditions can lead to acute events (e.g. seizures or complications of stroke) that likely drive ED visits.

- **Respiratory (Lung) disorders:** Chronic respiratory conditions (such as COPD or asthma) were associated with higher ED use. Patients with respiratory disorders had about 50% higher odds of visiting the ED compared to those without (OR≈1.50 in 2021, 95% CI 1.47–1.53, $p<0.001$; similar OR≈1.54 in 2023, $p<0.001$). This persistent effect is consistent with acute exacerbations (like asthma attacks or COPD flare-ups) prompting emergency care.
- **Renal (Kidney) disorders:** Kidney disease was another significant driver of ED utilization. In 2021, individuals with renal disorders had about **64% higher** odds of an ED visit (OR=1.64, 95% CI 1.59–1.70, $p<0.001$). By 2023 this association, while still present, became somewhat smaller (OR=1.45, 95% CI 1.41–1.50, $p<0.001$). Patients with chronic kidney issues may experience complications (such as electrolyte imbalances or dialysis-related issues) that lead them to seek emergency care.
- **Dermatologic (Skin) disorders:** Skin conditions (e.g. serious skin infections or wounds) showed a high correlation with ED use. Those with a skin-related disorder had over twice the odds of an ED visit in 2021 (OR≈2.30, 95% CI 2.19–2.41, $p<0.001$). In 2023, the effect size was somewhat lower but still substantial (OR≈2.02, 95% CI 1.92–2.12, $p<0.001$). This suggests that severe skin and soft tissue issues (such as cellulitis or abscesses) remain a frequent cause for ED visits, though there may have been slight improvements or alternative care pathways by 2023.

Conversely, several conditions were associated with significantly lower likelihood of ED utilization:

- **Cardiovascular (Heart) conditions:** Patients with chronic heart diseases (e.g. heart failure, coronary artery disease) were **less likely** to visit the ED (2021 OR≈0.39, 95% CI 0.38–0.40; 2023 OR≈0.42, 95% CI 0.41–0.43; $p<0.001$). This indicates about a 60% lower odds of ED use compared to those without heart conditions. One possible inference is that many cardiac patients might be managed through direct hospital admissions or specialized clinics, reducing their need to use the ED for acute issues.
- **Metabolic (Endocrine) disorders:** Patients with metabolic conditions such as diabetes also showed reduced ED utilization. They had roughly **40% lower** odds of an ED visit (OR ~0.40–0.44 in both years, $p<0.001$). This lower ED usage could reflect effective outpatient management for chronic metabolic conditions (e.g. routine diabetes care), thereby preventing emergencies, or it might indicate under-utilization of emergency care among these patients.
- **Malignant neoplasms (Cancer):** Notably, individuals with a history of malignant cancer had a dramatically lower likelihood of ED visits. The odds of ED utilization for cancer patients were only about **4%** of those for patients without malignancy (OR≈0.04, 95% CI ~0.03–0.04, $p<0.001$). This extremely low relative ED use suggests that cancer patients may be receiving care through oncology-specific pathways (such as direct admissions, hospice, or outpatient infusion centers) rather than through the ED, or it may reflect limited aggressive care for those with advanced disease.

- **Mental health disorders:** The presence of diagnosed mental health conditions (such as depression, anxiety, or other psychiatric disorders) was associated with **lower ED usage** as well (OR≈0.61, 95% CI 0.59–0.62, $p<0.001$). Patients with mental health diagnoses had 39% lower odds of an ED visit compared to those without mental health conditions.
- **Hematologic (Blood) disorders:** Patients with blood-related disorders (e.g. anemia or coagulation disorders) also were less likely to use the ED. In 2021, the odds of an ED visit are 67% compared to those without hematologic conditions. Odds ratio (OR)=0.35 (95% CI 0.33–0.37, $p<0.001$), which increased to 0.44 in 2023 ($p<0.001$) – still indicating over 50% lower odds of ED visits in both years. This trend implies that many hematologic conditions might be managed in outpatient settings (such as regular hematology clinic visits or transfusion appointments), reducing emergency visits. The slight increase in OR by 2023 suggests a minor rise in ED utilization for these patients, though they remained significantly below the baseline ED use rate.
- **Digestive (Gastrointestinal) disorders:** Chronic digestive system conditions (such as chronic liver disease or gastrointestinal disorders) were linked to fewer ED visits as well. These patients had about **33% lower** odds of ED utilization (OR≈0.67, 95% CI 0.66–0.69, $p<0.001$ in 2021; similar in 2023).
- **Pregnancy-related conditions:** Individuals with pregnancy-related diagnoses had significantly lower ED utilization (OR≈0.23, 95% CI 0.23–0.24 in 2021; similar in 2023, $p<0.001$). In fact, pregnant patients were about 77% less likely to use the general ED than others. This is likely because obstetric-specific emergency services (e.g. labor & delivery triage units) handle most urgent pregnancy issues, so pregnant women are less often seen in the main ED. It underscores how specialized care pathways can divert certain populations away from ED use.

The comorbidity analysis shows a clear pattern: acute and debilitating conditions (like those affecting the neurologic, musculoskeletal, respiratory, renal, or skin systems) drove higher ED utilization, whereas many chronic conditions (cardiac, metabolic, hematologic, etc.) corresponded with lower ED utilization. These associations were largely consistent over 2021–2023, with some changes in strength but no reversals in direction. Each of these findings provides insight into what systems impact overuse of emergency departments, which can inform targeted regional systems change (for instance, improving access to outpatient care for high ED-use groups or ensuring adequate emergency access for those under-utilizing it).

Logistic Regression Results (Multivariable Analysis)

- **Age and Area Deprivation:** Across all three years, age was consistently and significantly associated with reduced odds of ED utilization. Each one-year increase in age corresponded to a 3–4% reduction in the odds of an ED visit: OR=0.96 in 2021 (95% CI: 0.96–0.96, $p<0.001$), OR=0.97 in 2022 and 2023 (both $p<0.001$). This inverse association suggests younger patients were more likely to access ED services, reflect differing health-seeking behavior or access to outpatient care by age. Regarding socioeconomic deprivation, the state-level Area Deprivation Index (ADI) was a consistent, albeit modest, predictor of increased ED use. In

2021, each unit increase in state ADI was associated with a 1% increase in odds (OR=1.01, 95% CI: 1.00–1.02, p=0.005), which rose to 2% in both 2022 and 2023 (p<0.001). While the national ADI was statistically significant due to the large sample size (e.g., OR=1.00, p<0.001), its effect was negligible in magnitude, suggesting that within-state socioeconomic disparities were more influential than national-level differences in predicting ED use.

- **Gender and Race:** Male gender was significantly associated with higher ED utilization after adjustment, reversing the slightly protective effect observed in univariate models. Males had 16% higher odds of ED use in 2021 (OR=1.16, 95% CI: 1.14–1.18, p<0.001), 15% higher in 2022 (p<0.001), and 18% higher in 2023 (p<0.001). This indicates that when controlling for age, ADI, comorbidities, and other covariates, men used the ED more frequently than women. Racial disparities persisted in the adjusted models. Black individuals consistently had significantly higher odds of ED use than Whites: OR=1.47 in 2021 (95% CI: 1.45–1.50), OR=1.51 in 2022, and OR=1.54 in 2023 (all p<0.001). These findings confirm a stable, independent racial disparity, with Black patients experiencing 47–54% greater ED use even after controlling for socioeconomic status and clinical conditions. Asian patients, in contrast, had significantly lower odds of ED use than White patients in all years, although the effect size was modest. For example, in 2021, Asian individuals had 11% lower odds (OR=0.89, 95% CI: 0.83–0.96, p=0.002), with similar results in 2022 (p=0.003) and a marginally significant result in 2023 (OR=0.92, 95% CI: 0.86–1.00, p=0.044). Individuals categorized as other race also had slightly elevated odds of ED utilization relative to White individuals across all years, though the magnitude of difference was small: OR=1.05 in 2021 (95% CI: 1.02–1.08), OR=1.08 in 2022, and OR=1.04 in 2023 (all p<0.05). Interestingly, Hispanic or Latino ethnicity was not consistently associated with ED utilization after adjustment. In 2021 and 2023, there was no significant difference between Hispanic and non-Hispanic individuals (e.g., OR=1.00 in 2021, p=0.897), and the 2023 result remained nonsignificant (OR=0.99, 95% CI: 0.97–1.01, p=0.176). However, in 2022, Hispanic patients had slightly lower odds of ED use (OR=0.96, 95% CI: 0.94–0.98, p<0.001), suggesting a potential shift in access or utilization patterns that warrants further exploration.
- **County-Level Differences:** Geographic differences in ED utilization narrowed in the adjusted models. In 2021, residents of Jackson County had ED use odds equivalent to those in Clay County (OR=1.00, 95% CI: 0.98–1.02, p=0.957). In 2022, Jackson showed slightly lower adjusted odds (OR=0.97, 95% CI: 0.95–0.98, p<0.001), but this difference was no longer significant in 2023 (OR=1.01, 95% CI: 0.99–1.03, p=0.554). For Platte County, adjusted odds were not significantly different from Clay in 2021 or 2022, but in 2023, Platte residents showed higher ED use (OR=1.05, 95% CI: 1.01–1.08, p=0.006). This suggests a temporal shift, where disparities in ED use by county became less about Jackson vs. Clay and more about rising utilization in Platte County. In the Medicaid policy review, it was found that Platte County's Medicaid enrollment rate increased from 10% to 14.3% from October 2021 to May 2023, with a decrease of 8.5% to 4.5% of individuals uninsured. While all three counties had similar growth in Medicaid enrollment, Platte County had the most significant decrease in uninsured individuals across the three counties.
- **Medicaid Status:** Unlike the unadjusted models, where Medicaid was a strong predictor of higher ED use, the adjusted models showed a more nuanced picture. In 2021, Medicaid status was not significantly associated with ED utilization (OR=1.01, 95% CI: 0.99–1.02, p=0.543).

However, in 2022, Medicaid recipients had 12% higher odds of ED use (OR=1.12, 95% CI: 1.10–1.14, $p<0.001$), and in 2023 the effect persisted but was smaller (OR=1.02, 95% CI: 1.00–1.04, $p=0.049$). These results suggest that Medicaid's influence on ED utilization was partially confounded by other variables, such as race, ADI, and comorbid conditions. Once these were accounted for, the Medicaid effect was reduced, though still present in later years. The spike in 2022 may reflect the impact of delayed Medicaid enrollment following the program's expansion in August 2021, when administrative backlogs and increased eligibility led to a surge in first-time enrollees accessing care.

- **Comorbid Conditions:** Several health conditions demonstrated consistent and strong associations with ED utilization across the multivariable models.

Increased ED utilization was observed among patients with:

- **Bone disorders** (e.g., arthritis, fractures): The odds of ED use increased over time — OR=1.40 in 2021, OR=1.65 in 2022, and OR=2.01 in 2023 (all $p<0.001$), suggesting a growing burden of musculoskeletal complaints driving ED visits.
- **Brain disorders** (e.g., seizures, stroke): These were also associated with increased odds of ED use, which rose from OR=1.13 in 2021 to OR=1.37 in 2023 (all $p<0.001$). This increase may reflect worsening neurologic morbidity or barriers to specialty care.
- **Skin disorders** showed a modest increase in ED use (OR=1.06–1.12 across all years), with significance maintained ($p<0.05$), suggesting ongoing ED reliance for acute dermatologic needs.

Reduced ED utilization was observed for a range of chronic or specialty-managed conditions:

- **Blood disorders** were associated with markedly lower ED use: OR=0.13 in 2021 (95% CI: 0.12–0.14), rising slightly to OR=0.17 in 2023 (all $p<0.001$). Patients with hematologic conditions may be receiving more direct or coordinated outpatient care.
- **Digestive conditions** (e.g., chronic liver disease, GI disorders): These were consistently associated with **lower** ED use (OR=0.34–0.38 across all years, $p<0.001$).
- **Heart disease** was also a strong negative predictor: OR=0.33 in 2021, rising to 0.37 in 2023 (all $p<0.001$). This may reflect direct admissions or care plans that bypass ED triage.
- **Kidney disorders** had a protective effect (OR≈0.82–0.86), contradicting unadjusted results. After adjustment, these patients were less likely to use the ED due to structured care pathways such as dialysis centers.
- **Mental health diagnoses** were consistently associated with significantly lower odds of ED utilization (OR=0.22–0.27, all $p<0.001$), again differing from prior assumptions. This suggests that patients with known mental health issues may be using other care systems or are underrepresented in general ED data.

- **Metabolic disorders** (including diabetes and obesity-related conditions): These were also linked to substantially lower ED use (OR≈0.19–0.22, $p<0.001$), perhaps due to good chronic care coordination.
- **Cancer (Neo malignant)** showed the lowest ED utilization of all conditions: OR=0.02–0.04 in every year, $p<0.001$. This likely reflects treatment through oncology pathways and end-of-life care managed outside of the ED.
- **Perinatal and pregnancy-related conditions** also correlated with low ED use (OR≈0.06–0.14, $p<0.001$), likely due to triage through obstetric emergency units rather than general EDs.
- **Residual and unspecified disorders** remained strongly protective (OR≈0.01–0.03, $p<0.001$), consistent across years.
- **Respiratory disorders** (e.g., asthma, COPD), contrary to unadjusted findings, were associated with lower ED use in the adjusted model (OR=0.64 in 2021, rising to 0.76 in 2023, $p<0.001$). This finding suggests that when accounting for other predictors, respiratory conditions may not independently drive ED visits to the extent previously believed.

This multivariable analysis highlights how age, male gender, race, and comorbidity profiles independently influence ED utilization in complex ways. Black race, male gender, bone/brain/skin disorders were independently and consistently associated with higher ED use, while older age, cancer, cardiovascular, metabolic, digestive, and pregnancy-related conditions were associated with significantly lower odds. The effect of Medicaid and county of residence varied across years and was more modest when accounting for social and clinical covariates. These results underscore the importance of adjusting for multiple layers of influence when examining ED utilization patterns and offer clear guidance for future health system planning and targeted interventions.

Qualitative

Out of 17 total participants, 8 worked at Federally Qualified Health Centers (FQHCs), 4 worked at community service organizations, 3 worked at hospitals, and 2 worked at local health departments. The majority of participants had been working in their field for either 4-6 years or more than 10 years, with the remainder of participants working in their field for at least one year. Community Health Workers and Housing Coordinators were the most commonly cited job titles, with 3 participants and 2 participants, respectively. All other participants cited job titles that were unique from the rest of participants. The largest priority population of participants' organizations was uninsured/underinsured clients, cited by 11 participants, followed by general unhoused clients, clients insured by Medicaid, clients privately insured, undocumented clients, low-income clients, and Spanish-speaking clients. The most common age group of participants was 50-64 and the average educational attainment level was ISCED 6 (bachelor's degree or equivalent).

When asked what barriers exist in accessing healthcare in the Kansas City metro, lack of reliable transportation was cited 27 times across 77% of interviews, making it the most common theme throughout the entire analysis. Lack of reliable transportation was followed by lack of stable housing, confusing Medicaid application process, lack of reliable phone/charger, low income/low

socioeconomic status, inability to afford services, not having insurance, lack of mailing address, not recognizing need for medical help, and negative past experiences with the healthcare system.

When probed about transportation-related issues, participants cited many barriers. Most common were patients requiring transportation to multiple appointments, confusing, unsafe, or unaccommodating public transport, cancellation of free bus routes in Kansas City and lack of public transport in Clay and Platte Counties. One participant noted "Transportation has been one of the larger challenges in the Northland. We don't have a good public transportation system up here…" Further, issues with Medicaid-provided transportation were mentioned 9 times by participants, citing issues of last-minute cancellations, advance scheduling requirements, and even no-shows by transporters. The below comments reflect some of the frustrations of using Medicaid-provided transportation:

> *"I might have a client call and say, oh, my appointment got changed. Can you please come…get me? Because it's too short notice for them to call and set up transportation…"*
>
> *"Recurring rides 3 times a week, 12 [times] a month, is much more difficult than setting up a single ride…"*
>
> *"Patients, you know, just don't want to access that line because they kind of gave up on the system of medical transportation already."*

Lack of stable housing was another commonly identified access barrier that coincided with many other themes. Many participants connected the issue of housing to lack of safe storage for medications and medical supplies, lack of mailing address or consistent phone number to make appointments or be able to know their Medicaid status, as well as the transient nature of experiencing homelessness, where the priority is on survival over one's health. A participant reflected, "If someone is struggling, for instance, with housing, they're not that worried about the A1C levels and coming in for regular appointments, right? …It's just not something that they really have the capacity to focus on."

Barriers involving Medicaid enrollment was another common theme, coming up 25 times across interviews with a variety of specific issues, including confusing application, lack of in-person help for Medicaid enrollment, difficulty translating Medicaid documents, strict eligibility requirements, and difficulty knowing what a client's Medicaid status is and/or their need for renewal. The Medicaid application was described as "It's all [in] the word hoops. It's administrative paperwork". A participant shared, "It took literally six months to get her [a patient's] Medicaid reactivated, and we see that all the time." Other participants noted patients experienced language barriers. For example, a non-English speaking family was "trying to switch over their Medicaid plan…they were not able to navigate through everything because everyone spoke, you know, English." Participants identified over 100 unique gaps in healthcare services across the Kansas City metro. The most common gap was waiting times for mental health care, followed by cost of medication, lack of behavioral health providers, limited specialty care options for uninsured clients, misuse of the emergency room, wait times to establish care, wait times for specialty appointments, limited dental services offered at FQHCs, high cost for dental services, and wait times for dental appointments.

Wait times for all types of healthcare was identified frequently in the thematic analysis. Some participants gave real-life examples of their clients having to wait over a year for specialty care, typically coinciding with lack of providers and/or lack of options for the uninsured.

When asked if any specific populations were experiencing more barriers than others, or if specific social determinants of health were leading to more barriers, participants most commonly identified undocumented individuals, followed by unhoused, low income, limited English proficiency (LEP), and Hispanic individuals. Common reasons cited for undocumented individuals experiencing more barriers included fear, lack of identification, and cultural competency-related issues.

Diabetes was the most common health condition identified as leading to more barriers than others. Reasons stated by participants included high cost of diabetes medication, lack of access to diabetes supplies and equipment, and lack of refrigeration and safe storage for insulin. One participant explained "we had the 340B program, but a lot of diabetes medications that used to be on the 340B program are now off that program. And so, insulin itself is becoming harder and harder to get for our patients. And that's something that is…very commonly prescribed."

Participants identified many changes in healthcare access resulting from Missouri's expansion of Medicaid in 2021, both positive and negative. The most commonly discussed change, mentioned 11 times throughout interviews, was that more individuals received Medicaid coverage after expansion. For example, a participant shared "Medicaid expansion…has been fantastic…seeing the numbers of uninsured patients drop dramatically, I think it's really heartening." This participant also noted "a persistent challenge when Medicaid was expanded…you had a larger patient pool, but you didn't necessarily have a larger provider pool." Additionally, some participants cited better access to medications and dental care, while others cited the opposite as being true.

Participants also observed individuals losing Medicaid coverage due to the unwinding process.

> *"…in the last six months or so and, and it seems to be coming up quite a bit, is people whose Medicaid has lapsed because they missed a renewal…with not being able to be reached by phone because so many of them don't have phones. Or if they do have a phone, their number changes all [the] time."*
>
> *"We have started seeing unwinding and so we are seeing more of our adult population drop off of those Medicaid rosters."*
>
> *"It's actually worse with our [unhoused] people who are unhealthy, right? Because they don't have an address or they forget what address they used when they applied for Medicaid and then their Medicaid lapses. And they don't get the letter. And so, they don't know it. And they don't have any way to follow up with that."*

In addition, participants were asked what they wished was more available for the people they serve. The most common answer given was a more preventative mindset when it comes to healthcare, rather than focusing on treating conditions after they arise.

When asked what allied health or non-medical support would be most useful in improving patient health outcomes, the most common answer given was more community health workers and case managers, which was mentioned in 35% of interviews. One participant shared, "the CHWs [community health workers] are invaluable. I think every healthcare facility needs to have that role…because they really touch…every other thing that's a barrier for patients who are receiving

healthcare." Other common answers included mass education on available resources/benefits, healthy lifestyle education, and access to transportation and housing.

The final question asked to participants regarded what they would change about the healthcare system if no barriers, such as time, energy, bureaucracy, politics, and money, did not exist. By far, the most common answer given was having a universal healthcare system, cited in 41% of interviews. Universal healthcare was followed by insurance not dictating care, universal transportation, more supportive communities, and better health education and knowledge.

While many gaps and barriers were identified by participants, there were 40 positive aspects of healthcare in the Kansas City metro identified in the analysis. Most commonly mentioned was financial assistance provided by University Health, followed by UMKC Dental School community clinics, access to interpreters/translators, safe medication storage at community organizations, like Care Beyond the Boulevard, Access KC-provided medical supplies, and many others.

DISCUSSION

Quantitative

This comprehensive three-year analysis of emergency department (ED) utilization across Clay, Jackson, and Platte counties in Missouri revealed multifaceted patterns shaped by demographic, socioeconomic, insurance-related, and clinical factors. Several notable trends and disparities emerged, underscoring both progress and persistent challenges in regional healthcare access.

Insurance-Linked Disparities and Medicaid Expansion Effects: Medicaid status was one of the strongest univariate predictors of ED use across all years, with Medicaid enrollees experiencing 56% to 62% greater odds of ED utilization. However, multivariable models revealed a more nuanced picture: once sociodemographic and clinical factors were controlled, the Medicaid effect diminished significantly, and in some years became statistically non-significant. This attenuation highlights how Medicaid coverage may serve as a proxy for other risk factors (e.g., low income, minority status, or comorbidity burden) rather than independently driving ED use. Still, the fact that Medicaid recipients had persistently longer inpatient stays and a higher frequency of Tier 1 CCS conditions points to deeper coverage gaps and care coordination challenges within this population.

These findings underscore the presence of entrenched structural inequities, which were further illuminated through our qualitative data. Among the cited barriers to healthcare access were the lack of reliable transportation, lack of safe, affordable housing, access to medications, dental care, and services which alleviate the social burdens of poverty, such as navigation (insurance application and renewal, care coordination, healthcare for uninsured), and access to social services, health education, wellness and prevention services.

Reliable transportation, the most cited barrier to healthcare access, is a systemic challenge rooted in both inadequate public infrastructure and challenges with Medicaid-sponsored transportation services. This transportation instability impedes routine access to primary and preventive care, contributing to missed appointments and delayed treatment, ultimately reinforcing reliance on emergency departments as a default point of care.

Housing instability emerged as a critical, yet often overlooked, determinant of health outcomes. Interviews reported lacking a stable or safe environment in which to heal. Unstable housing conditions can decrease ability to safely store medications, follow treatment plans, update eligibility qualifications, and disrupt quality of care. The absence of secure housing may partially explain longer inpatient stays among Medicaid enrollees, as healthcare providers may be reluctant or unable to release patients into environments that do not support recovery.

Taken together, these qualitative insights reinforce that access to public healthcare insurance coverage is essential, as are community strategies to address systemic barriers to improve the health of all residents in Jackson, Clay, and Platte Counties.

Geographic Disparities and Shifting Burdens: Jackson County consistently demonstrated the highest ED utilization rates per 1,000 residents and higher adjusted odds of ED use across all years, driven by a complex interplay of high population density, greater disease burden, and deeper

socioeconomic disadvantage. Notably, even after adjusting for age, race, insurance type, and comorbidities, Jackson County residents retained higher odds of ED use in 2022, and only by 2023 did their odds become statistically indistinguishable from Clay County. This suggests that structural and contextual disadvantages in Jackson County are not fully captured by standard variables. Meanwhile, Platte County, though consistently lower in raw ED visits, showed a subtle but significant uptick in ED reliance by 2023, surpassing Clay in adjusted models.

Socioeconomic Disadvantage (ADI) and ED Reliance: Area Deprivation Index (ADI) scores were modest but consistent predictors of ED utilization, with each unit increase in state-level ADI corresponding to 1–2% higher odds of an ED visit. This finding is consistent with other studies that found higher levels of neighborhood socioeconomic disadvantage (higher ADI scores) to be associated with a greater likelihood of ED visits (Lenoir et al., 2024) Importantly, national ADI rankings did not demonstrate an independent effect, emphasizing that localized socioeconomic disadvantage (as opposed to national comparisons) better explains patterns of access within the state.

These findings support targeted strategies that focus on Missouri-specific pockets of disadvantage. When these ADI findings are synthesized with Health Professional Shortage Area (HPSA) data, a more comprehensive picture of healthcare inequity emerges. Jackson County, for example, exhibits some of the highest HPSA scores in Missouri: up to 21 for primary care, 25 for mental health, and 18 for dental services. These scores reflect severe provider shortages, particularly in urban neighborhoods with high concentrations of Medicaid and uninsured residents—areas that also rank high on the ADI scale. This convergence of social and structural disadvantage helps explain persistently high ED utilization in the county.

Clay County, while somewhat less affected, still demonstrates significant need. HPSA scores reach up to 16 for primary care, 19 for mental health, and 15 for dental care, particularly in rural and low-income areas. These shortages align with moderate-to-high ADI scores, suggesting that residents face both economic and logistical barriers to accessing timely care.

Platte County presents a more nuanced case. Although it lacks full HPSA designations for primary care, it includes facility-based shortages and partial designations for mental health (up to score 14) and dental care (up to score 12). While ADI scores are generally lower in Platte, its proximity to high-need areas and the presence of underserved facilities suggest that access challenges persist, particularly for vulnerable populations.

Together, these findings reinforce the need for targeted community strategies that address both the social determinants of health and the structural limitations of the healthcare system. High ED utilization in areas with both high ADI and elevated HPSA scores signals that addressing either factor in isolation is insufficient. Integrated, targeted interventions—such as expanding the healthcare workforce, improving access to and retention of Medicaid coverage, support for care coordination and navigation programs that address social factors, increasing Medicaid reimbursement, and investing in transportation and housing—are essential to reducing disparities and improving health outcomes in Missouri's most underserved communities.

Demographic and Racial Disparities: Gender disparities in ED use were minimal in unadjusted analyses but became significant post-adjustment, with males consistently showing 15–18% greater

odds of ED utilization across all years. This shift highlights the importance of controlling for health-seeking behavior and underlying disease burden. Racial disparities were more pronounced and persistent. Black patients had 47–54% greater adjusted odds of ED use than White patients in every year, underscoring entrenched inequities in access to timely outpatient care. Asian patients consistently had lower ED use, and Hispanic patients demonstrated a slight but inconsistent reduction in adjusted ED utilization. These patterns suggest that structural racism and access barriers continue to drive disparities in ED reliance.

Comorbidity Profiles and Clinical Drivers of ED Use: The analysis of condition-specific predictors revealed a dichotomy between acute-onset, poorly managed conditions (which increased ED utilization) and well-managed chronic conditions (which reduced it). Bone and neurologic disorders were associated with the highest adjusted odds of ED use, with bone disorders more than doubling ED risk and showing a rising trend over time. Respiratory and renal diseases also increased ED reliance in unadjusted models but not consistently in adjusted ones, suggesting that their effect can be mediated through demographics or insurance status; and the importance of investment in specialty care management. For instance, while conditions like respiratory and renal diseases initially appear to increase ED reliance, this association weakens or disappears in adjusted models that account for demographics and insurance status. This suggests that the elevated ED use among patients with these conditions is not driven by the diseases themselves, but by access to care for the populations most affected by them—people with low income, limited insurance coverage, or those residing in medically underserved areas. In contrast, patients with cancer, heart disease, metabolic disorders, and pregnancy-related conditions had significantly lower odds of ED use, indicating more access to structured specialty pathways or underutilization of emergency care. This reveals a major gap in continuity of care and care integration across systems. Patients with complex but manageable conditions may be receiving fragmented care, while those with specialist-managed or high-stigma conditions (e.g., mental health, cancer) may be underutilizing ED services or being diverted to parallel systems.

Structural Gaps and Unmet Needs: Non-emergent ED use remained high, especially in Clay and Platte counties, where elective/urgent visits approached 45% of all ED encounters. Combined with rising ED rates and declining inpatient admissions, this suggests a substitution effect, in which EDs are being used to fill outpatient access gaps—particularly in the wake of Medicaid expansion.

The consistently longer length of stay (LOS) among Medicaid and Medicare patients further underscores challenges in care coordination and discharge planning for publicly insured individuals. These extended stays may also reflect underlying population dynamics: Medicare patients tend to be older, often with complex medical needs, while Medicaid patients may face unstable housing and related social challenges that complicate discharge. In contrast, private insurers often enforce stricter LOS management to control costs, which may contribute to shorter stays among their enrollees. Meanwhile, Jackson County's sustained high ED and inpatient use, despite having the region's most developed health infrastructure, points to systemic inefficiencies or capacity saturation that policy cannot overlook.

Qualitative

This qualitative analysis explored the common barriers and access gaps existing within healthcare in the Kansas City metro, taking into account the effects of Missouri Medicaid expansion and the pandemic. Frontline social service workers cited many factors impacting their clients' access to care, both positive and negative, and how they intersect with social determinants of health.

Persistent Barriers to Equitable Access

The most persistent barrier to accessing healthcare was lack of reliable transportation, caused by limited transit infrastructure and accessibility gaps in Medicaid-provided transportation, among other issues. Lack of stable housing was the second most frequently discussed barrier, with many participants noting that being unhoused impacts every aspect of life, leading to their clients being unable to leave their belongings, safely receive and store medical supplies, have a safe place to heal, access healthy food, and have a reliable phone, charger, and mailing address to effectively manage their healthcare and insurance. These findings confer with other studies that emphasize the interconnectedness of positive health outcomes and having basic needs met like housing and transportation (Schiltz et al., 2022).

Other barriers cited included access to medication, dental and mental health services, specialty healthcare for the uninsured, and a variety of needs related to understanding and navigating complex healthcare systems. These were referred to as needing navigators for insurance and other payment processes, care coordination, health education, and access to wellness and preventive care services.

Service Gaps within Healthcare

Across interviews, wait times for a variety of healthcare services were brought up, particularly with mental health services. Wait times were linked to lack of providers and lack of options for uninsured clients to seek care. Other gaps frequently appearing in the data included high cost of medication, limitations in dental services, and misuse of the emergency room, as it may be the only option for uninsured or underinsured individuals to seek care. Most access gaps mentioned by participants involved patients without insurance, with only 2 participants noting limited specialty care providers accepting Medicaid. This could be an indicator that specialty care access is not as significant of an issue for patients with Medicaid, however this could become a concern with the passage of the Federal Budget Reconciliation Act.

Population-Specific Barriers

Populations identified as experiencing the most barriers in accessing healthcare included undocumented individuals, unhoused individuals, and those with limited English proficiency. Participants shared that these clients face more financial and logistical hurdles than others, as well as fear, lack of identification, and cultural differences that make navigating the healthcare system particularly difficult.

Many interviews brought up health conditions that tend to pose difficulties accessing healthcare and disease self-management. Diabetes was a top concern, attributed to high medication costs, the need for frequent follow-up with providers, and logistical issues regarding medical devices and safe storage. Other health conditions identified as being more vulnerable to access barriers were mental health conditions, limited mobility, and cardiovascular disease.

Impacts of Medicaid Expansion and Pandemic

Participants had varying perspectives on the impacts of Medicaid expansion in Missouri. Almost half of participants noticed an increase in individuals covered by Medicaid post-expansion. At the same time, many noted the complications of unwinding, as well as administrative issues, such as confusing renewal processes. These differences in opinions may be attributed to the unwinding process, where renewal requirements were reinstated after the pandemic was no longer declared a state of emergency by the federal government. Consequently, 200,000 individuals lost coverage, as found in our policy review. It could also be attributed to the administrative challenges of implementing Medicaid expansion, which was mentioned frequently by participants.

Similarly, there were complex perspectives on changes to the healthcare system resulting from the pandemic. Many mentioned the positive change of increased telehealth visits for those with limited mobility or lack of transportation, but those without secure internet or a supported electronic device may not benefit from increased telehealth opportunities. Participants also noticed a decrease in insurance coverage for vaccines, an exodus of healthcare workers, and fewer in-person enrollment options for Medicaid as a result of the pandemic.

Suggested Systemic Changes

When asked what participants would change about our current healthcare system, many suggested a universal healthcare system or a system that is not dictated by health insurance or lack thereof. Many also suggested an increase in community health workers and case managers that can effectively help Kansas City metro residents navigate the often-complex healthcare system. Some participants mentioned the threat of budget cuts impacting employment for community health workers and case managers.

Several areas of policy work are suggested by this study; increased access to care through publicly-funded means, improved transit and housing infrastructure, increased community access to navigation, care coordination, and case management.

LIMITATIONS

Quantitative

This analysis was conducted at the encounter level, meaning each emergency department (ED) visit or inpatient admission was counted as a separate event. Due to the absence of consistent patient-level identifiers in the dataset, it was not possible to track unique individuals or account for repeat visits by the same patient. As a result, high visit rates for some CCS groupings—may reflect frequent utilization by a subset of individuals, rather than widespread use across the entire population. This limitation may overestimate population-level burden and restrict insight into patient-level health-seeking patterns or chronic condition management.

Qualitative

This study has a few limitations. While we interviewed a diverse group of frontline social service workers, we did not interview clients directly, so some perspectives and insights may be missing. Further, qualitative research studies have inherent limitations, such as difficulties in generalizing results to the general public and a smaller sample size. Future studies should focus on gaining insights from individuals navigating the healthcare system in Kansas City to produce more generalizable data. Focus should also be on gaining perspectives of a wider variety of frontline healthcare workers, such as healthcare providers.

CONCLUSION

This study offers a detailed blueprint for identifying and addressing healthcare access gaps in the Kansas City metropolitan area. ED utilization patterns reflect deeper inequities in the delivery system, access infrastructure, and community-level supports. Through targeted policy, cross-sector coordination, and ZIP-code-specific interventions, stakeholders can improve patient health outcomes and access to care, improve health equity, and optimize the region's healthcare delivery system. The qualitative insight revealed that healthcare access in the Kansas City metro is deeply intertwined with broader social determinants of health, such as access to reliable transportation, housing, and income. Front-line social service workers identified that, while Medicaid expansion significantly increased the number of individuals with healthcare coverage, there are still many gaps that exist, such as a difficult-to-navigate system and the complications of unwinding. Participants also identified many at-risk groups that may experience more barriers, such as those who are uninsured, unhoused, low income, or have limited English proficiency, as well as those with diabetes, mental health conditions, and heart disease. To improve equitable access to care, policymakers and key stakeholders should focus on systemic change that ensures basic needs, like housing and transportation are met, as well as increasing access to consistent care through the Missouri Medicaid system.

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APPENDIX (TABLES AND FIGURES)

Quantitative

Table A1. Baseline Demographics and Clinical Characteristics of Emergency and Inpatient Admissions in Clay County, 2021

	ER	IN	Total	P
N	81,453 (74.8%)	27,385 (25.2%)	108,838 (100.0%)	
Age (Years)	32.864 (23.475)	47.174 (27.455)	36.463 (25.310)	<0.001
LOS	0.105 (0.313)	4.850 (6.804)	1.299 (3.995)	<0.001
Gender				
Female	45,175 (55.5%)	15,709 (57.4%)	60,884 (55.9%)	<0.001
Male	36,269 (44.5%)	11,675 (42.6%)	47,944 (44.1%)	
Unknown/indeterminate	9 (0.0%)	1 (0.0%)	10 (0.0%)	
Ethnicity				
Hispanic or Latino	5,337 (6.6%)	1,204 (4.4%)	6,541 (6.0%)	<0.001
Neither Hispanic nor Latino	75,235 (92.4%)	25,806 (94.2%)	101,041 (92.8%)	
Patient Refused	0 (0.0%)	39 (0.1%)	39 (0.0%)	
Unknown	881 (1.1%)	336 (1.2%)	1,217 (1.1%)	
Racial Group				
White	61,679 (75.7%)	22,923 (83.7%)	84,602 (77.7%)	<0.001
Black or African American	10,519 (12.9%)	2,196 (8.0%)	12,715 (11.7%)	
American Indian/Alaska Native	228 (0.3%)	89 (0.3%)	317 (0.3%)	
Asian	829 (1.0%)	323 (1.2%)	1,152 (1.1%)	
Native Hawaiian/Pacific Islander	367 (0.5%)	112 (0.4%)	479 (0.4%)	
Some Other Race	6,659 (8.2%)	1,112 (4.1%)	7,771 (7.1%)	
Multi-Racial	593 (0.7%)	138 (0.5%)	731 (0.7%)	

Unknown	579 (0.7%)	492 (1.8%)	1,071 (1.0%)	
Insurance Type				
Other Insurance	62,974 (77.3%)	23,154 (84.5%)	86,128 (79.1%)	<0.001
Medicaid	18,479 (22.7%)	4,231 (15.5%)	22,710 (20.9%)	
Number of diagnoses in this Index admission	3.013 (2.358)	12.825 (6.617)	5.482 (5.771)	<0.001
National Area Deprivation Index	57.607 (18.278)	56.974 (18.056)	57.448 (18.225)	<0.001
State Area Deprivation Index	3.884 (1.950)	3.794 (1.950)	3.861 (1.950)	<0.001
Priority (Type) of Admission/Visit				
Emergency	42,658 (52.4%)	4,845 (17.7%)	47,503 (43.6%)	<0.001
Urgent	21,633 (26.6%)	12,101 (44.2%)	33,734 (31.0%)	
Elective	15,008 (18.4%)	4,098 (15.0%)	19,106 (17.6%)	
Other	2,154 (2.6%)	6,341 (23.2%)	8,495 (7.8%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	65,604 (80.7%)	19,137 (69.9%)	84,741 (78.0%)	<0.001
All Others	15,721 (19.3%)	8,247 (30.1%)	23,968 (22.0%)	
Patient Discharge Status				
Discharged to home	76,604 (94.0%)	19,452 (71.0%)	96,056 (88.3%)	<0.001
All Others	4,849 (6.0%)	7,933 (29.0%)	12,782 (11.7%)	
Blood Disorder				
No	81,110 (99.6%)	27,145 (99.1%)	108,255 (99.5%)	<0.001
Yes	343 (0.4%)	240 (0.9%)	583 (0.5%)	
Bone Disorder				
No	75,834 (93.1%)	26,584 (97.1%)	102,418 (94.1%)	<0.001
Yes	5,619 (6.9%)	801 (2.9%)	6,420 (5.9%)	

Brain Disorder				
No	76,226 (93.6%)	26,639 (97.3%)	102,865 (94.5%)	<0.001
Yes	5,227 (6.4%)	746 (2.7%)	5,973 (5.5%)	
Digestive Disorder				
No	76,695 (94.2%)	25,125 (91.7%)	101,820 (93.6%)	<0.001
Yes	4,758 (5.8%)	2,260 (8.3%)	7,018 (6.4%)	
External Disorder				
No	81,453 (100.0%)	27,385 (100.0%)	108,838 (100.0%)	.
Heart Disorder				
No	76,220 (93.6%)	23,758 (86.8%)	99,978 (91.9%)	<0.001
Yes	5,233 (6.4%)	3,627 (13.2%)	8,860 (8.1%)	
Kidney Disorder				
No	77,093 (94.6%)	26,484 (96.7%)	103,577 (95.2%)	<0.001
Yes	4,360 (5.4%)	901 (3.3%)	5,261 (4.8%)	
Mental Disorder				
No	75,867 (93.1%)	24,616 (89.9%)	100,483 (92.3%)	<0.001
Yes	5,586 (6.9%)	2,769 (10.1%)	8,355 (7.7%)	
Malignant Disorder				
No	81,363 (99.9%)	26,658 (97.3%)	108,021 (99.2%)	<0.001
Yes	90 (0.1%)	727 (2.7%)	817 (0.8%)	
Metabolic Disorder				
No	79,567 (97.7%)	26,194 (95.7%)	105,761 (97.2%)	<0.001
Yes	1,886 (2.3%)	1,191 (4.3%)	3,077 (2.8%)	
Perinatal Disorder				
No	80,993 (99.4%)	27,230 (99.4%)	108,223 (99.4%)	0.981
Yes	460 (0.6%)	155 (0.6%)	615 (0.6%)	

Pregnancy Disorder				
No	79,848 (98.0%)	24,256 (88.6%)	104,104 (95.7%)	<0.001
Yes	1,605 (2.0%)	3,129 (11.4%)	4,734 (4.3%)	
Residual Disorder				
No	80,439 (98.8%)	24,365 (89.0%)	104,804 (96.3%)	<0.001
Yes	1,014 (1.2%)	3,020 (11.0%)	4,034 (3.7%)	
Respiratory Disorder				
No	71,296 (87.5%)	24,407 (89.1%)	95,703 (87.9%)	<0.001
Yes	10,157 (12.5%)	2,978 (10.9%)	13,135 (12.1%)	
Skin Disorder				
No	79,304 (97.4%)	26,948 (98.4%)	106,252 (97.6%)	<0.001
Yes	2,149 (2.6%)	437 (1.6%)	2,586 (2.4%)	

Table A2. Baseline Demographics and Clinical Characteristics of Emergency and Inpatient Admissions in Clay County, 2022

	ER	IN	Total	P
N	82,030 (75.1%)	27,239 (24.9%)	109,269 (100.0%)	
Age (Years)	34.457 (23.616)	47.668 (27.863)	37.750 (25.394)	<0.001
LOS	0.115 (0.516)	4.800 (9.887)	1.283 (5.355)	<0.001
Gender				
Female	46,190 (56.3%)	15,733 (57.8%)	61,923 (56.7%)	<0.001
Male	35,827 (43.7%)	11,490 (42.2%)	47,317 (43.3%)	
Unknown/indeterminate	13 (0.0%)	16 (0.1%)	29 (0.0%)	
Ethnicity				
Hispanic or Latino	5,447 (6.6%)	1,165 (4.3%)	6,612 (6.1%)	<0.001
Neither Hispanic nor Latino	75,772 (92.4%)	25,620 (94.1%)	101,392 (92.8%)	

Patient Refused	0 (0.0%)	133 (0.5%)	133 (0.1%)	
Unknown	811 (1.0%)	321 (1.2%)	1,132 (1.0%)	
Racial Group				
White	60,897 (74.2%)	22,477 (82.5%)	83,374 (76.3%)	<0.001
Black or African American	11,316 (13.8%)	2,143 (7.9%)	13,459 (12.3%)	
American Indian/Alaska Native	242 (0.3%)	82 (0.3%)	324 (0.3%)	
Asian	969 (1.2%)	327 (1.2%)	1,296 (1.2%)	
Native Hawaiian/Pacific Islander	382 (0.5%)	113 (0.4%)	495 (0.5%)	
Some Other Race	6,853 (8.4%)	1,302 (4.8%)	8,155 (7.5%)	
Multi-Racial	684 (0.8%)	127 (0.5%)	811 (0.7%)	
Patient Refused	2 (0.0%)	0 (0.0%)	2 (0.0%)	
Unknown	685 (0.8%)	668 (2.5%)	1,353 (1.2%)	
Insurance Type				
Other Insurance	60,064 (73.2%)	22,573 (82.9%)	82,637 (75.6%)	<0.001
Medicaid	21,966 (26.8%)	4,666 (17.1%)	26,632 (24.4%)	
Number of diagnoses in this Index admission	2.735 (2.158)	12.688 (6.534)	5.216 (5.717)	<0.001
National Area Deprivation Index	57.869 (18.203)	57.103 (17.840)	57.678 (18.116)	<0.001
State Area Deprivation Index	3.911 (1.953)	3.796 (1.941)	3.883 (1.951)	<0.001
Priority (Type) of Admission/Visit				
Emergency	46,188 (56.3%)	4,282 (15.7%)	50,470 (46.2%)	<0.001
Urgent	23,591 (28.8%)	12,098 (44.4%)	35,689 (32.7%)	
Elective	10,060 (12.3%)	4,322 (15.9%)	14,382 (13.2%)	
Other	2,191 (2.7%)	6,537 (24.0%)	8,728 (8.0%)	
Point of Origin for Admission/Visit				

Non-Health Care Facility	71,249 (87.0%)	19,208 (70.5%)	90,457 (82.9%)	<0.001
All Others	10,667 (13.0%)	8,031 (29.5%)	18,698 (17.1%)	
Patient Discharge Status				
Discharged to home	77,284 (94.2%)	19,519 (71.7%)	96,803 (88.6%)	<0.001
All Others	4,746 (5.8%)	7,720 (28.3%)	12,466 (11.4%)	
Blood Disorder				
No	81,620 (99.5%)	26,979 (99.0%)	108,599 (99.4%)	<0.001
Yes	410 (0.5%)	260 (1.0%)	670 (0.6%)	
Bone Disorder				
No	76,379 (93.1%)	26,452 (97.1%)	102,831 (94.1%)	<0.001
Yes	5,651 (6.9%)	787 (2.9%)	6,438 (5.9%)	
Brain Disorder				
No	76,106 (92.8%)	26,539 (97.4%)	102,645 (93.9%)	<0.001
Yes	5,924 (7.2%)	700 (2.6%)	6,624 (6.1%)	
Digestive Disorder				
No	76,929 (93.8%)	24,976 (91.7%)	101,905 (93.3%)	<0.001
Yes	5,101 (6.2%)	2,263 (8.3%)	7,364 (6.7%)	
External Disorder				
No	82,030 (100.0%)	27,239 (100.0%)	109,269 (100.0%)	.
Heart Disorder				
No	76,553 (93.3%)	23,422 (86.0%)	99,975 (91.5%)	<0.001
Yes	5,477 (6.7%)	3,817 (14.0%)	9,294 (8.5%)	
Kidney Disorder				
No	77,581 (94.6%)	26,206 (96.2%)	103,787 (95.0%)	<0.001
Yes	4,449 (5.4%)	1,033 (3.8%)	5,482 (5.0%)	
Mental Disorder				

No	76,875 (93.7%)	24,598 (90.3%)	101,473 (92.9%)	<0.001
Yes	5,155 (6.3%)	2,641 (9.7%)	7,796 (7.1%)	
Malignant Disorder				
No	81,965 (99.9%)	26,494 (97.3%)	108,459 (99.3%)	<0.001
Yes	65 (0.1%)	745 (2.7%)	810 (0.7%)	
Metabolic Disorder				
No	80,276 (97.9%)	25,932 (95.2%)	106,208 (97.2%)	<0.001
Yes	1,754 (2.1%)	1,307 (4.8%)	3,061 (2.8%)	
Perinatal Disorder				
No	81,630 (99.5%)	27,133 (99.6%)	108,763 (99.5%)	0.038
Yes	400 (0.5%)	106 (0.4%)	506 (0.5%)	
Pregnancy Disorder				
No	80,317 (97.9%)	24,111 (88.5%)	104,428 (95.6%)	<0.001
Yes	1,713 (2.1%)	3,128 (11.5%)	4,841 (4.4%)	
Residual Disorder				
No	80,999 (98.7%)	24,200 (88.8%)	105,199 (96.3%)	<0.001
Yes	1,031 (1.3%)	3,039 (11.2%)	4,070 (3.7%)	
Respiratory Disorder				
No	70,519 (86.0%)	24,619 (90.4%)	95,138 (87.1%)	<0.001
Yes	11,511 (14.0%)	2,620 (9.6%)	14,131 (12.9%)	
Skin Disorder				
No	79,755 (97.2%)	26,841 (98.5%)	106,596 (97.6%)	<0.001
Yes	2,275 (2.8%)	398 (1.5%)	2,673 (2.4%)	

Table A3. Baseline Demographics and Clinical Characteristics of Emergency and Inpatient Admissions in Clay County, 2023

	ER	IN	Total	P
N	84,691 (78.1%)	23,690 (21.9%)	108,381 (100.0%)	
Age (Years)	35.618 (23.590)	49.271 (28.129)	38.602 (25.291)	<0.001
LOS	0.122 (0.689)	3.505 (7.595)	0.862 (3.864)	<0.001
Gender				
Female	47,404 (56.0%)	13,567 (57.3%)	60,971 (56.3%)	<0.001
Male	37,279 (44.0%)	10,118 (42.7%)	47,397 (43.7%)	
Unknown/indeterminate	8 (0.0%)	5 (0.0%)	13 (0.0%)	
Ethnicity				
Hispanic or Latino	5,713 (6.7%)	1,072 (4.5%)	6,785 (6.3%)	<0.001
Neither Hispanic nor Latino	78,007 (92.1%)	22,209 (93.7%)	100,216 (92.5%)	
Patient Refused	0 (0.0%)	126 (0.5%)	126 (0.1%)	
Unknown	971 (1.1%)	283 (1.2%)	1,254 (1.2%)	
Racial Group				
White	62,616 (73.9%)	19,339 (81.6%)	81,955 (75.6%)	<0.001
Black or African American	12,145 (14.3%)	1,887 (8.0%)	14,032 (12.9%)	
American Indian/Alaska Native	314 (0.4%)	116 (0.5%)	430 (0.4%)	
Asian	966 (1.1%)	280 (1.2%)	1,246 (1.1%)	
Native Hawaiian/Pacific Islander	421 (0.5%)	97 (0.4%)	518 (0.5%)	
Some Other Race	6,748 (8.0%)	1,135 (4.8%)	7,883 (7.3%)	
Multi-Racial	674 (0.8%)	110 (0.5%)	784 (0.7%)	
Unknown	807 (1.0%)	726 (3.1%)	1,533 (1.4%)	
Insurance Type				
Other Insurance	60,869 (71.9%)	18,882 (79.7%)	79,751 (73.6%)	<0.001
Medicaid	23,822 (28.1%)	4,808 (20.3%)	28,630 (26.4%)	

Number of diagnoses in this Index admission	2.929 (2.408)	12.459 (6.607)	5.012 (5.439)	<0.001
National Area Deprivation Index	57.905 (18.090)	57.318 (17.558)	57.776 (17.977)	<0.001
State Area Deprivation Index	3.903 (1.947)	3.809 (1.930)	3.883 (1.944)	<0.001
Priority (Type) of Admission/Visit				
Emergency	46,063 (54.4%)	4,386 (18.5%)	50,449 (46.5%)	<0.001
Urgent	26,575 (31.4%)	11,412 (48.2%)	37,987 (35.0%)	
Elective	9,657 (11.4%)	4,732 (20.0%)	14,389 (13.3%)	
Other	2,396 (2.8%)	3,160 (13.3%)	5,556 (5.1%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	74,072 (87.6%)	16,762 (70.8%)	90,834 (83.9%)	<0.001
All Others	10,508 (12.4%)	6,928 (29.2%)	17,436 (16.1%)	
Patient Discharge Status				
Discharged to home	79,610 (94.0%)	16,587 (70.0%)	96,197 (88.8%)	<0.001
All Others	5,081 (6.0%)	7,103 (30.0%)	12,184 (11.2%)	
Blood Disorder				
No	84,171 (99.4%)	23,456 (99.0%)	107,627 (99.3%)	<0.001
Yes	520 (0.6%)	234 (1.0%)	754 (0.7%)	
Bone Disorder				
No	78,459 (92.6%)	22,987 (97.0%)	101,446 (93.6%)	<0.001
Yes	6,232 (7.4%)	703 (3.0%)	6,935 (6.4%)	
Brain Disorder				
No	78,436 (92.6%)	23,042 (97.3%)	101,478 (93.6%)	<0.001
Yes	6,255 (7.4%)	648 (2.7%)	6,903 (6.4%)	

Digestive Disorder				
No	79,342 (93.7%)	21,568 (91.0%)	100,910 (93.1%)	<0.001
Yes	5,349 (6.3%)	2,122 (9.0%)	7,471 (6.9%)	
External Disorder				
No	84,691 (100.0%)	23,690 (100.0%)	108,381(100.0%)	.
Heart Disorder				
No	78,406 (92.6%)	20,383 (86.0%)	98,789 (91.1%)	<0.001
Yes	6,285 (7.4%)	3,307 (14.0%)	9,592 (8.9%)	
Kidney Disorder				
No	80,100 (94.6%)	22,730 (95.9%)	102,830 (94.9%)	<0.001
Yes	4,591 (5.4%)	960 (4.1%)	5,551 (5.1%)	
Mental Disorder				
No	79,318 (93.7%)	21,580 (91.1%)	100,898 (93.1%)	<0.001
Yes	5,373 (6.3%)	2,110 (8.9%)	7,483 (6.9%)	
Malignant Disorder				
No	84,618 (99.9%)	23,234 (98.1%)	107,852 (99.5%)	<0.001
Yes	73 (0.1%)	456 (1.9%)	529 (0.5%)	
Metabolic Disorder				
No	82,875 (97.9%)	22,514 (95.0%)	105,389 (97.2%)	<0.001
Yes	1,816 (2.1%)	1,176 (5.0%)	2,992 (2.8%)	
Perinatal Disorder				
No	84,289 (99.5%)	23,595 (99.6%)	107,884 (99.5%)	0.138
Yes	402 (0.5%)	95 (0.4%)	497 (0.5%)	
Pregnancy Disorder				
No	82,954 (97.9%)	21,096 (89.1%)	104,050 (96.0%)	<0.001
Yes	1,737 (2.1%)	2,594 (10.9%)	4,331 (4.0%)	

Residual Disorder				
No	83,583 (98.7%)	21,163 (89.3%)	104,746 (96.6%)	<0.001
Yes	1,108 (1.3%)	2,527 (10.7%)	3,635 (3.4%)	
Respiratory Disorder				
No	75,623 (89.3%)	21,539 (90.9%)	97,162 (89.6%)	<0.001
Yes	9,068 (10.7%)	2,151 (9.1%)	11,219 (10.4%)	
Skin Disorder				
No	82,261 (97.1%)	23,318 (98.4%)	105,579 (97.4%)	<0.001
Yes	2,430 (2.9%)	372 (1.6%)	2,802 (2.6%)	

Table A4. Baseline Demographics and Clinical Characteristics of Emergency and Inpatient Admissions in Jackson County, 2021

	ER	IN	Total	P
N	323,966 (77.0%)	96,711 (23.0%)	420,677 (100.0%)	
Age (Years)	34.230 (22.035)	48.600 (26.212)	37.533 (23.841)	<0.001
LOS	0.123 (0.377)	5.216 (8.733)	1.294 (4.715)	<0.001
Gender				
Female	181,203 (55.9%)	53,993 (55.8%)	235,196 (55.9%)	0.418
Male	142,725 (44.1%)	42,711 (44.2%)	185,436 (44.1%)	
Unknown/indeterminate	38 (0.0%)	7 (0.0%)	45 (0.0%)	
Ethnicity				
Hispanic or Latino	27,783 (8.6%)	5,760 (6.0%)	33,543 (8.0%)	<0.001
Neither Hispanic nor Latino	295,629 (91.3%)	90,518 (93.6%)	386,147 (91.8%)	
Patient Refused	0 (0.0%)	12 (0.0%)	12 (0.0%)	
Unknown	554 (0.2%)	421 (0.4%)	975 (0.2%)	

Racial Group				
White	151,220 (46.7%)	57,785 (59.8%)	209,005 (49.7%)	<0.001
Black or African American	130,346 (40.2%)	27,806 (28.8%)	158,152 (37.6%)	
American Indian/Alaska Native	672 (0.2%)	263 (0.3%)	935 (0.2%)	
Asian	2,454 (0.8%)	880 (0.9%)	3,334 (0.8%)	
Native Hawaiian/Pacific Islander	858 (0.3%)	290 (0.3%)	1,148 (0.3%)	
Some Other Race	31,696 (9.8%)	6,424 (6.6%)	38,120 (9.1%)	
Multi-Racial	3,896 (1.2%)	651 (0.7%)	4,547 (1.1%)	
Unknown	2,824 (0.9%)	2,612 (2.7%)	5,436 (1.3%)	
Insurance Type				
Other Insurance	219,342 (67.7%)	74,602 (77.1%)	293,944 (69.9%)	<0.001
Medicaid	104,624 (32.3%)	22,109 (22.9%)	126,733 (30.1%)	
Number of diagnoses in this Index admission	3.210 (2.445)	13.688 (6.322)	5.619 (5.764)	<0.001
National Area Deprivation Index	67.590 (20.559)	65.807 (20.385)	67.179 (20.533)	<0.001
State Area Deprivation Index	5.355 (2.879)	5.080 (2.798)	5.292 (2.863)	<0.001
Priority (Type) of Admission/Visit				
Emergency	171,678 (53.0%)	51,433 (53.2%)	223,111 (53.0%)	<0.001
Urgent	12,657 (3.9%)	10,590 (11.0%)	23,247 (5.5%)	
Elective	34,729 (10.7%)	11,470 (11.9%)	46,199 (11.0%)	
Other	104,902 (32.4%)	23,218 (24.0%)	128,120 (30.5%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	286,984 (88.6%)	72,259 (74.7%)	359,243 (85.4%)	<0.001
All Others	36,827 (11.4%)	24,451 (25.3%)	61,278 (14.6%)	
Patient Discharge Status				

Discharged to home	306,548 (94.6%)	65,230 (67.4%)	371,778 (88.4%)	<0.001
All Others	17,418 (5.4%)	31,481 (32.6%)	48,899 (11.6%)	
Blood Disorder				
No	322,503 (99.5%)	95,354 (98.6%)	417,857 (99.3%)	<0.001
Yes	1,463 (0.5%)	1,357 (1.4%)	2,820 (0.7%)	
Bone Disorder				
No	299,861 (92.6%)	93,434 (96.6%)	393,295 (93.5%)	<0.001
Yes	24,105 (7.4%)	3,277 (3.4%)	27,382 (6.5%)	
Brain Disorder				
No	302,163 (93.3%)	93,884 (97.1%)	396,047 (94.1%)	<0.001
Yes	21,803 (6.7%)	2,827 (2.9%)	24,630 (5.9%)	
Digestive Disorder				
No	304,788 (94.1%)	88,408 (91.4%)	393,196 (93.5%)	<0.001
Yes	19,178 (5.9%)	8,303 (8.6%)	27,481 (6.5%)	
External Disorder				
No	323,965 (100.0%)	96,711 (100.0%)	420,676 (100.0%)	0.585
Yes	1 (0.0%)	0 (0.0%)	1 (0.0%)	
Heart Disorder				
No	304,626 (94.0%)	82,399 (85.2%)	387,025 (92.0%)	<0.001
Yes	19,340 (6.0%)	14,312 (14.8%)	33,652 (8.0%)	
Kidney Disorder				
No	304,386 (94.0%)	93,046 (96.2%)	397,432 (94.5%)	<0.001
Yes	19,580 (6.0%)	3,665 (3.8%)	23,245 (5.5%)	
Mental Disorder				
No	303,315 (93.6%)	86,674 (89.6%)	389,989 (92.7%)	<0.001
Yes	20,651 (6.4%)	10,037 (10.4%)	30,688 (7.3%)	

Malignant Disorder				
No	323,663 (99.9%)	94,373 (97.6%)	418,036 (99.4%)	<0.001
Yes	303 (0.1%)	2,338 (2.4%)	2,641 (0.6%)	
Metabolic Disorder				
No	317,385 (98.0%)	92,001 (95.1%)	409,386 (97.3%)	<0.001
Yes	6,581 (2.0%)	4,710 (4.9%)	11,291 (2.7%)	
Perinatal Disorder				
No	322,811 (99.6%)	96,364 (99.6%)	419,175 (99.6%)	0.917
Yes	1,155 (0.4%)	347 (0.4%)	1,502 (0.4%)	
Pregnancy Disorder				
No	315,275 (97.3%)	87,736 (90.7%)	403,011 (95.8%)	<0.001
Yes	8,691 (2.7%)	8,975 (9.3%)	17,666 (4.2%)	
Residual Disorder				
No	320,784 (99.0%)	88,351 (91.4%)	409,135 (97.3%)	<0.001
Yes	3,182 (1.0%)	8,360 (8.6%)	11,542 (2.7%)	
Respiratory Disorder				
No	279,401 (86.2%)	88,132 (91.1%)	367,533 (87.4%)	<0.001
Yes	44,565 (13.8%)	8,579 (8.9%)	53,144 (12.6%)	
Skin Disorder				
No	313,062 (96.6%)	95,392 (98.6%)	408,454 (97.1%)	<0.001
Yes	10,904 (3.4%)	1,319 (1.4%)	12,223 (2.9%)	

Table A5. Baseline Demographics and Clinical Characteristics of Emergency and Inpatient Admissions in Jackson County, 2022

	ER	IN	Total	P
N	320,230 (77.1%)	94,987 (22.9%)	415,217 (100.0%)	
Age (Years)	35.478 (22.048)	48.708 (26.602)	38.505 (23.826)	<0.001

LOS	0.139 (0.709)	5.352 (9.221)	1.331 (4.963)	<0.001
Gender				
Female	179,482 (56.0%)	53,146 (56.0%)	232,628 (56.0%)	0.763
Male	140,714 (43.9%)	41,829 (44.0%)	182,543 (44.0%)	
Unknown/indeterminate	34 (0.0%)	12 (0.0%)	46 (0.0%)	
Ethnicity				
Hispanic or Latino	28,735 (9.0%)	5,984 (6.3%)	34,719 (8.4%)	<0.001
Neither Hispanic nor Latino	290,564 (90.7%)	88,394 (93.1%)	378,958 (91.3%)	
Patient Refused	0 (0.0%)	52 (0.1%)	52 (0.0%)	
Unknown	931 (0.3%)	557 (0.6%)	1,488 (0.4%)	
Racial Group				
White	145,238 (45.4%)	56,483 (59.5%)	201,721 (48.6%)	<0.001
Black or African American	130,558 (40.8%)	27,013 (28.4%)	157,571 (37.9%)	
American Indian/Alaska Native	735 (0.2%)	252 (0.3%)	987 (0.2%)	
Asian	2,454 (0.8%)	934 (1.0%)	3,388 (0.8%)	
Native Hawaiian/Pacific Islander	812 (0.3%)	250 (0.3%)	1,062 (0.3%)	
Some Other Race	32,896 (10.3%)	6,614 (7.0%)	39,510 (9.5%)	
Multi-Racial	4,175 (1.3%)	666 (0.7%)	4,841 (1.2%)	
Patient Refused	101 (0.0%)	36 (0.0%)	137 (0.0%)	
Unknown	3,261 (1.0%)	2,739 (2.9%)	6,000 (1.4%)	
Insurance Type				
Other Insurance	193,353 (60.4%)	68,946 (72.6%)	262,299 (63.2%)	<0.001
Medicaid	126,877 (39.6%)	26,041 (27.4%)	152,918 (36.8%)	
Number of diagnoses in this Index admission	3.028 (2.397)	14.004 (6.411)	5.539 (5.923)	<0.001
National Area Deprivation Index	67.521 (20.534)	65.742 (20.390)	67.112 (20.515)	<0.001

State Area Deprivation Index	5.342 (2.878)	5.073 (2.804)	5.280 (2.864)	<0.001
Priority (Type) of Admission/Visit				
Emergency	172,740 (53.9%)	50,102 (52.7%)	222,842 (53.7%)	<0.001
Urgent	14,153 (4.4%)	10,472 (11.0%)	24,625 (5.9%)	
Elective	20,662 (6.5%)	10,469 (11.0%)	31,131 (7.5%)	
Other	112,675 (35.2%)	23,944 (25.2%)	136,619 (32.9%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	295,964 (92.5%)	69,758 (73.4%)	365,722 (88.1%)	<0.001
All Others	24,162 (7.5%)	25,229 (26.6%)	49,391 (11.9%)	
Patient Discharge Status				
Discharged to home	302,275 (94.4%)	64,755 (68.2%)	367,030 (88.4%)	<0.001
All Others	17,955 (5.6%)	30,232 (31.8%)	48,187 (11.6%)	
Blood Disorder				
No	318,806 (99.6%)	93,707 (98.7%)	412,513 (99.3%)	<0.001
Yes	1,424 (0.4%)	1,280 (1.3%)	2,704 (0.7%)	
Bone Disorder				
No	295,694 (92.3%)	92,252 (97.1%)	387,946 (93.4%)	<0.001
Yes	24,536 (7.7%)	2,735 (2.9%)	27,271 (6.6%)	
Brain Disorder				
No	297,295 (92.8%)	92,091 (97.0%)	389,386 (93.8%)	<0.001
Yes	22,935 (7.2%)	2,896 (3.0%)	25,831 (6.2%)	
Digestive Disorder				
No	301,341 (94.1%)	86,763 (91.3%)	388,104 (93.5%)	<0.001
Yes	18,889 (5.9%)	8,224 (8.7%)	27,113 (6.5%)	
External Disorder				

No	320,227 (100.0%)	94,987 (100.0%)	415,214 (100.0%)	0.346
Yes	3 (0.0%)	0 (0.0%)	3 (0.0%)	
Heart Disorder				
No	300,562 (93.9%)	81,194 (85.5%)	381,756 (91.9%)	<0.001
Yes	19,668 (6.1%)	13,793 (14.5%)	33,461 (8.1%)	
Kidney Disorder				
No	300,811 (93.9%)	91,056 (95.9%)	391,867 (94.4%)	<0.001
Yes	19,419 (6.1%)	3,931 (4.1%)	23,350 (5.6%)	
Mental Disorder				
No	300,937 (94.0%)	85,081 (89.6%)	386,018 (93.0%)	<0.001
Yes	19,293 (6.0%)	9,906 (10.4%)	29,199 (7.0%)	
Malignant Disorder				
No	320,051 (99.9%)	92,756 (97.7%)	412,807 (99.4%)	<0.001
Yes	179 (0.1%)	2,231 (2.3%)	2,410 (0.6%)	
Metabolic Disorder				
No	314,237 (98.1%)	90,351 (95.1%)	404,588 (97.4%)	<0.001
Yes	5,993 (1.9%)	4,636 (4.9%)	10,629 (2.6%)	
Perinatal Disorder				
No	319,247 (99.7%)	94,665 (99.7%)	413,912 (99.7%)	0.121
Yes	983 (0.3%)	322 (0.3%)	1,305 (0.3%)	
Pregnancy Disorder				
No	311,126 (97.2%)	85,910 (90.4%)	397,036 (95.6%)	<0.001
Yes	9,104 (2.8%)	9,077 (9.6%)	18,181 (4.4%)	
Residual Disorder				
No	317,030 (99.0%)	86,456 (91.0%)	403,486 (97.2%)	<0.001
Yes	3,200 (1.0%)	8,531 (9.0%)	11,731 (2.8%)	

Respiratory Disorder				
No	272,434 (85.1%)	86,914 (91.5%)	359,348 (86.5%)	<0.001
Yes	47,796 (14.9%)	8,073 (8.5%)	55,869 (13.5%)	
Skin Disorder				
No	310,035 (96.8%)	93,672 (98.6%)	403,707 (97.2%)	<0.001
Yes	10,195 (3.2%)	1,315 (1.4%)	11,510 (2.8%)	

Table A6. Baseline Demographics and Clinical Characteristics of Emergency and Inpatient Admissions in Jackson County, 2023

	ER	IN	Total	P
N	328,722 (80.2%)	81,127 (19.8%)	409,849 (100.0%)	
Age (Years)	36.443 (21.916)	49.373 (26.574)	39.002 (23.485)	<0.001
LOS	0.151 (0.634)	5.054 (9.652)	1.122 (4.752)	<0.001
Gender				
Female	182,795 (55.6%)	44,429 (54.8%)	227,224 (55.4%)	<0.001
Male	145,878 (44.4%)	36,688 (45.2%)	182,566 (44.5%)	
Unknown/indeterminate	49 (0.0%)	10 (0.0%)	59 (0.0%)	
Ethnicity				
Hispanic or Latino	30,357 (9.2%)	6,037 (7.4%)	36,394 (8.9%)	<0.001
Neither Hispanic nor Latino	296,800 (90.3%)	74,432 (91.7%)	371,232 (90.6%)	
Patient Refused	0 (0.0%)	50 (0.1%)	50 (0.0%)	
Unknown	1,565 (0.5%)	608 (0.7%)	2,173 (0.5%)	
Racial Group				
White	149,361 (45.4%)	47,806 (58.9%)	197,167 (48.1%)	<0.001
Black or African American	133,667 (40.7%)	23,177 (28.6%)	156,844 (38.3%)	
American Indian/Alaska Native	849 (0.3%)	230 (0.3%)	1,079 (0.3%)	

Asian	2,513 (0.8%)	733 (0.9%)	3,246 (0.8%)	
Native Hawaiian/Pacific Islander	849 (0.3%)	226 (0.3%)	1,075 (0.3%)	
Some Other Race	34,429 (10.5%)	6,327 (7.8%)	40,756 (9.9%)	
Multi-Racial	3,643 (1.1%)	491 (0.6%)	4,134 (1.0%)	
Unknown	3,411 (1.0%)	2,137 (2.6%)	5,548 (1.4%)	
Insurance Type				
Other Insurance	191,541 (58.3%)	55,524 (68.4%)	247,065 (60.3%)	<0.001
Medicaid	137,181 (41.7%)	25,603 (31.6%)	162,784 (39.7%)	
Number of diagnoses in this Index admission	3.069 (2.353)	13.256 (6.209)	5.085 (5.343)	<0.001
National Area Deprivation Index	67.561 (20.552)	66.015 (20.254)	67.254 (20.502)	<0.001
State Area Deprivation Index	5.346 (2.884)	5.103 (2.805)	5.298 (2.870)	<0.001
Priority (Type) of Admission/Visit				
Emergency	175,333 (53.3%)	51,553 (63.5%)	226,886 (55.4%)	<0.001
Urgent	16,091 (4.9%)	8,447 (10.4%)	24,538 (6.0%)	
Elective	20,889 (6.4%)	10,142 (12.5%)	31,031 (7.6%)	
Other	116,409 (35.4%)	10,985 (13.5%)	127,394 (31.1%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	303,732 (92.4%)	61,257 (75.5%)	364,989 (89.1%)	<0.001
All Others	24,905 (7.6%)	19,870 (24.5%)	44,775 (10.9%)	
Patient Discharge Status				
Discharged to home	309,975 (94.3%)	55,626 (68.6%)	365,601 (89.2%)	<0.001
All Others	18,747 (5.7%)	25,501 (31.4%)	44,248 (10.8%)	
Blood Disorder				
No	326,878 (99.4%)	79,981 (98.6%)	406,859 (99.3%)	<0.001

Yes	1,844 (0.6%)	1,146 (1.4%)	2,990 (0.7%)	
Bone Disorder				
No	300,931 (91.5%)	79,025 (97.4%)	379,956 (92.7%)	<0.001
Yes	27,791 (8.5%)	2,102 (2.6%)	29,893 (7.3%)	
Brain Disorder				
No	303,187 (92.2%)	78,697 (97.0%)	381,884 (93.2%)	<0.001
Yes	25,535 (7.8%)	2,430 (3.0%)	27,965 (6.8%)	
Digestive Disorder				
No	308,379 (93.8%)	73,811 (91.0%)	382,190 (93.3%)	<0.001
Yes	20,343 (6.2%)	7,316 (9.0%)	27,659 (6.7%)	
External Disorder				
No	328,722 (100.0%)	81,127 (100.0%)	409,849 (100.0%)	.
Heart Disorder				
No	306,580 (93.3%)	68,699 (84.7%)	375,279 (91.6%)	<0.001
Yes	22,142 (6.7%)	12,428 (15.3%)	34,570 (8.4%)	
Kidney Disorder				
No	307,699 (93.6%)	77,514 (95.5%)	385,213 (94.0%)	<0.001
Yes	21,023 (6.4%)	3,613 (4.5%)	24,636 (6.0%)	
Mental Disorder				
No	308,643 (93.9%)	72,884 (89.8%)	381,527 (93.1%)	<0.001
Yes	20,079 (6.1%)	8,243 (10.2%)	28,322 (6.9%)	
Malignant Disorder				
No	328,474 (99.9%)	79,478 (98.0%)	407,952 (99.5%)	<0.001
Yes	248 (0.1%)	1,649 (2.0%)	1,897 (0.5%)	
Metabolic Disorder				
No	322,357 (98.1%)	77,166 (95.1%)	399,523 (97.5%)	<0.001

Yes	6,365 (1.9%)	3,961 (4.9%)	10,326 (2.5%)	
Perinatal Disorder				
No	327,746 (99.7%)	80,899 (99.7%)	408,645 (99.7%)	0.455
Yes	976 (0.3%)	228 (0.3%)	1,204 (0.3%)	
Pregnancy Disorder				
No	319,605 (97.2%)	73,610 (90.7%)	393,215 (95.9%)	<0.001
Yes	9,117 (2.8%)	7,517 (9.3%)	16,634 (4.1%)	
Residual Disorder				
No	323,803 (98.5%)	74,179 (91.4%)	397,982 (97.1%)	<0.001
Yes	4,919 (1.5%)	6,948 (8.6%)	11,867 (2.9%)	
Respiratory Disorder				
No	288,717 (87.8%)	74,936 (92.4%)	363,653 (88.7%)	<0.001
Yes	40,005 (12.2%)	6,191 (7.6%)	46,196 (11.3%)	
Skin Disorder				
No	317,385 (96.6%)	79,749 (98.3%)	397,134 (96.9%)	<0.001
Yes	11,337 (3.4%)	1,378 (1.7%)	12,715 (3.1%)	

Table A6. Baseline Demographics and Clinical Characteristics of Emergency and Inpatient Admissions in Clay County, 2023

	ER	IN	Total	P
N	328,722 (80.2%)	81,127 (19.8%)	409,849 (100.0%)	
Age (Years)	36.443 (21.916)	49.373 (26.574)	39.002 (23.485)	<0.001
LOS	0.151 (0.634)	5.054 (9.652)	1.122 (4.752)	<0.001
Gender				

Female	182,795 (55.6%)	44,429 (54.8%)	227,224 (55.4%)	<0.001
Male	145,878 (44.4%)	36,688 (45.2%)	182,566 (44.5%)	
Unknown/indeterminate	49 (0.0%)	10 (0.0%)	59 (0.0%)	
Ethnicity				
Hispanic or Latino	30,357 (9.2%)	6,037 (7.4%)	36,394 (8.9%)	<0.001
Neither Hispanic nor Latino	296,800 (90.3%)	74,432 (91.7%)	371,232 (90.6%)	
Patient Refused	0 (0.0%)	50 (0.1%)	50 (0.0%)	
Unknown	1,565 (0.5%)	608 (0.7%)	2,173 (0.5%)	
Racial Group				
White	149,361 (45.4%)	47,806 (58.9%)	197,167 (48.1%)	<0.001
Black or African American	133,667 (40.7%)	23,177 (28.6%)	156,844 (38.3%)	
American Indian/Alaska Native	849 (0.3%)	230 (0.3%)	1,079 (0.3%)	
Asian	2,513 (0.8%)	733 (0.9%)	3,246 (0.8%)	
Native Hawaiian/Pacific Islander	849 (0.3%)	226 (0.3%)	1,075 (0.3%)	
Some Other Race	34,429 (10.5%)	6,327 (7.8%)	40,756 (9.9%)	
Multi-Racial	3,643 (1.1%)	491 (0.6%)	4,134 (1.0%)	
Unknown	3,411 (1.0%)	2,137 (2.6%)	5,548 (1.4%)	
Insurance Type				
Other Insurance	191,541 (58.3%)	55,524 (68.4%)	247,065 (60.3%)	<0.001
Medicaid	137,181 (41.7%)	25,603 (31.6%)	162,784 (39.7%)	
Number of diagnoses in this Index admission	3.069 (2.353)	13.256 (6.209)	5.085 (5.343)	<0.001
National Area Deprivation Index	67.561 (20.552)	66.015 (20.254)	67.254 (20.502)	<0.001
State Area Deprivation Index	5.346 (2.884)	5.103 (2.805)	5.298 (2.870)	<0.001
Priority (Type) of Admission/Visit				

Emergency	175,333 (53.3%)	51,553 (63.5%)	226,886 (55.4%)	<0.001
Urgent	16,091 (4.9%)	8,447 (10.4%)	24,538 (6.0%)	
Elective	20,889 (6.4%)	10,142 (12.5%)	31,031 (7.6%)	
Other	116,409 (35.4%)	10,985 (13.5%)	127,394 (31.1%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	303,732 (92.4%)	61,257 (75.5%)	364,989 (89.1%)	<0.001
All Others	24,905 (7.6%)	19,870 (24.5%)	44,775 (10.9%)	
Patient Discharge Status				
Discharged to home	309,975 (94.3%)	55,626 (68.6%)	365,601 (89.2%)	<0.001
All Others	18,747 (5.7%)	25,501 (31.4%)	44,248 (10.8%)	
Blood Disorder				
No	326,878 (99.4%)	79,981 (98.6%)	406,859 (99.3%)	<0.001
Yes	1,844 (0.6%)	1,146 (1.4%)	2,990 (0.7%)	
Bone Disorder				
No	300,931 (91.5%)	79,025 (97.4%)	379,956 (92.7%)	<0.001
Yes	27,791 (8.5%)	2,102 (2.6%)	29,893 (7.3%)	
Brain Disorder				
No	303,187 (92.2%)	78,697 (97.0%)	381,884 (93.2%)	<0.001
Yes	25,535 (7.8%)	2,430 (3.0%)	27,965 (6.8%)	
Digestive Disorder				
No	308,379 (93.8%)	73,811 (91.0%)	382,190 (93.3%)	<0.001
Yes	20,343 (6.2%)	7,316 (9.0%)	27,659 (6.7%)	
External Disorder				
No	328,722 (100.0%)	81,127 (100.0%)	409,849 (100.0%)	.
Heart Disorder				
No	306,580 (93.3%)	68,699 (84.7%)	375,279 (91.6%)	<0.001
Yes	22,142 (6.7%)	12,428 (15.3%)	34,570 (8.4%)	

Kidney Disorder				
No	307,699 (93.6%)	77,514 (95.5%)	385,213 (94.0%)	<0.001
Yes	21,023 (6.4%)	3,613 (4.5%)	24,636 (6.0%)	
Mental Disorder				
No	308,643 (93.9%)	72,884 (89.8%)	381,527 (93.1%)	<0.001
Yes	20,079 (6.1%)	8,243 (10.2%)	28,322 (6.9%)	
Malignant Disorder				
No	328,474 (99.9%)	79,478 (98.0%)	407,952 (99.5%)	<0.001
Yes	248 (0.1%)	1,649 (2.0%)	1,897 (0.5%)	
Metabolic Disorder				
No	322,357 (98.1%)	77,166 (95.1%)	399,523 (97.5%)	<0.001
Yes	6,365 (1.9%)	3,961 (4.9%)	10,326 (2.5%)	
Perinatal Disorder				
No	327,746 (99.7%)	80,899 (99.7%)	408,645 (99.7%)	0.455
Yes	976 (0.3%)	228 (0.3%)	1,204 (0.3%)	
Pregnancy Disorder				
No	319,605 (97.2%)	73,610 (90.7%)	393,215 (95.9%)	<0.001
Yes	9,117 (2.8%)	7,517 (9.3%)	16,634 (4.1%)	
Residual Disorder				
No	323,803 (98.5%)	74,179 (91.4%)	397,982 (97.1%)	<0.001
Yes	4,919 (1.5%)	6,948 (8.6%)	11,867 (2.9%)	
Respiratory Disorder				
No	288,717 (87.8%)	74,936 (92.4%)	363,653 (88.7%)	<0.001
Yes	40,005 (12.2%)	6,191 (7.6%)	46,196 (11.3%)	
Skin Disorder				
No	317,385 (96.6%)	79,749 (98.3%)	397,134 (96.9%)	<0.001

Yes	11,337 (3.4%)	1,378 (1.7%)	12,715 (3.1%)	

Table A7. Baseline Demographics and Clinical Characteristics of Emergency and Inpatient Admissions in Platte County, 2021

	ER	IN	Total	P
N	28,207 (74.1%)	9,880 (25.9%)	38,087 (100.0%)	
Age (Years)	32.667 (24.587)	47.129 (28.363)	36.417 (26.392)	<0.001
LOS	0.094 (0.298)	4.732 (6.345)	1.297 (3.826)	<0.001
Gender				
Female	15,789 (56.0%)	5,578 (56.5%)	21,367 (56.1%)	0.383
Male	12,416 (44.0%)	4,300 (43.5%)	16,716 (43.9%)	
Unknown/indeterminate	2 (0.0%)	2 (0.0%)	4 (0.0%)	
Ethnicity				
Hispanic or Latino	1,744 (6.2%)	386 (3.9%)	2,130 (5.6%)	<0.001
Neither Hispanic nor Latino	26,295 (93.2%)	9,395 (95.1%)	35,690 (93.7%)	
Patient Refused	0 (0.0%)	12 (0.1%)	12 (0.0%)	
Unknown	168 (0.6%)	87 (0.9%)	255 (0.7%)	
Racial Group				
White	20,942 (74.2%)	8,148 (82.5%)	29,090 (76.4%)	<0.001
Black or African American	3,990 (14.1%)	881 (8.9%)	4,871 (12.8%)	
American Indian/Alaska Native	78 (0.3%)	28 (0.3%)	106 (0.3%)	
Asian	343 (1.2%)	146 (1.5%)	489 (1.3%)	
Native Hawaiian/Pacific Islander	265 (0.9%)	71 (0.7%)	336 (0.9%)	
Some Other Race	2,273 (8.1%)	380 (3.8%)	2,653 (7.0%)	
Multi-Racial	140 (0.5%)	56 (0.6%)	196 (0.5%)	

Unknown	176 (0.6%)	170 (1.7%)	346 (0.9%)	
Insurance Type				
Other Insurance	22,780 (80.8%)	8,600 (87.0%)	31,380 (82.4%)	<0.001
Medicaid	5,427 (19.2%)	1,280 (13.0%)	6,707 (17.6%)	
Number of diagnoses in this Index admission	2.863 (2.193)	12.771 (6.520)	5.434 (5.783)	<0.001
National Area Deprivation Index	38.192 (18.060)	38.747 (18.346)	38.336 (18.136)	0.009
State Area Deprivation Index	2.086 (1.326)	2.136 (1.366)	2.099 (1.336)	0.001
Priority (Type) of Admission/Visit				
Emergency	17,184 (60.9%)	2,633 (26.6%)	19,817 (52.0%)	<0.001
Urgent	4,325 (15.3%)	3,119 (31.6%)	7,444 (19.5%)	
Elective	6,168 (21.9%)	1,458 (14.8%)	7,626 (20.0%)	
Other	530 (1.9%)	2,670 (27.0%)	3,200 (8.4%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	21,766 (77.2%)	6,728 (68.1%)	28,494 (74.8%)	<0.001
All Others	6,425 (22.8%)	3,152 (31.9%)	9,577 (25.2%)	
Patient Discharge Status				
Discharged to home	26,809 (95.0%)	6,838 (69.2%)	33,647 (88.3%)	<0.001
All Others	1,398 (5.0%)	3,042 (30.8%)	4,440 (11.7%)	
Blood Disorder				
No	28,101 (99.6%)	9,792 (99.1%)	37,893 (99.5%)	<0.001
Yes	106 (0.4%)	88 (0.9%)	194 (0.5%)	
Bone Disorder				
No	26,440 (93.7%)	9,586 (97.0%)	36,026 (94.6%)	<0.001
Yes	1,767 (6.3%)	294 (3.0%)	2,061 (5.4%)	

Brain Disorder				
No	26,315 (93.3%)	9,634 (97.5%)	35,949 (94.4%)	<0.001
Yes	1,892 (6.7%)	246 (2.5%)	2,138 (5.6%)	
Digestive Disorder				
No	26,535 (94.1%)	9,043 (91.5%)	35,578 (93.4%)	<0.001
Yes	1,672 (5.9%)	837 (8.5%)	2,509 (6.6%)	
External Disorder				
No	28,207 (100.0%)	9,880 (100.0%)	38,087 (100.0%)	.
Heart Disorder				
No	26,284 (93.2%)	8,554 (86.6%)	34,838 (91.5%)	<0.001
Yes	1,923 (6.8%)	1,326 (13.4%)	3,249 (8.5%)	
Kidney Disorder				
No	26,631 (94.4%)	9,536 (96.5%)	36,167 (95.0%)	<0.001
Yes	1,576 (5.6%)	344 (3.5%)	1,920 (5.0%)	
Mental Disorder				
No	26,307 (93.3%)	9,023 (91.3%)	35,330 (92.8%)	<0.001
Yes	1,900 (6.7%)	857 (8.7%)	2,757 (7.2%)	
Malignant Disorder				
No	28,181 (99.9%)	9,621 (97.4%)	37,802 (99.3%)	<0.001
Yes	26 (0.1%)	259 (2.6%)	285 (0.7%)	
Metabolic Disorder				
No	27,550 (97.7%)	9,477 (95.9%)	37,027 (97.2%)	<0.001
Yes	657 (2.3%)	403 (4.1%)	1,060 (2.8%)	
Perinatal Disorder				
No	27,992 (99.2%)	9,837 (99.6%)	37,829 (99.3%)	<0.001
Yes	215 (0.8%)	43 (0.4%)	258 (0.7%)	

Pregnancy Disorder				
No	27,628 (97.9%)	8,621 (87.3%)	36,249 (95.2%)	<0.001
Yes	579 (2.1%)	1,259 (12.7%)	1,838 (4.8%)	
Residual Disorder				
No	27,886 (98.9%)	8,669 (87.7%)	36,555 (96.0%)	<0.001
Yes	321 (1.1%)	1,211 (12.3%)	1,532 (4.0%)	
Respiratory Disorder				
No	24,898 (88.3%)	8,941 (90.5%)	33,839 (88.8%)	<0.001
Yes	3,309 (11.7%)	939 (9.5%)	4,248 (11.2%)	
Skin Disorder				
No	27,536 (97.6%)	9,758 (98.8%)	37,294 (97.9%)	<0.001
Yes	671 (2.4%)	122 (1.2%)	793 (2.1%)	

Table A8. Baseline Demographics and Clinical Characteristics of Emergency and Inpatient Admissions in Platte County, 2022

	ER	IN	Total	P
N	28,620 (74.3%)	9,890 (25.7%)	38,510 (100.0%)	
Age (Years)	35.000 (25.003)	48.389 (28.496)	38.436 (26.595)	<0.001
LOS	0.111 (0.533)	4.724 (6.857)	1.296 (4.043)	<0.001
Gender				
Female	16,081 (56.2%)	5,678 (57.4%)	21,759 (56.5%)	0.107
Male	12,536 (43.8%)	4,211 (42.6%)	16,747 (43.5%)	
Unknown/indeterminate	3 (0.0%)	1 (0.0%)	4 (0.0%)	
Ethnicity				
Hispanic or Latino	1,817 (6.3%)	442 (4.5%)	2,259 (5.9%)	<0.001
Neither Hispanic nor Latino	26,634 (93.1%)	9,328 (94.3%)	35,962 (93.4%)	

Patient Refused	0 (0.0%)	34 (0.3%)	34 (0.1%)	
Unknown	169 (0.6%)	86 (0.9%)	255 (0.7%)	
Racial Group				
White	20,788 (72.6%)	7,978 (80.7%)	28,766 (74.7%)	<0.001
Black or African American	4,293 (15.0%)	911 (9.2%)	5,204 (13.5%)	
American Indian/Alaska Native	107 (0.4%)	48 (0.5%)	155 (0.4%)	
Asian	362 (1.3%)	125 (1.3%)	487 (1.3%)	
Native Hawaiian/Pacific Islander	320 (1.1%)	65 (0.7%)	385 (1.0%)	
Some Other Race	2,392 (8.4%)	480 (4.9%)	2,872 (7.5%)	
Multi-Racial	156 (0.5%)	38 (0.4%)	194 (0.5%)	
Unknown	202 (0.7%)	245 (2.5%)	447 (1.2%)	
Insurance Type				
Other Insurance	22,416 (78.3%)	8,491 (85.9%)	30,907 (80.3%)	<0.001
Medicaid	6,204 (21.7%)	1,399 (14.1%)	7,603 (19.7%)	
Number of diagnoses in this Index admission	2.499 (2.071)	12.819 (6.393)	5.149 (5.832)	<0.001
National Area Deprivation Index	37.979 (17.937)	38.662 (18.102)	38.154 (17.982)	0.001
State Area Deprivation Index	2.067 (1.309)	2.116 (1.349)	2.080 (1.319)	0.001
Priority (Type) of Admission/Visit				
Emergency	18,962 (66.3%)	2,499 (25.3%)	21,461 (55.7%)	<0.001
Urgent	4,855 (17.0%)	3,221 (32.6%)	8,076 (21.0%)	
Elective	4,264 (14.9%)	1,446 (14.6%)	5,710 (14.8%)	
Other	539 (1.9%)	2,724 (27.5%)	3,263 (8.5%)	
Point of Origin for Admission/Visit				

Non-Health Care Facility	23,962 (83.8%)	6,846 (69.2%)	30,808 (80.0%)	<0.001
All Others	4,637 (16.2%)	3,044 (30.8%)	7,681 (20.0%)	
Patient Discharge Status				
Discharged to home	27,265 (95.3%)	6,945 (70.2%)	34,210 (88.8%)	<0.001
All Others	1,355 (4.7%)	2,945 (29.8%)	4,300 (11.2%)	
Blood Disorder				
No	28,484 (99.5%)	9,808 (99.2%)	38,292 (99.4%)	<0.001
Yes	136 (0.5%)	82 (0.8%)	218 (0.6%)	
Bone Disorder				
No	26,842 (93.8%)	9,588 (96.9%)	36,430 (94.6%)	<0.001
Yes	1,778 (6.2%)	302 (3.1%)	2,080 (5.4%)	
Brain Disorder				
No	26,727 (93.4%)	9,592 (97.0%)	36,319 (94.3%)	<0.001
Yes	1,893 (6.6%)	298 (3.0%)	2,191 (5.7%)	
Digestive Disorder				
No	26,910 (94.0%)	9,040 (91.4%)	35,950 (93.4%)	<0.001
Yes	1,710 (6.0%)	850 (8.6%)	2,560 (6.6%)	
External Disorder				
No	28,620 (100.0%)	9,890 (100.0%)	38,510 (100.0%)	.
Heart Disorder				
No	26,637 (93.1%)	8,518 (86.1%)	35,155 (91.3%)	<0.001
Yes	1,983 (6.9%)	1,372 (13.9%)	3,355 (8.7%)	
Kidney Disorder				
No	27,081 (94.6%)	9,540 (96.5%)	36,621 (95.1%)	<0.001
Yes	1,539 (5.4%)	350 (3.5%)	1,889 (4.9%)	
Mental Disorder				

No	26,919 (94.1%)	9,032 (91.3%)	35,951 (93.4%)	<0.001
Yes	1,701 (5.9%)	858 (8.7%)	2,559 (6.6%)	
Malignant Disorder				
No	28,575 (99.8%)	9,580 (96.9%)	38,155 (99.1%)	<0.001
Yes	45 (0.2%)	310 (3.1%)	355 (0.9%)	
Metabolic Disorder				
No	28,005 (97.9%)	9,463 (95.7%)	37,468 (97.3%)	<0.001
Yes	615 (2.1%)	427 (4.3%)	1,042 (2.7%)	
Perinatal Disorder				
No	28,397 (99.2%)	9,844 (99.5%)	38,241 (99.3%)	0.001
Yes	223 (0.8%)	46 (0.5%)	269 (0.7%)	
Pregnancy Disorder				
No	28,106 (98.2%)	8,711 (88.1%)	36,817 (95.6%)	<0.001
Yes	514 (1.8%)	1,179 (11.9%)	1,693 (4.4%)	
Residual Disorder				
No	28,285 (98.8%)	8,763 (88.6%)	37,048 (96.2%)	<0.001
Yes	335 (1.2%)	1,127 (11.4%)	1,462 (3.8%)	
Respiratory Disorder				
No	24,655 (86.1%)	8,949 (90.5%)	33,604 (87.3%)	<0.001
Yes	3,965 (13.9%)	941 (9.5%)	4,906 (12.7%)	
Skin Disorder				
No	27,894 (97.5%)	9,754 (98.6%)	37,648 (97.8%)	<0.001
Yes	726 (2.5%)	136 (1.4%)	862 (2.2%)	

Table A9. Baseline Demographics and Clinical Characteristics of Emergency and Inpatient Admissions in Platte County, 2023

	ER	IN	Total	P
N	29,327 (78.3%)	8,131 (21.7%)	37,458 (100.0%)	
Age (Years)	36.114 (24.795)	50.341 (28.476)	39.202 (26.301)	<0.001
LOS	0.117 (0.380)	3.432 (5.561)	0.836 (2.949)	<0.001
Gender				
Female	16,737 (57.1%)	4,581 (56.3%)	21,318 (56.9%)	0.199
Male	12,588 (42.9%)	3,548 (43.6%)	16,136 (43.1%)	
Unknown/indeterminate	2 (0.0%)	2 (0.0%)	4 (0.0%)	
Ethnicity				
Hispanic or Latino	1,995 (6.8%)	378 (4.6%)	2,373 (6.3%)	<0.001
Neither Hispanic nor Latino	27,088 (92.4%)	7,614 (93.6%)	34,702 (92.6%)	
Patient Refused	0 (0.0%)	47 (0.6%)	47 (0.1%)	
Unknown	244 (0.8%)	92 (1.1%)	336 (0.9%)	
Racial Group				
White	21,092 (71.9%)	6,505 (80.0%)	27,597 (73.7%)	<0.001
Black or African American	4,417 (15.1%)	691 (8.5%)	5,108 (13.6%)	
American Indian/Alaska Native	151 (0.5%)	30 (0.4%)	181 (0.5%)	
Asian	378 (1.3%)	127 (1.6%)	505 (1.3%)	
Native Hawaiian/Pacific Islander	327 (1.1%)	68 (0.8%)	395 (1.1%)	
Some Other Race	2,496 (8.5%)	388 (4.8%)	2,884 (7.7%)	
Multi-Racial	210 (0.7%)	33 (0.4%)	243 (0.6%)	
Unknown	256 (0.9%)	289 (3.6%)	545 (1.5%)	
Insurance Type				
Other Insurance	22,556 (76.9%)	6,734 (82.8%)	29,290 (78.2%)	<0.001
Medicaid	6,771 (23.1%)	1,397 (17.2%)	8,168 (21.8%)	
Number of diagnoses in this Index admission	2.568 (2.218)	12.709 (6.404)	4.769 (5.498)	<0.001

National Area Deprivation Index	38.030 (17.946)	38.881 (18.106)	38.214 (17.984)	<0.001
State Area Deprivation Index	2.067 (1.317)	2.130 (1.342)	2.081 (1.323)	<0.001
Priority (Type) of Admission/Visit				
Emergency	19,108 (65.2%)	2,468 (30.4%)	21,576 (57.6%)	<0.001
Urgent	5,482 (18.7%)	2,827 (34.8%)	8,309 (22.2%)	
Elective	4,099 (14.0%)	1,554 (19.1%)	5,653 (15.1%)	
Other	638 (2.2%)	1,282 (15.8%)	1,920 (5.1%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	24,634 (84.0%)	5,500 (67.6%)	30,134 (80.5%)	<0.001
All Others	4,679 (16.0%)	2,631 (32.4%)	7,310 (19.5%)	
Patient Discharge Status				
Discharged to home	27,698 (94.4%)	5,501 (67.7%)	33,199 (88.6%)	<0.001
All Others	1,629 (5.6%)	2,630 (32.3%)	4,259 (11.4%)	
Blood Disorder				
No	29,147 (99.4%)	8,059 (99.1%)	37,206 (99.3%)	0.008
Yes	180 (0.6%)	72 (0.9%)	252 (0.7%)	
Bone Disorder				
No	27,424 (93.5%)	7,907 (97.2%)	35,331 (94.3%)	<0.001
Yes	1,903 (6.5%)	224 (2.8%)	2,127 (5.7%)	
Brain Disorder				
No	27,139 (92.5%)	7,934 (97.6%)	35,073 (93.6%)	<0.001
Yes	2,188 (7.5%)	197 (2.4%)	2,385 (6.4%)	
Digestive Disorder				
No	27,463 (93.6%)	7,368 (90.6%)	34,831 (93.0%)	<0.001

Yes	1,864 (6.4%)	763 (9.4%)	2,627 (7.0%)	
External Disorder				
No	29,327 (100.0%)	8,131 (100.0%)	37,458 (100.0%)	.
Heart Disorder				
No	26,964 (91.9%)	6,898 (84.8%)	33,862 (90.4%)	<0.001
Yes	2,363 (8.1%)	1,233 (15.2%)	3,596 (9.6%)	
Kidney Disorder				
No	27,674 (94.4%)	7,820 (96.2%)	35,494 (94.8%)	<0.001
Yes	1,653 (5.6%)	311 (3.8%)	1,964 (5.2%)	
Mental Disorder				
No	27,490 (93.7%)	7,429 (91.4%)	34,919 (93.2%)	<0.001
Yes	1,837 (6.3%)	702 (8.6%)	2,539 (6.8%)	
Malignant Disorder				
No	29,306 (99.9%)	7,972 (98.0%)	37,278 (99.5%)	<0.001
Yes	21 (0.1%)	159 (2.0%)	180 (0.5%)	
Metabolic Disorder				
No	28,630 (97.6%)	7,796 (95.9%)	36,426 (97.2%)	<0.001
Yes	697 (2.4%)	335 (4.1%)	1,032 (2.8%)	
Perinatal Disorder				
No	29,147 (99.4%)	8,099 (99.6%)	37,246 (99.4%)	0.019
Yes	180 (0.6%)	32 (0.4%)	212 (0.6%)	
Pregnancy Disorder				
No	28,719 (97.9%)	7,187 (88.4%)	35,906 (95.9%)	<0.001
Yes	608 (2.1%)	944 (11.6%)	1,552 (4.1%)	
Residual Disorder				
No	28,925 (98.6%)	7,240 (89.0%)	36,165 (96.5%)	<0.001

Yes	402 (1.4%)	891 (11.0%)	1,293 (3.5%)	
Respiratory Disorder				
No	26,371 (89.9%)	7,468 (91.8%)	33,839 (90.3%)	<0.001
Yes	2,956 (10.1%)	663 (8.2%)	3,619 (9.7%)	
Skin Disorder				
No	28,540 (97.3%)	8,011 (98.5%)	36,551 (97.6%)	<0.001
Yes	787 (2.7%)	120 (1.5%)	907 (2.4%)	

Table B1. Demographic and Clinical Characteristics by Medicaid vs. Other Insurance (Clay County,2021)

	Other Insurance	Medicaid	Total	P
N	86,128 (79.1%)	22,710 (20.9%)	108,838 (100.0%)	
Age (Years)	40.596 (25.327)	20.793 (18.086)	36.463 (25.310)	<0.001
LOS	1.392 (3.908)	0.947 (4.293)	1.299 (3.995)	<0.001
National Area Deprivation Index	56.462 (18.580)	61.187 (16.275)	57.448 (18.225)	<0.001
State Area Deprivation Index	3.766 (1.969)	4.224 (1.833)	3.861 (1.950)	<0.001
Gender				
Female	47,404 (55.0%)	13,480 (59.4%)	60,884 (55.9%)	<0.001
Male	38,714 (44.9%)	9,230 (40.6%)	47,944 (44.1%)	
Unknown/indeterminate	10 (0.0%)	0 (0.0%)	10 (0.0%)	
Ethnicity				
Hispanic or Latino	4,418 (5.1%)	2,123 (9.3%)	6,541 (6.0%)	<0.001
Neither Hispanic nor Latino	80,655 (93.6%)	20,386 (89.8%)	101,041 (92.8%)	
Patient Refused	34 (0.0%)	5 (0.0%)	39 (0.0%)	
Unknown	1,021 (1.2%)	196 (0.9%)	1,217 (1.1%)	
Racial Group				

White	70,426 (81.8%)	14,176 (62.4%)	84,602 (77.7%)	<0.001
Black or African American	8,251 (9.6%)	4,464 (19.7%)	12,715 (11.7%)	
American Indian/Alaska Native	200 (0.2%)	117 (0.5%)	317 (0.3%)	
Asian	833 (1.0%)	319 (1.4%)	1,152 (1.1%)	
Native Hawaiian/Pacific Islander	304 (0.4%)	175 (0.8%)	479 (0.4%)	
Some Other Race	4,730 (5.5%)	3,041 (13.4%)	7,771 (7.1%)	
Multi-Racial	477 (0.6%)	254 (1.1%)	731 (0.7%)	
Unknown	907 (1.1%)	164 (0.7%)	1,071 (1.0%)	
Admission Source				
ER	62,974 (73.1%)	18,479 (81.4%)	81,453 (74.8%)	<0.001
IN	23,154 (26.9%)	4,231 (18.6%)	27,385 (25.2%)	
Number of diagnoses in this Index admission	5.870 (6.031)	4.010 (4.354)	5.482 (5.771)	<0.001
Priority (Type) of Admission/Visit				
Emergency	36,949 (42.9%)	10,554 (46.5%)	47,503 (43.6%)	<0.001
Urgent	28,308 (32.9%)	5,426 (23.9%)	33,734 (31.0%)	
Elective	13,947 (16.2%)	5,159 (22.7%)	19,106 (17.6%)	
Other	6,924 (8.0%)	1,571 (6.9%)	8,495 (7.8%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	68,398 (79.5%)	16,343 (72.0%)	84,741 (78.0%)	<0.001
All Others	17,601 (20.5%)	6,367 (28.0%)	23,968 (22.0%)	
Patient Discharge Status				
Discharged to home	75,055 (87.1%)	21,001 (92.5%)	96,056 (88.3%)	<0.001
All Others	11,073 (12.9%)	1,709 (7.5%)	12,782 (11.7%)	
Blood Disorder				
No	85,670 (99.5%)	22,585 (99.4%)	108,255 (99.5%)	0.732

Yes	458 (0.5%)	125 (0.6%)	583 (0.5%)	
Bone Disorder				
No	80,712 (93.7%)	21,706 (95.6%)	102,418 (94.1%)	<0.001
Yes	5,416 (6.3%)	1,004 (4.4%)	6,420 (5.9%)	
Brain Disorder				
No	81,582 (94.7%)	21,283 (93.7%)	102,865 (94.5%)	<0.001
Yes	4,546 (5.3%)	1,427 (6.3%)	5,973 (5.5%)	
Digestive Disorder				
No	80,404 (93.4%)	21,416 (94.3%)	101,820 (93.6%)	<0.001
Yes	5,724 (6.6%)	1,294 (5.7%)	7,018 (6.4%)	
External Disorder				
No	86,128 (100.0%)	22,710 (100.0%)	108,838 (100.0%)	<0.001
Heart Disorder				
No	78,079 (90.7%)	21,899 (96.4%)	99,978 (91.9%)	<0.001
Yes	8,049 (9.3%)	811 (3.6%)	8,860 (8.1%)	
Kidney Disorder				
No	81,855 (95.0%)	21,722 (95.6%)	103,577 (95.2%)	<0.001
Yes	4,273 (5.0%)	988 (4.4%)	5,261 (4.8%)	
Mental Disorder				
No	79,997 (92.9%)	20,486 (90.2%)	100,483 (92.3%)	<0.001
Yes	6,131 (7.1%)	2,224 (9.8%)	8,355 (7.7%)	
Malignant Disorder				
No	85,378 (99.1%)	22,643 (99.7%)	108,021 (99.2%)	<0.001
Yes	750 (0.9%)	67 (0.3%)	817 (0.8%)	
Metabolic Disorder				
No	83,721 (97.2%)	22,040 (97.0%)	105,761 (97.2%)	0.208

Yes	2,407 (2.8%)	670 (3.0%)	3,077 (2.8%)	
Perinatal Disorder				
No	85,695 (99.5%)	22,528 (99.2%)	108,223 (99.4%)	<0.001
Yes	433 (0.5%)	182 (0.8%)	615 (0.6%)	
Pregnancy Disorder				
No	82,911 (96.3%)	21,193 (93.3%)	104,104 (95.7%)	<0.001
Yes	3,217 (3.7%)	1,517 (6.7%)	4,734 (4.3%)	
Residual Disorder				
No	83,213 (96.6%)	21,591 (95.1%)	104,804 (96.3%)	<0.001
Yes	2,915 (3.4%)	1,119 (4.9%)	4,034 (3.7%)	
Respiratory Disorder				
No	75,981 (88.2%)	19,722 (86.8%)	95,703 (87.9%)	<0.001
Yes	10,147 (11.8%)	2,988 (13.2%)	13,135 (12.1%)	
Skin Disorder				
No	84,118 (97.7%)	22,134 (97.5%)	106,252 (97.6%)	0.075
Yes	2,010 (2.3%)	576 (2.5%)	2,586 (2.4%)	

Table B2. Demographic and Clinical Characteristics by Medicaid vs. Other Insurance (Clay County,2022)

	Other Insurance	Medicaid	Total	P
N	82,637 (75.6%)	26,632 (24.4%)	109,269 (100.0%)	
Age (Years)	42.337 (25.644)	23.517 (18.370)	37.750 (25.394)	<0.001
LOS	1.392 (5.422)	0.944 (5.125)	1.283 (5.355)	<0.001
National Area Deprivation Index	56.462 (18.544)	61.458 (16.142)	57.678 (18.116)	<0.001
State Area Deprivation Index	3.763 (1.971)	4.254 (1.837)	3.883 (1.951)	<0.001
Gender				

Female	45,783 (55.4%)	16,140 (60.6%)	61,923 (56.7%)	<0.001
Male	36,829 (44.6%)	10,488 (39.4%)	47,317 (43.3%)	
Unknown/indeterminate	25 (0.0%)	4 (0.0%)	29 (0.0%)	
Ethnicity				
Hispanic or Latino	4,355 (5.3%)	2,257 (8.5%)	6,612 (6.1%)	<0.001
Neither Hispanic nor Latino	77,272 (93.5%)	24,120 (90.6%)	101,392 (92.8%)	
Patient Refused	105 (0.1%)	28 (0.1%)	133 (0.1%)	
Unknown	905 (1.1%)	227 (0.9%)	1,132 (1.0%)	
Racial Group				
White	66,830 (80.9%)	16,544 (62.1%)	83,374 (76.3%)	<0.001
Black or African American	8,145 (9.9%)	5,314 (20.0%)	13,459 (12.3%)	
American Indian/Alaska Native	233 (0.3%)	91 (0.3%)	324 (0.3%)	
Asian	851 (1.0%)	445 (1.7%)	1,296 (1.2%)	
Native Hawaiian/Pacific Islander	295 (0.4%)	200 (0.8%)	495 (0.5%)	
Some Other Race	4,799 (5.8%)	3,356 (12.6%)	8,155 (7.5%)	
Multi-Racial	468 (0.6%)	343 (1.3%)	811 (0.7%)	
Patient Refused	2 (0.0%)	0 (0.0%)	2 (0.0%)	
Unknown	1,014 (1.2%)	339 (1.3%)	1,353 (1.2%)	
Admission Source				
ER	60,064 (72.7%)	21,966 (82.5%)	82,030 (75.1%)	<0.001
IN	22,573 (27.3%)	4,666 (17.5%)	27,239 (24.9%)	
Number of diagnoses in this Index admission	5.638 (6.050)	3.905 (4.269)	5.216 (5.717)	<0.001
Priority (Type) of Admission/Visit				
Emergency	36,515 (44.2%)	13,955 (52.4%)	50,470 (46.2%)	<0.001
Urgent	28,720 (34.8%)	6,969 (26.2%)	35,689 (32.7%)	
Elective	10,612 (12.8%)	3,770 (14.2%)	14,382 (13.2%)	
Other	6,790 (8.2%)	1,938 (7.3%)	8,728 (8.0%)	

Point of Origin for Admission/Visit				
Non-Health Care Facility	68,800 (83.4%)	21,657 (81.3%)	90,457 (82.9%)	<0.001
All Others	13,725 (16.6%)	4,973 (18.7%)	18,698 (17.1%)	
Patient Discharge Status				
Discharged to home	72,110 (87.3%)	24,693 (92.7%)	96,803 (88.6%)	<0.001
All Others	10,527 (12.7%)	1,939 (7.3%)	12,466 (11.4%)	
Blood Disorder				
No	82,137 (99.4%)	26,462 (99.4%)	108,599 (99.4%)	0.545
Yes	500 (0.6%)	170 (0.6%)	670 (0.6%)	
Bone Disorder				
No	77,426 (93.7%)	25,405 (95.4%)	102,831 (94.1%)	<0.001
Yes	5,211 (6.3%)	1,227 (4.6%)	6,438 (5.9%)	
Brain Disorder				
No	77,838 (94.2%)	24,807 (93.1%)	102,645 (93.9%)	<0.001
Yes	4,799 (5.8%)	1,825 (6.9%)	6,624 (6.1%)	
Digestive Disorder				
No	76,866 (93.0%)	25,039 (94.0%)	101,905 (93.3%)	<0.001
Yes	5,771 (7.0%)	1,593 (6.0%)	7,364 (6.7%)	
External Disorder				
No	82,637 (100.0%)	26,632 (100.0%)	109,269 (100.0%)	.
Heart Disorder				
No	74,480 (90.1%)	25,495 (95.7%)	99,975 (91.5%)	<0.001
Yes	8,157 (9.9%)	1,137 (4.3%)	9,294 (8.5%)	
Kidney Disorder				
No	78,376 (94.8%)	25,411 (95.4%)	103,787 (95.0%)	<0.001

Yes	4,261 (5.2%)	1,221 (4.6%)	5,482 (5.0%)	
Mental Disorder				
No	77,492 (93.8%)	23,981 (90.0%)	101,473 (92.9%)	<0.001
Yes	5,145 (6.2%)	2,651 (10.0%)	7,796 (7.1%)	
Malignant Disorder				
No	81,885 (99.1%)	26,574 (99.8%)	108,459 (99.3%)	<0.001
Yes	752 (0.9%)	58 (0.2%)	810 (0.7%)	
Metabolic Disorder				
No	80,303 (97.2%)	25,905 (97.3%)	106,208 (97.2%)	0.416
Yes	2,334 (2.8%)	727 (2.7%)	3,061 (2.8%)	
Perinatal Disorder				
No	82,246 (99.5%)	26,517 (99.6%)	108,763 (99.5%)	0.387
Yes	391 (0.5%)	115 (0.4%)	506 (0.5%)	
Pregnancy Disorder				
No	79,456 (96.2%)	24,972 (93.8%)	104,428 (95.6%)	<0.001
Yes	3,181 (3.8%)	1,660 (6.2%)	4,841 (4.4%)	
Residual Disorder				
No	79,712 (96.5%)	25,487 (95.7%)	105,199 (96.3%)	<0.001
Yes	2,925 (3.5%)	1,145 (4.3%)	4,070 (3.7%)	
Respiratory Disorder				
No	72,704 (88.0%)	22,434 (84.2%)	95,138 (87.1%)	<0.001
Yes	9,933 (12.0%)	4,198 (15.8%)	14,131 (12.9%)	
Skin Disorder				
No	80,729 (97.7%)	25,867 (97.1%)	106,596 (97.6%)	<0.001
Yes	1,908 (2.3%)	765 (2.9%)	2,673 (2.4%)	

Table B3. Demographic and Clinical Characteristics by Medicaid vs. Other Insurance (Clay County,2023)

	Other Insurance	Medicaid	Total	P
N	79,751 (73.6%)	28,630 (26.4%)	108,381 (100.0%)	
Age (Years)	43.271 (25.769)	25.599 (18.489)	38.602 (25.291)	<0.001
LOS	0.905 (3.650)	0.740 (4.404)	0.862 (3.864)	<0.001
National Area Deprivation Index	56.385 (18.431)	61.654 (16.018)	57.776 (17.977)	<0.001
State Area Deprivation Index	3.744 (1.965)	4.271 (1.828)	3.883 (1.944)	<0.001
Gender				
Female	43,931 (55.1%)	17,040 (59.5%)	60,971 (56.3%)	<0.001
Male	35,810 (44.9%)	11,587 (40.5%)	47,397 (43.7%)	
Unknown/indeterminate	10 (0.0%)	3 (0.0%)	13 (0.0%)	
Ethnicity				
Hispanic or Latino	4,371 (5.5%)	2,414 (8.4%)	6,785 (6.3%)	<0.001
Neither Hispanic nor Latino	74,363 (93.2%)	25,853 (90.3%)	100,216 (92.5%)	
Patient Refused	108 (0.1%)	18 (0.1%)	126 (0.1%)	
Unknown	909 (1.1%)	345 (1.2%)	1,254 (1.2%)	
Racial Group				
White	64,160 (80.5%)	17,795 (62.2%)	81,955 (75.6%)	<0.001
Black or African American	8,081 (10.1%)	5,951 (20.8%)	14,032 (12.9%)	
American Indian/Alaska Native	327 (0.4%)	103 (0.4%)	430 (0.4%)	
Asian	783 (1.0%)	463 (1.6%)	1,246 (1.1%)	
Native Hawaiian/Pacific Islander	304 (0.4%)	214 (0.7%)	518 (0.5%)	
Some Other Race	4,529 (5.7%)	3,354 (11.7%)	7,883 (7.3%)	
Multi-Racial	466 (0.6%)	318 (1.1%)	784 (0.7%)	
Unknown	1,101 (1.4%)	432 (1.5%)	1,533 (1.4%)	

Admission Source				
ER	60,869 (76.3%)	23,822 (83.2%)	84,691 (78.1%)	<0.001
IN	18,882 (23.7%)	4,808 (16.8%)	23,690 (21.9%)	
Number of diagnoses in this Index admission	5.392 (5.779)	3.955 (4.175)	5.012 (5.439)	<0.001
Priority (Type) of Admission/Visit				
Emergency	35,865 (45.0%)	14,584 (50.9%)	50,449 (46.5%)	<0.001
Urgent	29,505 (37.0%)	8,482 (29.6%)	37,987 (35.0%)	
Elective	10,847 (13.6%)	3,542 (12.4%)	14,389 (13.3%)	
Other	3,534 (4.4%)	2,022 (7.1%)	5,556 (5.1%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	66,994 (84.1%)	23,840 (83.3%)	90,834 (83.9%)	<0.001
All Others	12,647 (15.9%)	4,789 (16.7%)	17,436 (16.1%)	
Patient Discharge Status				
Discharged to home	69,801 (87.5%)	26,396 (92.2%)	96,197 (88.8%)	<0.001
All Others	9,950 (12.5%)	2,234 (7.8%)	12,184 (11.2%)	
Blood Disorder				
No	79,200 (99.3%)	28,427 (99.3%)	107,627 (99.3%)	0.751
Yes	551 (0.7%)	203 (0.7%)	754 (0.7%)	
Bone Disorder				
No	74,316 (93.2%)	27,130 (94.8%)	101,446 (93.6%)	<0.001
Yes	5,435 (6.8%)	1,500 (5.2%)	6,935 (6.4%)	
Brain Disorder				
No	74,971 (94.0%)	26,507 (92.6%)	101,478 (93.6%)	<0.001
Yes	4,780 (6.0%)	2,123 (7.4%)	6,903 (6.4%)	

Digestive Disorder				
No	74,072 (92.9%)	26,838 (93.7%)	100,910 (93.1%)	<0.001
Yes	5,679 (7.1%)	1,792 (6.3%)	7,471 (6.9%)	
External Disorder				
No	79,751 (100.0%)	28,630 (100.0%)	108,381 (100.0%)	.
Heart Disorder				
No	71,556 (89.7%)	27,233 (95.1%)	98,789 (91.1%)	<0.001
Yes	8,195 (10.3%)	1,397 (4.9%)	9,592 (8.9%)	
Kidney Disorder				
No	75,524 (94.7%)	27,306 (95.4%)	102,830 (94.9%)	<0.001
Yes	4,227 (5.3%)	1,324 (4.6%)	5,551 (5.1%)	
Mental Disorder				
No	75,193 (94.3%)	25,705 (89.8%)	100,898 (93.1%)	<0.001
Yes	4,558 (5.7%)	2,925 (10.2%)	7,483 (6.9%)	
Malignant Disorder				
No	79,291 (99.4%)	28,561 (99.8%)	107,852 (99.5%)	<0.001
Yes	460 (0.6%)	69 (0.2%)	529 (0.5%)	
Metabolic Disorder				
No	77,526 (97.2%)	27,863 (97.3%)	105,389 (97.2%)	0.326
Yes	2,225 (2.8%)	767 (2.7%)	2,992 (2.8%)	
Perinatal Disorder				
No	79,400 (99.6%)	28,484 (99.5%)	107,884 (99.5%)	0.134
Yes	351 (0.4%)	146 (0.5%)	497 (0.5%)	
Pregnancy Disorder				
No	77,084 (96.7%)	26,966 (94.2%)	104,050 (96.0%)	<0.001
Yes	2,667 (3.3%)	1,664 (5.8%)	4,331 (4.0%)	

Residual Disorder				
No	77,371 (97.0%)	27,375 (95.6%)	104,746 (96.6%)	<0.001
Yes	2,380 (3.0%)	1,255 (4.4%)	3,635 (3.4%)	
Respiratory Disorder				
No	71,958 (90.2%)	25,204 (88.0%)	97,162 (89.6%)	<0.001
Yes	7,793 (9.8%)	3,426 (12.0%)	11,219 (10.4%)	
Skin Disorder				
No	77,794 (97.5%)	27,785 (97.0%)	105,579 (97.4%)	<0.001
Yes	1,957 (2.5%)	845 (3.0%)	2,802 (2.6%)	

Table B4. Demographic and Clinical Characteristics by Medicaid vs. Other Insurance (Jackson County,2021)

	Other Insurance	Medicaid	Total	P
N	293,944 (69.9%)	126,733 (30.1%)	420,677 (100.0%)	
Age (Years)	43.514 (23.261)	23.664 (18.883)	37.533 (23.841)	<0.001
LOS	1.421 (4.892)	0.999 (4.263)	1.294 (4.715)	<0.001
National Area Deprivation Index	65.314 (20.602)	71.556 (19.686)	67.179 (20.533)	<0.001
State Area Deprivation Index	5.023 (2.825)	5.922 (2.854)	5.292 (2.863)	<0.001
Gender				
Female	158,979 (54.1%)	76,217 (60.1%)	235,196 (55.9%)	<0.001
Male	134,932 (45.9%)	50,504 (39.9%)	185,436 (44.1%)	
Unknown/indeterminate	33 (0.0%)	12 (0.0%)	45 (0.0%)	
Ethnicity				
Hispanic or Latino	18,057 (6.1%)	15,486 (12.2%)	33,543 (8.0%)	<0.001

Neither Hispanic nor Latino	275,103 (93.6%)	111,044 (87.6%)	386,147 (91.8%)	
Patient Refused	9 (0.0%)	3 (0.0%)	12 (0.0%)	
Unknown	775 (0.3%)	200 (0.2%)	975 (0.2%)	
Racial Group				
White	165,605 (56.3%)	43,400 (34.2%)	209,005 (49.7%)	<0.001
Black or African American	98,256 (33.4%)	59,896 (47.3%)	158,152 (37.6%)	
American Indian/Alaska Native	619 (0.2%)	316 (0.2%)	935 (0.2%)	
Asian	2,120 (0.7%)	1,214 (1.0%)	3,334 (0.8%)	
Native Hawaiian/Pacific Islander	767 (0.3%)	381 (0.3%)	1,148 (0.3%)	
Some Other Race	19,191 (6.5%)	18,929 (14.9%)	38,120 (9.1%)	
Multi-Racial	3,054 (1.0%)	1,493 (1.2%)	4,547 (1.1%)	
Unknown	4,332 (1.5%)	1,104 (0.9%)	5,436 (1.3%)	
Admission Source				
ER	219,342 (74.6%)	104,624 (82.6%)	323,966 (77.0%)	<0.001
IN	74,602 (25.4%)	22,109 (17.4%)	96,711 (23.0%)	
Number of diagnoses in this Index admission	6.154 (6.051)	4.378 (4.814)	5.619 (5.764)	<0.001
Priority (Type) of Admission/Visit				
Emergency	159,001 (54.1%)	64,110 (50.6%)	223,111 (53.0%)	<0.001
Urgent	16,515 (5.6%)	6,732 (5.3%)	23,247 (5.5%)	
Elective	26,731 (9.1%)	19,468 (15.4%)	46,199 (11.0%)	
Other	91,697 (31.2%)	36,423 (28.7%)	128,120 (30.5%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	257,772 (87.7%)	101,471 (80.1%)	359,243 (85.4%)	<0.001
All Others	36,026 (12.3%)	25,252 (19.9%)	61,278 (14.6%)	

Patient Discharge Status				
Discharged to home	253,779 (86.3%)	117,999 (93.1%)	371,778 (88.4%)	<0.001
All Others	40,165 (13.7%)	8,734 (6.9%)	48,899 (11.6%)	
Blood Disorder				
No	292,065 (99.4%)	125,792 (99.3%)	417,857 (99.3%)	<0.001
Yes	1,879 (0.6%)	941 (0.7%)	2,820 (0.7%)	
Bone Disorder				
No	272,407 (92.7%)	120,888 (95.4%)	393,295 (93.5%)	<0.001
Yes	21,537 (7.3%)	5,845 (4.6%)	27,382 (6.5%)	
Brain Disorder				
No	277,152 (94.3%)	118,895 (93.8%)	396,047 (94.1%)	<0.001
Yes	16,792 (5.7%)	7,838 (6.2%)	24,630 (5.9%)	
Digestive Disorder				
No	273,691 (93.1%)	119,505 (94.3%)	393,196 (93.5%)	<0.001
Yes	20,253 (6.9%)	7,228 (5.7%)	27,481 (6.5%)	
External Disorder				
No	293,943 (100.0%)	126,733 (100.0%)	420,676 (100.0%)	0.511
Yes	1 (0.0%)	0 (0.0%)	1 (0.0%)	
Heart Disorder				
No	265,526 (90.3%)	121,499 (95.9%)	387,025 (92.0%)	<0.001
Yes	28,418 (9.7%)	5,234 (4.1%)	33,652 (8.0%)	
Kidney Disorder				
No	276,826 (94.2%)	120,606 (95.2%)	397,432 (94.5%)	<0.001
Yes	17,118 (5.8%)	6,127 (4.8%)	23,245 (5.5%)	
Mental Disorder				
No	274,701 (93.5%)	115,288 (91.0%)	389,989 (92.7%)	<0.001
Yes	19,243 (6.5%)	11,445 (9.0%)	30,688 (7.3%)	

Malignant Disorder				
No	291,686 (99.2%)	126,350 (99.7%)	418,036 (99.4%)	<0.001
Yes	2,258 (0.8%)	383 (0.3%)	2,641 (0.6%)	
Metabolic Disorder				
No	285,884 (97.3%)	123,502 (97.5%)	409,386 (97.3%)	<0.001
Yes	8,060 (2.7%)	3,231 (2.5%)	11,291 (2.7%)	
Perinatal Disorder				
No	293,176 (99.7%)	125,999 (99.4%)	419,175 (99.6%)	<0.001
Yes	768 (0.3%)	734 (0.6%)	1,502 (0.4%)	
Pregnancy Disorder				
No	285,438 (97.1%)	117,573 (92.8%)	403,011 (95.8%)	<0.001
Yes	8,506 (2.9%)	9,160 (7.2%)	17,666 (4.2%)	
Residual Disorder				
No	287,133 (97.7%)	122,002 (96.3%)	409,135 (97.3%)	<0.001
Yes	6,811 (2.3%)	4,731 (3.7%)	11,542 (2.7%)	
Respiratory Disorder				
No	258,884 (88.1%)	108,649 (85.7%)	367,533 (87.4%)	<0.001
Yes	35,060 (11.9%)	18,084 (14.3%)	53,144 (12.6%)	
Skin Disorder				
No	285,277 (97.1%)	123,177 (97.2%)	408,454 (97.1%)	0.012
Yes	8,667 (2.9%)	3,556 (2.8%)	12,223 (2.9%)	

Table B5. Demographic and Clinical Characteristics by Medicaid vs. Other Insurance (Jackson County,2022)

	Other Insurance	Medicaid	Total	P

N	262,299 (63.2%)	152,918 (36.8%)	415,217 (100.0%)	
Age (Years)	45.322 (23.691)	26.813 (19.031)	38.505 (23.826)	<0.001
LOS	1.500 (4.935)	1.042 (4.999)	1.331 (4.963)	<0.001
National Area Deprivation Index	65.103 (20.533)	70.608 (20.009)	67.112 (20.515)	<0.001
State Area Deprivation Index	4.986 (2.811)	5.791 (2.882)	5.280 (2.864)	<0.001
Gender				
Female	142,519 (54.3%)	90,109 (58.9%)	232,628 (56.0%)	<0.001
Male	119,743 (45.7%)	62,800 (41.1%)	182,543 (44.0%)	
Unknown/indeterminate	37 (0.0%)	9 (0.0%)	46 (0.0%)	
Ethnicity				
Hispanic or Latino	17,176 (6.5%)	17,543 (11.5%)	34,719 (8.4%)	<0.001
Neither Hispanic nor Latino	244,095 (93.1%)	134,863 (88.2%)	378,958 (91.3%)	
Patient Refused	30 (0.0%)	22 (0.0%)	52 (0.0%)	
Unknown	998 (0.4%)	490 (0.3%)	1,488 (0.4%)	
Racial Group				
White	147,561 (56.3%)	54,160 (35.4%)	201,721 (48.6%)	<0.001
Black or African American	85,441 (32.6%)	72,130 (47.2%)	157,571 (37.9%)	
American Indian/Alaska Native	587 (0.2%)	400 (0.3%)	987 (0.2%)	
Asian	2,068 (0.8%)	1,320 (0.9%)	3,388 (0.8%)	
Native Hawaiian/Pacific Islander	692 (0.3%)	370 (0.2%)	1,062 (0.3%)	
Some Other Race	18,422 (7.0%)	21,088 (13.8%)	39,510 (9.5%)	
Multi-Racial	2,913 (1.1%)	1,928 (1.3%)	4,841 (1.2%)	
Patient Refused	115 (0.0%)	22 (0.0%)	137 (0.0%)	
Unknown	4,500 (1.7%)	1,500 (1.0%)	6,000 (1.4%)	
Admission Source				
ER	193,353 (73.7%)	126,877 (83.0%)	320,230 (77.1%)	<0.001

IN	68,946 (26.3%)	26,041 (17.0%)	94,987 (22.9%)	
Number of diagnoses in this Index admission	6.161 (6.354)	4.472 (4.920)	5.539 (5.923)	<0.001
Priority (Type) of Admission/Visit				
Emergency	140,475 (53.6%)	82,367 (53.9%)	222,842 (53.7%)	<0.001
Urgent	16,186 (6.2%)	8,439 (5.5%)	24,625 (5.9%)	
Elective	17,953 (6.8%)	13,178 (8.6%)	31,131 (7.5%)	
Other	87,685 (33.4%)	48,934 (32.0%)	136,619 (32.9%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	232,427 (88.6%)	133,295 (87.2%)	365,722 (88.1%)	<0.001
All Others	29,781 (11.4%)	19,610 (12.8%)	49,391 (11.9%)	
Patient Discharge Status				
Discharged to home	225,809 (86.1%)	141,221 (92.4%)	367,030 (88.4%)	<0.001
All Others	36,490 (13.9%)	11,697 (7.6%)	48,187 (11.6%)	
Blood Disorder				
No	260,576 (99.3%)	151,937 (99.4%)	412,513 (99.3%)	0.553
Yes	1,723 (0.7%)	981 (0.6%)	2,704 (0.7%)	
Bone Disorder				
No	243,047 (92.7%)	144,899 (94.8%)	387,946 (93.4%)	<0.001
Yes	19,252 (7.3%)	8,019 (5.2%)	27,271 (6.6%)	
Brain Disorder				
No	246,793 (94.1%)	142,593 (93.2%)	389,386 (93.8%)	<0.001
Yes	15,506 (5.9%)	10,325 (6.8%)	25,831 (6.2%)	
Digestive Disorder				
No	243,968 (93.0%)	144,136 (94.3%)	388,104 (93.5%)	<0.001
Yes	18,331 (7.0%)	8,782 (5.7%)	27,113 (6.5%)	

External Disorder				
No	262,297 (100.0%)	152,917 (100.0%)	415,214 (100.0%)	0.900
Yes	2 (0.0%)	1 (0.0%)	3 (0.0%)	
Heart Disorder				
No	236,001 (90.0%)	145,755 (95.3%)	381,756 (91.9%)	<0.001
Yes	26,298 (10.0%)	7,163 (4.7%)	33,461 (8.1%)	
Kidney Disorder				
No	246,874 (94.1%)	144,993 (94.8%)	391,867 (94.4%)	<0.001
Yes	15,425 (5.9%)	7,925 (5.2%)	23,350 (5.6%)	
Mental Disorder				
No	247,001 (94.2%)	139,017 (90.9%)	386,018 (93.0%)	<0.001
Yes	15,298 (5.8%)	13,901 (9.1%)	29,199 (7.0%)	
Malignant Disorder				
No	260,290 (99.2%)	152,517 (99.7%)	412,807 (99.4%)	<0.001
Yes	2,009 (0.8%)	401 (0.3%)	2,410 (0.6%)	
Metabolic Disorder				
No	255,030 (97.2%)	149,558 (97.8%)	404,588 (97.4%)	<0.001
Yes	7,269 (2.8%)	3,360 (2.2%)	10,629 (2.6%)	
Perinatal Disorder				
No	261,630 (99.7%)	152,282 (99.6%)	413,912 (99.7%)	<0.001
Yes	669 (0.3%)	636 (0.4%)	1,305 (0.3%)	
Pregnancy Disorder				
No	254,036 (96.8%)	143,000 (93.5%)	397,036 (95.6%)	<0.001
Yes	8,263 (3.2%)	9,918 (6.5%)	18,181 (4.4%)	
Residual Disorder				
No	255,725 (97.5%)	147,761 (96.6%)	403,486 (97.2%)	<0.001

Yes	6,574 (2.5%)	5,157 (3.4%)	11,731 (2.8%)	
Respiratory Disorder				
No	230,219 (87.8%)	129,129 (84.4%)	359,348 (86.5%)	<0.001
Yes	32,080 (12.2%)	23,789 (15.6%)	55,869 (13.5%)	
Skin Disorder				
No	255,344 (97.3%)	148,363 (97.0%)	403,707 (97.2%)	<0.001
Yes	6,955 (2.7%)	4,555 (3.0%)	11,510 (2.8%)	

Table B6. Demographic and Clinical Characteristics by Medicaid vs. Other Insurance (Jackson County,2023)

	Other Insurance	Medicaid	Total	P
N	247,065 (60.3%)	162,784 (39.7%)	409,849 (100.0%)	
Age (Years)	46.105 (23.633)	28.223 (18.660)	39.002 (23.485)	<0.001
LOS	1.234 (4.478)	0.951 (5.135)	1.122 (4.752)	<0.001
National Area Deprivation Index	65.119 (20.479)	70.543 (20.097)	67.254 (20.502)	<0.001
State Area Deprivation Index	4.984 (2.810)	5.782 (2.894)	5.298 (2.870)	<0.001
Gender				
Female	133,201 (53.9%)	94,023 (57.8%)	227,224 (55.4%)	<0.001
Male	113,820 (46.1%)	68,746 (42.2%)	182,566 (44.5%)	
Unknown/indeterminate	44 (0.0%)	15 (0.0%)	59 (0.0%)	
Ethnicity				
Hispanic or Latino	17,851 (7.2%)	18,543 (11.4%)	36,394 (8.9%)	<0.001
Neither Hispanic nor Latino	227,967 (92.3%)	143,265 (88.0%)	371,232 (90.6%)	
Patient Refused	31 (0.0%)	19 (0.0%)	50 (0.0%)	
Unknown	1,216 (0.5%)	957 (0.6%)	2,173 (0.5%)	

Racial Group				
White	138,570 (56.1%)	58,597 (36.0%)	197,167 (48.1%)	<0.001
Black or African American	80,442 (32.6%)	76,402 (46.9%)	156,844 (38.3%)	
American Indian/Alaska Native	565 (0.2%)	514 (0.3%)	1,079 (0.3%)	
Asian	1,803 (0.7%)	1,443 (0.9%)	3,246 (0.8%)	
Native Hawaiian/Pacific Islander	657 (0.3%)	418 (0.3%)	1,075 (0.3%)	
Some Other Race	18,862 (7.6%)	21,894 (13.4%)	40,756 (9.9%)	
Multi-Racial	2,425 (1.0%)	1,709 (1.0%)	4,134 (1.0%)	
Unknown	3,741 (1.5%)	1,807 (1.1%)	5,548 (1.4%)	
Admission Source				
ER	191,541 (77.5%)	137,181 (84.3%)	328,722 (80.2%)	<0.001
IN	55,524 (22.5%)	25,603 (15.7%)	81,127 (19.8%)	
Number of diagnoses in this Index admission	5.643 (5.814)	4.239 (4.402)	5.085 (5.343)	<0.001
Priority (Type) of Admission/Visit				
Emergency	139,299 (56.4%)	87,587 (53.8%)	226,886 (55.4%)	<0.001
Urgent	15,312 (6.2%)	9,226 (5.7%)	24,538 (6.0%)	
Elective	18,112 (7.3%)	12,919 (7.9%)	31,031 (7.6%)	
Other	74,342 (30.1%)	53,052 (32.6%)	127,394 (31.1%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	220,895 (89.4%)	144,094 (88.5%)	364,989 (89.1%)	<0.001
All Others	26,096 (10.6%)	18,679 (11.5%)	44,775 (10.9%)	
Patient Discharge Status				
Discharged to home	215,117 (87.1%)	150,484 (92.4%)	365,601 (89.2%)	<0.001
All Others	31,948 (12.9%)	12,300 (7.6%)	44,248 (10.8%)	

Blood Disorder				
No	245,333 (99.3%)	161,526 (99.2%)	406,859 (99.3%)	0.008
Yes	1,732 (0.7%)	1,258 (0.8%)	2,990 (0.7%)	
Bone Disorder				
No	227,061 (91.9%)	152,895 (93.9%)	379,956 (92.7%)	<0.001
Yes	20,004 (8.1%)	9,889 (6.1%)	29,893 (7.3%)	
Brain Disorder				
No	230,987 (93.5%)	150,897 (92.7%)	381,884 (93.2%)	<0.001
Yes	16,078 (6.5%)	11,887 (7.3%)	27,965 (6.8%)	
Digestive Disorder				
No	229,261 (92.8%)	152,929 (93.9%)	382,190 (93.3%)	<0.001
Yes	17,804 (7.2%)	9,855 (6.1%)	27,659 (6.7%)	
External Disorder				
No	247,065 (100.0%)	162,784 (100.0%)	409,849 (100.0%)	.
Heart Disorder				
No	220,815 (89.4%)	154,464 (94.9%)	375,279 (91.6%)	<0.001
Yes	26,250 (10.6%)	8,320 (5.1%)	34,570 (8.4%)	
Kidney Disorder				
No	231,795 (93.8%)	153,418 (94.2%)	385,213 (94.0%)	<0.001
Yes	15,270 (6.2%)	9,366 (5.8%)	24,636 (6.0%)	
Mental Disorder				
No	233,548 (94.5%)	147,979 (90.9%)	381,527 (93.1%)	<0.001
Yes	13,517 (5.5%)	14,805 (9.1%)	28,322 (6.9%)	
Malignant Disorder				
No	245,560 (99.4%)	162,392 (99.8%)	407,952 (99.5%)	<0.001
Yes	1,505 (0.6%)	392 (0.2%)	1,897 (0.5%)	
Metabolic Disorder				

No	240,292 (97.3%)	159,231 (97.8%)	399,523 (97.5%)	<0.001
Yes	6,773 (2.7%)	3,553 (2.2%)	10,326 (2.5%)	
Perinatal Disorder				
No	246,456 (99.8%)	162,189 (99.6%)	408,645 (99.7%)	<0.001
Yes	609 (0.2%)	595 (0.4%)	1,204 (0.3%)	
Pregnancy Disorder				
No	240,275 (97.3%)	152,940 (94.0%)	393,215 (95.9%)	<0.001
Yes	6,790 (2.7%)	9,844 (6.0%)	16,634 (4.1%)	
Residual Disorder				
No	241,397 (97.7%)	156,585 (96.2%)	397,982 (97.1%)	<0.001
Yes	5,668 (2.3%)	6,199 (3.8%)	11,867 (2.9%)	
Respiratory Disorder				
No	221,548 (89.7%)	142,105 (87.3%)	363,653 (88.7%)	<0.001
Yes	25,517 (10.3%)	20,679 (12.7%)	46,196 (11.3%)	
Skin Disorder				
No	239,782 (97.1%)	157,352 (96.7%)	397,134 (96.9%)	<0.001
Yes	7,283 (2.9%)	5,432 (3.3%)	12,715 (3.1%)	

Table B7. Demographic and Clinical Characteristics by Medicaid vs. Other Insurance (Platte County,2021)

	Other Insurance	Medicaid	Total	P
N	31,380 (82.4%)	6,707 (17.6%)	38,087 (100.0%)	
Age (Years)	39.970 (26.623)	19.801 (17.437)	36.417 (26.392)	<0.001
LOS	1.360 (3.655)	1.001 (4.532)	1.297 (3.826)	<0.001
National Area Deprivation Index	38.149 (18.366)	39.211 (16.998)	38.336 (18.136)	<0.001

State Area Deprivation Index	2.096 (1.355)	2.110 (1.244)	2.099 (1.336)	0.441
Gender				
Female	17,282 (55.1%)	4,085 (60.9%)	21,367 (56.1%)	<0.001
Male	14,094 (44.9%)	2,622 (39.1%)	16,716 (43.9%)	
Unknown/indeterminate	4 (0.0%)	0 (0.0%)	4 (0.0%)	
Ethnicity				
Hispanic or Latino	1,509 (4.8%)	621 (9.3%)	2,130 (5.6%)	<0.001
Neither Hispanic nor Latino	29,642 (94.5%)	6,048 (90.2%)	35,690 (93.7%)	
Patient Refused	11 (0.0%)	1 (0.0%)	12 (0.0%)	
Unknown	218 (0.7%)	37 (0.6%)	255 (0.7%)	
Racial Group				
White	25,344 (80.8%)	3,746 (55.9%)	29,090 (76.4%)	<0.001
Black or African American	3,185 (10.1%)	1,686 (25.1%)	4,871 (12.8%)	
American Indian/Alaska Native	84 (0.3%)	22 (0.3%)	106 (0.3%)	
Asian	391 (1.2%)	98 (1.5%)	489 (1.3%)	
Native Hawaiian/Pacific Islander	231 (0.7%)	105 (1.6%)	336 (0.9%)	
Some Other Race	1,718 (5.5%)	935 (13.9%)	2,653 (7.0%)	
Multi-Racial	152 (0.5%)	44 (0.7%)	196 (0.5%)	
Unknown	275 (0.9%)	71 (1.1%)	346 (0.9%)	
Admission Source				
ER	22,780 (72.6%)	5,427 (80.9%)	28,207 (74.1%)	<0.001
IN	8,600 (27.4%)	1,280 (19.1%)	9,880 (25.9%)	
Number of diagnoses in this Index admission	5.748 (6.017)	3.964 (4.237)	5.434 (5.783)	<0.001
Priority (Type) of Admission/Visit				
Emergency	16,236 (51.7%)	3,581 (53.4%)	19,817 (52.0%)	<0.001

Urgent	6,526 (20.8%)	918 (13.7%)	7,444 (19.5%)	
Elective	5,903 (18.8%)	1,723 (25.7%)	7,626 (20.0%)	
Other	2,715 (8.7%)	485 (7.2%)	3,200 (8.4%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	23,918 (76.3%)	4,576 (68.2%)	28,494 (74.8%)	<0.001
All Others	7,446 (23.7%)	2,131 (31.8%)	9,577 (25.2%)	
Patient Discharge Status				
Discharged to home	27,372 (87.2%)	6,275 (93.6%)	33,647 (88.3%)	<0.001
All Others	4,008 (12.8%)	432 (6.4%)	4,440 (11.7%)	
Blood Disorder				
No	31,222 (99.5%)	6,671 (99.5%)	37,893 (99.5%)	0.728
Yes	158 (0.5%)	36 (0.5%)	194 (0.5%)	
Bone Disorder				
No	29,591 (94.3%)	6,435 (95.9%)	36,026 (94.6%)	<0.001
Yes	1,789 (5.7%)	272 (4.1%)	2,061 (5.4%)	
Brain Disorder				
No	29,687 (94.6%)	6,262 (93.4%)	35,949 (94.4%)	<0.001
Yes	1,693 (5.4%)	445 (6.6%)	2,138 (5.6%)	
Digestive Disorder				
No	29,293 (93.3%)	6,285 (93.7%)	35,578 (93.4%)	0.282
Yes	2,087 (6.7%)	422 (6.3%)	2,509 (6.6%)	
External Disorder				
No	31,380 (100.0%)	6,707 (100.0%)	38,087 (100.0%)	.
Heart Disorder				
No	28,361 (90.4%)	6,477 (96.6%)	34,838 (91.5%)	<0.001
Yes	3,019 (9.6%)	230 (3.4%)	3,249 (8.5%)	

Kidney Disorder				
No	29,736 (94.8%)	6,431 (95.9%)	36,167 (95.0%)	<0.001
Yes	1,644 (5.2%)	276 (4.1%)	1,920 (5.0%)	
Mental Disorder				
No	29,268 (93.3%)	6,062 (90.4%)	35,330 (92.8%)	<0.001
Yes	2,112 (6.7%)	645 (9.6%)	2,757 (7.2%)	
Malignant Disorder				
No	31,114 (99.2%)	6,688 (99.7%)	37,802 (99.3%)	<0.001
Yes	266 (0.8%)	19 (0.3%)	285 (0.7%)	
Metabolic Disorder				
No	30,522 (97.3%)	6,505 (97.0%)	37,027 (97.2%)	0.210
Yes	858 (2.7%)	202 (3.0%)	1,060 (2.8%)	
Perinatal Disorder				
No	31,174 (99.3%)	6,655 (99.2%)	37,829 (99.3%)	0.281
Yes	206 (0.7%)	52 (0.8%)	258 (0.7%)	
Pregnancy Disorder				
No	30,052 (95.8%)	6,197 (92.4%)	36,249 (95.2%)	<0.001
Yes	1,328 (4.2%)	510 (7.6%)	1,838 (4.8%)	
Residual Disorder				
No	30,208 (96.3%)	6,347 (94.6%)	36,555 (96.0%)	<0.001
Yes	1,172 (3.7%)	360 (5.4%)	1,532 (4.0%)	
Respiratory Disorder				
No	27,991 (89.2%)	5,848 (87.2%)	33,839 (88.8%)	<0.001
Yes	3,389 (10.8%)	859 (12.8%)	4,248 (11.2%)	
Skin Disorder				
No	30,734 (97.9%)	6,560 (97.8%)	37,294 (97.9%)	0.488

Yes	646 (2.1%)	147 (2.2%)	793 (2.1%)	

Table B8. Demographic and Clinical Characteristics by Medicaid vs. Other Insurance (Platte County,2022)

	Other Insurance	Medicaid	Total	P
N	30,907 (80.3%)	7,603 (19.7%)	38,510 (100.0%)	
Age (Years)	42.475 (26.742)	22.021 (18.433)	38.436 (26.595)	<0.001
LOS	1.373 (4.042)	0.981 (4.031)	1.296 (4.043)	<0.001
National Area Deprivation Index	38.133 (18.199)	38.242 (17.075)	38.154 (17.982)	0.636
State Area Deprivation Index	2.084 (1.344)	2.060 (1.213)	2.080 (1.319)	0.155
Gender				
Female	17,225 (55.7%)	4,534 (59.6%)	21,759 (56.5%)	<0.001
Male	13,678 (44.3%)	3,069 (40.4%)	16,747 (43.5%)	
Unknown/indeterminate	4 (0.0%)	0 (0.0%)	4 (0.0%)	
Ethnicity				
Hispanic or Latino	1,604 (5.2%)	655 (8.6%)	2,259 (5.9%)	<0.001
Neither Hispanic nor Latino	29,068 (94.0%)	6,894 (90.7%)	35,962 (93.4%)	
Patient Refused	29 (0.1%)	5 (0.1%)	34 (0.1%)	
Unknown	206 (0.7%)	49 (0.6%)	255 (0.7%)	
Racial Group				
White	24,564 (79.5%)	4,202 (55.3%)	28,766 (74.7%)	<0.001
Black or African American	3,351 (10.8%)	1,853 (24.4%)	5,204 (13.5%)	
American Indian/Alaska Native	108 (0.3%)	47 (0.6%)	155 (0.4%)	
Asian	362 (1.2%)	125 (1.6%)	487 (1.3%)	
Native Hawaiian/Pacific Islander	231 (0.7%)	154 (2.0%)	385 (1.0%)	

Some Other Race	1,829 (5.9%)	1,043 (13.7%)	2,872 (7.5%)	
Multi-Racial	133 (0.4%)	61 (0.8%)	194 (0.5%)	
Unknown	329 (1.1%)	118 (1.6%)	447 (1.2%)	
Admission Source				
ER	22,416 (72.5%)	6,204 (81.6%)	28,620 (74.3%)	<0.001
IN	8,491 (27.5%)	1,399 (18.4%)	9,890 (25.7%)	
Number of diagnoses in this Index admission	5.486 (6.107)	3.781 (4.282)	5.149 (5.832)	<0.001
Priority (Type) of Admission/Visit				
Emergency	16,714 (54.1%)	4,747 (62.4%)	21,461 (55.7%)	<0.001
Urgent	6,951 (22.5%)	1,125 (14.8%)	8,076 (21.0%)	
Elective	4,569 (14.8%)	1,141 (15.0%)	5,710 (14.8%)	
Other	2,673 (8.6%)	590 (7.8%)	3,263 (8.5%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	24,768 (80.2%)	6,040 (79.5%)	30,808 (80.0%)	0.150
All Others	6,119 (19.8%)	1,562 (20.5%)	7,681 (20.0%)	
Patient Discharge Status				
Discharged to home	27,120 (87.7%)	7,090 (93.3%)	34,210 (88.8%)	<0.001
All Others	3,787 (12.3%)	513 (6.7%)	4,300 (11.2%)	
Blood Disorder				
No	30,726 (99.4%)	7,566 (99.5%)	38,292 (99.4%)	0.303
Yes	181 (0.6%)	37 (0.5%)	218 (0.6%)	
Bone Disorder				
No	29,159 (94.3%)	7,271 (95.6%)	36,430 (94.6%)	<0.001
Yes	1,748 (5.7%)	332 (4.4%)	2,080 (5.4%)	
Brain Disorder				

No	29,207 (94.5%)	7,112 (93.5%)	36,319 (94.3%)	0.001
Yes	1,700 (5.5%)	491 (6.5%)	2,191 (5.7%)	
Digestive Disorder				
No	28,812 (93.2%)	7,138 (93.9%)	35,950 (93.4%)	0.038
Yes	2,095 (6.8%)	465 (6.1%)	2,560 (6.6%)	
External Disorder				
No	30,907 (100.0%)	7,603 (100.0%)	38,510 (100.0%)	.
Heart Disorder				
No	27,824 (90.0%)	7,331 (96.4%)	35,155 (91.3%)	<0.001
Yes	3,083 (10.0%)	272 (3.6%)	3,355 (8.7%)	
Kidney Disorder				
No	29,312 (94.8%)	7,309 (96.1%)	36,621 (95.1%)	<0.001
Yes	1,595 (5.2%)	294 (3.9%)	1,889 (4.9%)	
Mental Disorder				
No	29,059 (94.0%)	6,892 (90.6%)	35,951 (93.4%)	<0.001
Yes	1,848 (6.0%)	711 (9.4%)	2,559 (6.6%)	
Malignant Disorder				
No	30,565 (98.9%)	7,590 (99.8%)	38,155 (99.1%)	<0.001
Yes	342 (1.1%)	13 (0.2%)	355 (0.9%)	
Metabolic Disorder				
No	30,070 (97.3%)	7,398 (97.3%)	37,468 (97.3%)	0.955
Yes	837 (2.7%)	205 (2.7%)	1,042 (2.7%)	
Perinatal Disorder				
No	30,707 (99.4%)	7,534 (99.1%)	38,241 (99.3%)	0.015
Yes	200 (0.6%)	69 (0.9%)	269 (0.7%)	
Pregnancy Disorder				
No	29,709 (96.1%)	7,108 (93.5%)	36,817 (95.6%)	<0.001

Yes	1,198 (3.9%)	495 (6.5%)	1,693 (4.4%)	
Residual Disorder				
No	29,813 (96.5%)	7,235 (95.2%)	37,048 (96.2%)	<0.001
Yes	1,094 (3.5%)	368 (4.8%)	1,462 (3.8%)	
Respiratory Disorder				
No	27,256 (88.2%)	6,348 (83.5%)	33,604 (87.3%)	<0.001
Yes	3,651 (11.8%)	1,255 (16.5%)	4,906 (12.7%)	
Skin Disorder				
No	30,247 (97.9%)	7,401 (97.3%)	37,648 (97.8%)	0.006
Yes	660 (2.1%)	202 (2.7%)	862 (2.2%)	

Table B9. Demographic and Clinical Characteristics by Medicaid vs. Other Insurance (Platte County,2023)

	Other Insurance	Medicaid	Total	P
N	29,290 (78.2%)	8,168 (21.8%)	37,458 (100.0%)	
Age (Years)	43.218 (26.735)	24.803 (18.550)	39.202 (26.301)	<0.001
LOS	0.878 (2.783)	0.685 (3.475)	0.836 (2.949)	<0.001
National Area Deprivation Index	38.094 (18.284)	38.647 (16.851)	38.214 (17.984)	0.014
State Area Deprivation Index	2.085 (1.352)	2.065 (1.211)	2.081 (1.323)	0.222
Gender				
Female	16,516 (56.4%)	4,802 (58.8%)	21,318 (56.9%)	<0.001
Male	12,771 (43.6%)	3,365 (41.2%)	16,136 (43.1%)	
Unknown/indeterminate	3 (0.0%)	1 (0.0%)	4 (0.0%)	
Ethnicity				
Hispanic or Latino	1,637 (5.6%)	736 (9.0%)	2,373 (6.3%)	<0.001

Neither Hispanic nor Latino	27,363 (93.4%)	7,339 (89.9%)	34,702 (92.6%)	
Patient Refused	43 (0.1%)	4 (0.0%)	47 (0.1%)	
Unknown	247 (0.8%)	89 (1.1%)	336 (0.9%)	
Racial Group				
White	23,016 (78.6%)	4,581 (56.1%)	27,597 (73.7%)	<0.001
Black or African American	3,162 (10.8%)	1,946 (23.8%)	5,108 (13.6%)	
American Indian/Alaska Native	107 (0.4%)	74 (0.9%)	181 (0.5%)	
Asian	406 (1.4%)	99 (1.2%)	505 (1.3%)	
Native Hawaiian/Pacific Islander	257 (0.9%)	138 (1.7%)	395 (1.1%)	
Some Other Race	1,783 (6.1%)	1,101 (13.5%)	2,884 (7.7%)	
Multi-Racial	169 (0.6%)	74 (0.9%)	243 (0.6%)	
Unknown	390 (1.3%)	155 (1.9%)	545 (1.5%)	
Admission Source				
ER	22,556 (77.0%)	6,771 (82.9%)	29,327 (78.3%)	<0.001
IN	6,734 (23.0%)	1,397 (17.1%)	8,131 (21.7%)	
Number of diagnoses in this Index admission	5.094 (5.807)	3.602 (3.995)	4.769 (5.498)	<0.001
Priority (Type) of Admission/Visit				
Emergency	16,521 (56.4%)	5,055 (61.9%)	21,576 (57.6%)	<0.001
Urgent	6,956 (23.7%)	1,353 (16.6%)	8,309 (22.2%)	
Elective	4,541 (15.5%)	1,112 (13.6%)	5,653 (15.1%)	
Other	1,272 (4.3%)	648 (7.9%)	1,920 (5.1%)	
Point of Origin for Admission/Visit				
Non-Health Care Facility	23,549 (80.4%)	6,585 (80.6%)	30,134 (80.5%)	0.695
All Others	5,728 (19.6%)	1,582 (19.4%)	7,310 (19.5%)	

Patient Discharge Status				
Discharged to home	25,672 (87.6%)	7,527 (92.2%)	33,199 (88.6%)	<0.001
All Others	3,618 (12.4%)	641 (7.8%)	4,259 (11.4%)	
Blood Disorder				
No	29,088 (99.3%)	8,118 (99.4%)	37,206 (99.3%)	0.449
Yes	202 (0.7%)	50 (0.6%)	252 (0.7%)	
Bone Disorder				
No	27,517 (93.9%)	7,814 (95.7%)	35,331 (94.3%)	<0.001
Yes	1,773 (6.1%)	354 (4.3%)	2,127 (5.7%)	
Brain Disorder				
No	27,482 (93.8%)	7,591 (92.9%)	35,073 (93.6%)	0.004
Yes	1,808 (6.2%)	577 (7.1%)	2,385 (6.4%)	
Digestive Disorder				
No	27,183 (92.8%)	7,648 (93.6%)	34,831 (93.0%)	0.010
Yes	2,107 (7.2%)	520 (6.4%)	2,627 (7.0%)	
External Disorder				
No	29,290 (100.0%)	8,168 (100.0%)	37,458 (100.0%)	.
Heart Disorder				
No	26,069 (89.0%)	7,793 (95.4%)	33,862 (90.4%)	<0.001
Yes	3,221 (11.0%)	375 (4.6%)	3,596 (9.6%)	
Kidney Disorder				
No	27,711 (94.6%)	7,783 (95.3%)	35,494 (94.8%)	0.015
Yes	1,579 (5.4%)	385 (4.7%)	1,964 (5.2%)	
Mental Disorder				
No	27,612 (94.3%)	7,307 (89.5%)	34,919 (93.2%)	<0.001
Yes	1,678 (5.7%)	861 (10.5%)	2,539 (6.8%)	

Malignant Disorder				
No	29,136 (99.5%)	8,142 (99.7%)	37,278 (99.5%)	0.017
Yes	154 (0.5%)	26 (0.3%)	180 (0.5%)	
Metabolic Disorder				
No	28,485 (97.3%)	7,941 (97.2%)	36,426 (97.2%)	0.881
Yes	805 (2.7%)	227 (2.8%)	1,032 (2.8%)	
Perinatal Disorder				
No	29,136 (99.5%)	8,110 (99.3%)	37,246 (99.4%)	0.050
Yes	154 (0.5%)	58 (0.7%)	212 (0.6%)	
Pregnancy Disorder				
No	28,323 (96.7%)	7,583 (92.8%)	35,906 (95.9%)	<0.001
Yes	967 (3.3%)	585 (7.2%)	1,552 (4.1%)	
Residual Disorder				
No	28,384 (96.9%)	7,781 (95.3%)	36,165 (96.5%)	<0.001
Yes	906 (3.1%)	387 (4.7%)	1,293 (3.5%)	
Respiratory Disorder				
No	26,616 (90.9%)	7,223 (88.4%)	33,839 (90.3%)	<0.001
Yes	2,674 (9.1%)	945 (11.6%)	3,619 (9.7%)	
Skin Disorder				
No	28,652 (97.8%)	7,899 (96.7%)	36,551 (97.6%)	<0.001
Yes	638 (2.2%)	269 (3.3%)	907 (2.4%)	

Table 3: ED Visits rate per 1000 by county and year

Year	*County*	*Number of ED Visits*	*Population*	*ED Visits Rate Per 1000*
2021	CLAY	81465	272849	298.5717
2022	CLAY	82040	272849	300.6791
2023	CLAY	84705	272849	310.4464
2021	JACKSON	323966	775333	417.8411
2022	JACKSON	320230	765396	418.3847
2023	JACKSON	328722	765396	429.4796
2021	PLATTE	28195	108028	260.9972
2022	PLATTE	28610	107185	266.9217
2023	PLATTE	29313	108028	271.3463

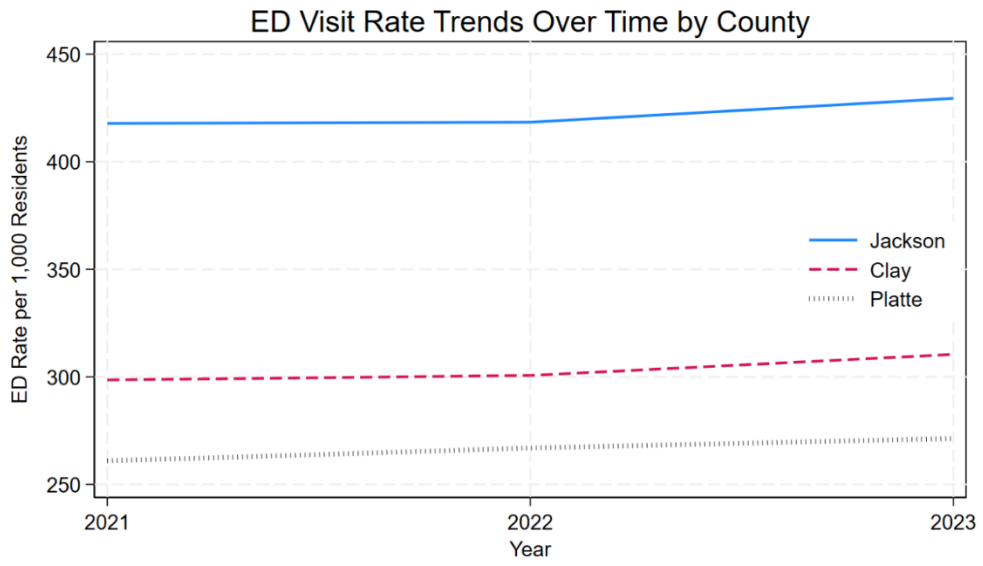


Figure 1: Trend of ED visit per 1,000 residents for all three counties by year

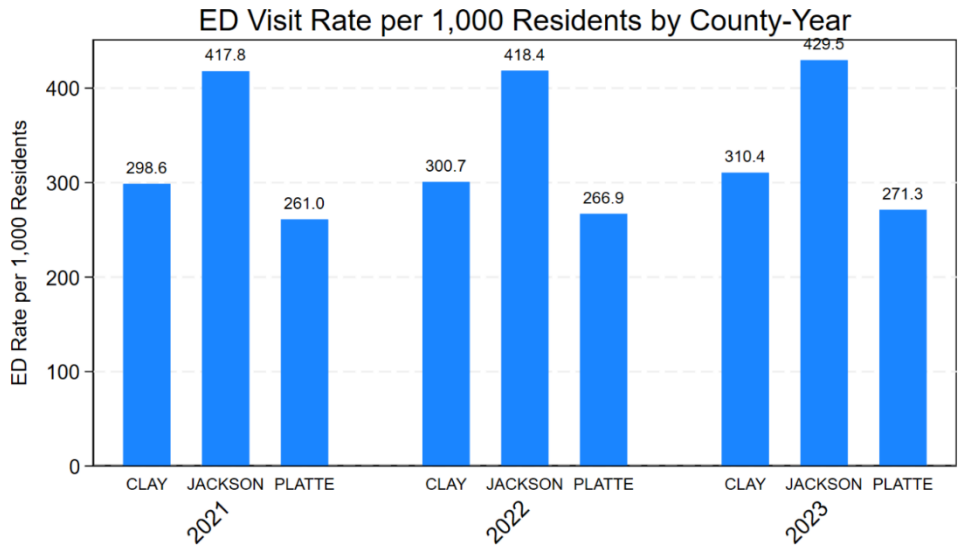


Figure 2: Bar graph of ED visits per 1,000 residents for all three counties by year

Table 4: Ed and Inpatient Visit Rates per 1,000 Residents by CCS Category

ED and Inpatient Visit Rates per 1,000 Residents by CCS Category

	ED Visits			Inpatient Stay		
CCS Category	**CLAY**	**JACKSON**	**PLATTE**	**CLAY**	**JACKSON**	**PLATTE**
Blood	48.08	240.49	20.53	27.72	192.30	11.78
Bone	661.09	3885.30	265.09	86.54	412.46	39.90
Brain	657.46	3572.21	290.64	79.09	414.44	36.06
Digestive	574.44	2969.18	255.26	250.99	1212.02	119.21
Heart	641.93	3108.46	305.04	406.09	2060.43	191.28
Kidney	506.14	3051.12	232.00	109.31	569.79	48.90
Mental	608.66	3051.17	264.61	284.05	1432.79	117.61
Neo malignant	8.61	37.11	4.48	72.82	316.08	35.42
Metabolic	206.08	962.73	95.81	138.77	676.44	56.69
Perinatal	47.67	158.30	30.07	13.45	45.60	5.89
Pregnancy	190.94	1368.03	82.77	334.32	1299.76	164.56
Residual	119.09	574.47	51.48	324.31	1211.82	157.12
Respiratory	1160.96	6728.61	497.78	292.69	1161.19	123.74
Skin	258.89	1648.83	106.27	45.59	203.94	18.39

Table 5A: Predictors of ED Utilization in 2021

Variable	OR	95% CI	P
Age	0.98	0.98–0.98	<0.001*
ADI (National)	1.00	1.00–1.00	<0.001*
ADI (State)	1.04	1.03–1.04	<0.001*
Male Gender	0.99	0.97–1.00	0.028
Black	1.78	1.76–1.81	<0.001*
Asian	1.02	0.96–1.09	0.511
Other	1.51	1.48–1.54	<0.001*
Hispanic or Latino	1.50	1.46–1.54	<0.001*
Jackson	1.13	1.11–1.14	<0.001*
Platte	0.96	0.93–0.99	0.003
Medicaid Insurance	1.62	1.60–1.65	<0.001*
Blood	0.35	0.33–0.37	<0.001*
Bone	2.32	2.25–2.40	<0.001*
Brain	2.44	2.35–2.52	<0.001*
Digestive	0.67	0.66–0.69	<0.001*
Heart	0.39	0.38–0.40	<0.001*
Kidney	1.64	1.59–1.70	<0.001*
Mental	0.61	0.60–0.62	<0.001*
Neo malignant	0.04	0.03–0.04	<0.001*
Metabolic	0.44	0.42–0.45	<0.001*
Perinatal	1.04	0.94–1.14	0.45
Pregnancy	0.23	0.23–0.24	<0.001*
Residual	0.10	0.10–0.11	<0.001*
Respiratory	1.50	1.47–1.53	<0.001*
Skin	2.30	2.19–2.41	<0.001*

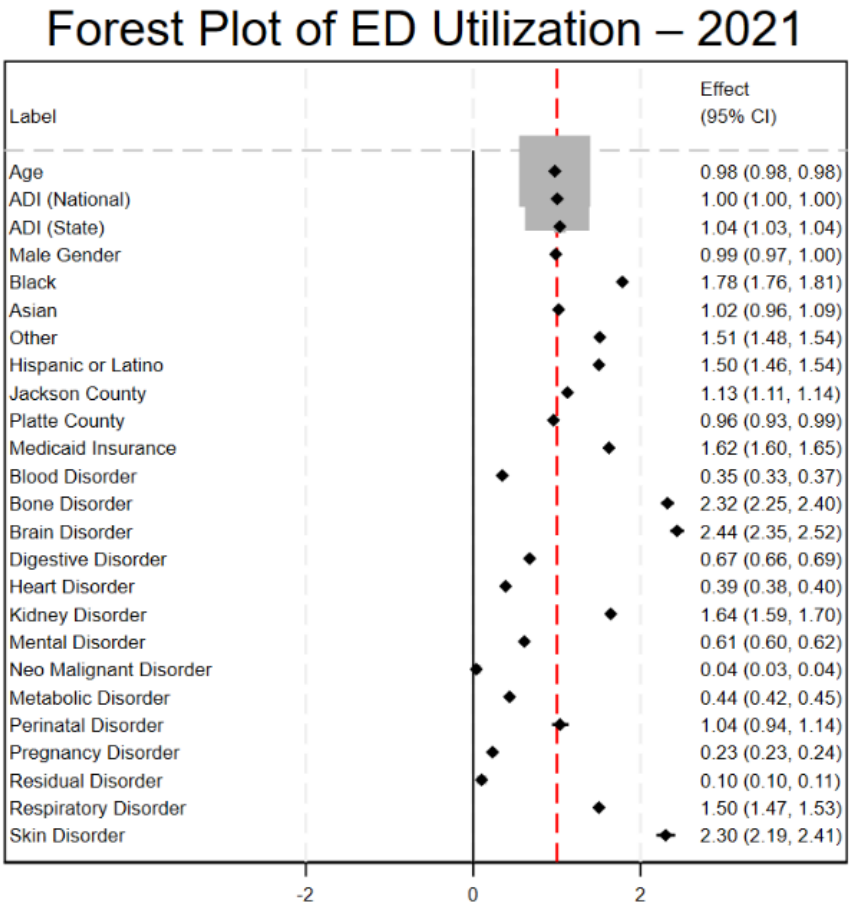


Figure 3A: Forest plot depicting factors that predict ED utilization in 2021. Diamonds left of red line indicate factors associated with ED utilization.

Table 5B-Predictors of ED Utilization in 2022

Variable	OR	95% CI	P
Age	0.98	0.98–0.98	<0.001*
ADI (National)	1.00	1.00–1.00	<0.001*
ADI (State)	1.03	1.03–1.04	<0.001*
Male Gender	0.99	0.97–1.00	0.033*
Black	1.86	1.84–1.89	<0.001*

Asian	1.05	0.98–1.11	0.153
Other	1.51	1.48–1.54	<0.001*
Hispanic or Latino	1.49	1.45–1.53	<0.001*
Jackson	1.12	1.10–1.14	<0.001*
Platte	0.96	0.94–0.99	0.003*
Medicaid Insurance	1.75	1.73–1.78	<0.001*
Blood	0.37	0.35–0.39	<0.001*
Bone	2.69	2.60–2.78	<0.001*
Brain	2.53	2.45–2.62	<0.001*
Digestive	0.68	0.66–0.69	<0.001*
Heart	0.40	0.39–0.41	<0.001*
Kidney	1.50	1.45–1.54	<0.001*
Mental	0.57	0.56–0.58	<0.001*
Neo malignant	0.03	0.02–0.03	<0.001*
Metabolic	0.39	0.38–0.40	<0.001*
Perinatal	1.04	0.94–1.15	0.465
Pregnancy	0.24	0.23–0.25	<0.001*
Residual	0.10	0.10–0.10	<0.001*
Respiratory	1.78	1.75–1.82	<0.001*
Skin	2.23	2.12–2.34	<0.001*

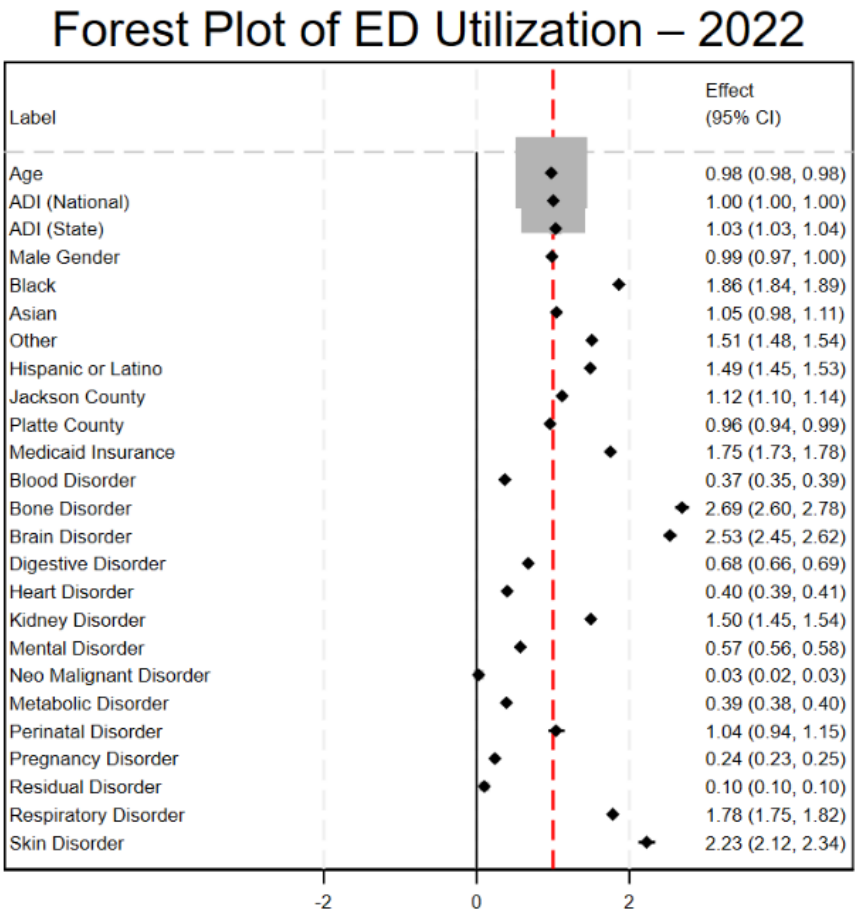


Figure 3B: Forest plot depicting factors that predict ED utilization in 2022. Diamonds left of red line indicate factors associated with ED utilization.

Table 5C-Predictors of ED Utilization – 2023

Variable	OR	95% CI	P
Age	0.98	0.98–0.98	<0.001*
ADI (National)	1.00	1.00–1.00	<0.001*
ADI (State)	1.03	1.03–1.03	<0.001*
Male Gender	1.02	1.00–1.03	0.025*

Black	1.84	1.81–1.87	<0.001*
Asian	1.07	1.00–1.14	0.049*
Other	1.42	1.39–1.45	<0.001*
Hispanic or Latino	1.32	1.29–1.35	<0.001*
Jackson	1.13	1.12–1.15	<0.001*
Platte	1.01	0.98–1.04	0.542
Medicaid Insurance	1.56	1.53–1.58	<0.001*
Blood	0.44	0.42–0.47	<0.001*
Bone	3.20	3.09–3.33	<0.001*
Brain	2.78	2.68–2.89	<0.001*
Digestive	0.67	0.65–0.68	<0.001*
Heart	0.42	0.41–0.43	<0.001*
Kidney	1.45	1.41–1.50	<0.001*
Mental	0.61	0.59–0.62	<0.001*
Neo malignant	0.04	0.03–0.04	<0.001*
Metabolic	0.40	0.39–0.42	<0.001*
Perinatal	1.12	1.00–1.26	0.054
Pregnancy	0.24	0.24–0.25	<0.001*
Residual	0.15	0.14–0.15	<0.001*
Respiratory	1.54	1.50–1.57	<0.001*
Skin	2.02	1.92–2.12	<0.001*

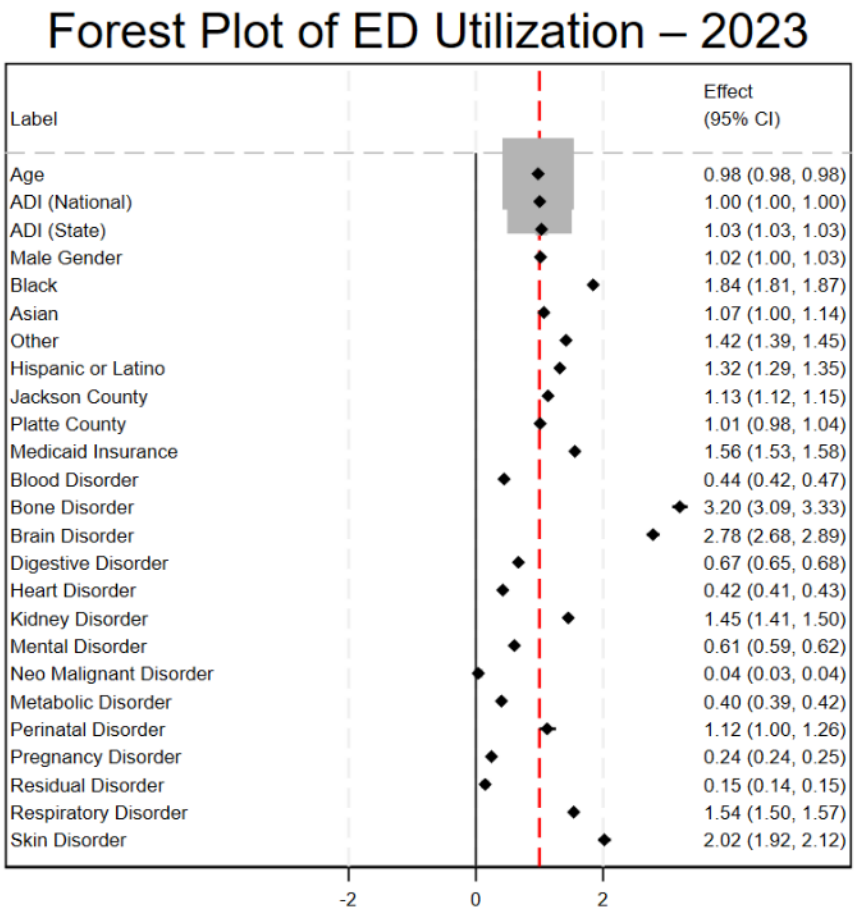


Figure 3C: Forest plot depicting factors that predict ED utilization in 2023. Diamonds left of red line indicate factors associated with ED utilization.

Multivariable Analysis for ED utilization adjusting for demographics, area deprivation index and insurance

	2021			2022			2023		
Variable	**OR**	**95% CI**	**P**	**OR**	**95% CI**	**P**	**OR**	**95% CI**	**P**
Age	0.96	0.96 – 0.96	<0.001	0.97	0.97 – 0.97	<0.001	0.97	0.97 – 0.97	<0.001

ADI (National)	1.00	1.00 – 1.00	0.018	1.00	1.00 – 1.00	<0.001	1.00	1.00 – 1.00	<0.001
ADI (State)	1.01	1.00 – 1.02	0.005	1.02	1.01 – 1.03	0.001	1.02	1.01 – 1.03	<0.001
Male Gender	1.16	1.14 – 1.18	<0.001	1.15	1.13 – 1.17	<0.001	1.18	1.17 – 1.20	<0.001
White	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Black	1.47	1.45 – 1.50	<0.001	1.51	1.48 – 1.54	<0.001	1.54	1.51 – 1.57	<0.001
Asian	0.89	0.83 – 0.96	0.002	0.90	0.83 – 0.96	0.003	0.92	0.86 – 1.00	0.044
Other	1.05	1.02 – 1.08	0.001	1.08	1.06 – 1.11	<0.001	1.04	1.01 – 1.06	0.012
Hispanic Or Latino	1.00	0.98 – 1.02	0.897	0.96	0.94 – 0.98	<0.001	0.99	0.97 – 1.01	0.176
Clay	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref	Ref
Jackson	1.00	0.98 – 1.02	0.957	0.97	0.95 – 0.98	<0.001	1.01	0.99 – 1.03	0.554
Platte	0.99	0.95 – 1.02	0.397	0.98	0.95 – 1.01	0.208	1.05	1.01 – 1.08	0.006
Medicaid Insurance	1.01	0.99 – 1.02	0.543	1.12	1.10 – 1.14	<0.001	1.02	1.00 – 1.04	0.049
Blood	0.13	0.12 – 0.14	<0.001	0.14	0.13 – 0.15	<0.001	0.17	0.16 – 0.18	<0.001
Bone	1.40	1.35 – 1.45	<0.001	1.65	1.59 – 1.71	<0.001	2.01	1.93 – 2.09	<0.001
Brain	1.13	1.09 – 1.18	<0.001	1.18	1.13 – 1.22	<0.001	1.37	1.32 – 1.43	<0.001
Digestive	0.34	0.34 – 0.35	<0.001	0.36	0.35 – 0.37	<0.001	0.38	0.37 – 0.40	<0.001
Heart	0.33	0.33 – 0.34	<0.001	0.35	0.34 – 0.35	<0.001	0.37	0.37 – 0.38	<0.001
Kidney	0.86	0.83 – 0.89	<0.001	0.82	0.79 – 0.85	<0.001	0.83	0.80 – 0.86	<0.001
Mental	0.23	0.22 – 0.23	<0.001	0.22	0.22 – 0.23	<0.001	0.27	0.26 – 0.27	<0.001
Neo Malignant	0.03	0.03 – 0.03	<0.001	0.02	0.02 – 0.02	<0.001	0.03	0.03 – 0.04	<0.001

Metabolic	0.20	0.19 – 0.20	<0.001	0.19	0.18 – 0.20	<0.001	0.22	0.21 – 0.23	<0.001
Perinatal	0.10	0.09 – 0.11	<0.001	0.11	0.10 – 0.12	<0.001	0.14	0.13 – 0.16	<0.001
Pregnancy	0.06	0.06 – 0.06	<0.001	0.06	0.06 – 0.07	<0.001	0.07	0.07 – 0.07	<0.001
Residual	0.01	0.01 – 0.01	<0.001	0.02	0.01 – 0.02	<0.001	0.03	0.03 – 0.03	<0.001
Respiratory	0.64	0.63 – 0.66	<0.001	0.78	0.76 – 0.80	<0.001	0.76	0.74 – 0.78	<0.001
Skin	1.11	1.06 – 1.17	<0.001	1.12	1.06 – 1.18	<0.001	1.06	1.01 – 1.12	0.024

Table 6: Multivariable Analysis for ED utilization adjusting for demographics, area deprivation index and insurance

Seasonal time series visualization of ED visits for CLAY county					
Month	Coefficient	St. Error	P-value	95% CI	Interpretation
February	-824	294.68	0.010	[-1432, -216]	Significant decrease in ED visits
March	68	294.68	0.819	[-540, 676]	No difference
April	194	294.68	0.516	[-414, 803]	No difference
May	429	294.68	0.159	[-180, 1037]	No difference
June	425	294.68	0.162	[-184, 1033]	No difference
July	576	294.68	0.062	[-32, 1185]	Marginal increase
August	948	294.68	0.004	[340, 1556]	Significant increase
September	695	294.68	0.027	[86, 1303]	Significant increase
October	740	294.68	0.019	[132, 1349]	Significant increase
November	540	294.68	0.079	[-69, 1148]	Marginal increase
December	521	294.68	0.090	[-88, 1129]	Marginal increase
Constant (January baseline)	6534	208.37	<0.001	[6104, 6964]	Reference level

Table 7: Seasonal time series visualization of ED visits for CLAY county

Seasonal time series visualization of ED visits for JACKSON county					
Month	Coefficient	St. Error	P-value	95% CI	Interpretation
February	-3485	1260.9	0.011	[-6087, -882]	Significant decrease
March	89	1260.9	0.944	[-2513, 2692]	No difference
April	492	1260.9	0.700	[-2111, 3094]	No difference
May	2046	1260.9	0.118	[-556, 4648]	No difference
June	1751	1260.9	0.178	[-851, 4353]	No difference
July	3140	1260.9	0.020	[537, 5742]	Significant increase
August	3717	1260.9	0.007	[1114, 6319]	Significant increase
September	2341	1260.9	0.076	[-261, 4944]	Marginal increase
October	2142	1260.9	0.102	[-461, 4744]	Marginal increase
November	1740	1260.9	0.180	[-863, 4342]	No difference
December	2390	1260.9	0.070	[-213, 4992]	Marginal increase
Constant (January baseline)	25660	891.59	<0.001	[23820, 27500]	Reference level

Table 8: Seasonal time series visualization of ED visits for JACKSON county

Seasonal time series visualization of ED visits for PLATTE county					
Month	Coefficient	St. Error	P-value	95% CI	Interpretation
February	-232	105.42	0.038	[-450, -14]	Significant decrease
March	119	105.42	0.270	[-99, 337]	No difference
April	46	105.42	0.666	[-172, 264]	No difference
May	181	105.42	0.099	[-37, 398]	Marginal increase
June	165	105.42	0.130	[-52, 383]	No difference
July	247	105.42	0.028	[29, 464]	Significant increase
August	295	105.42	0.010	[77, 513]	Significant increase
September	208	105.42	0.060	[-10, 425]	Marginal increase
October	262	105.42	0.020	[44, 480]	Significant increase
November	219	105.42	0.049	[1, 437]	Significant increase
December	276	105.42	0.015	[58, 494]	Significant increase
Constant (January baseline)					

Table 9: Seasonal time series visualization of ED visits for JACKSON county

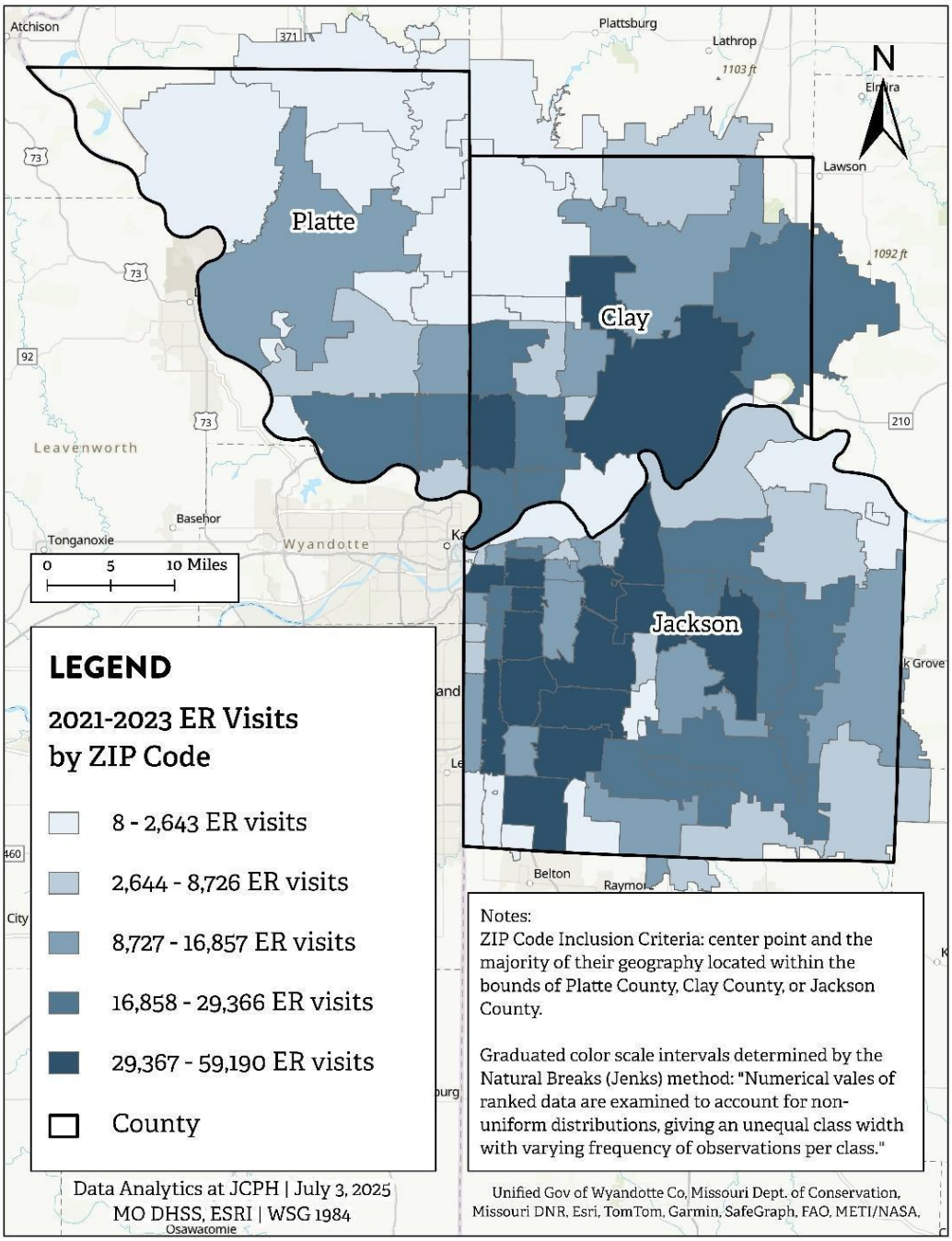


Figure 4: Geographic map showing ER visits in 2021-2023 for Clay, Jackson and, Platte Counties.

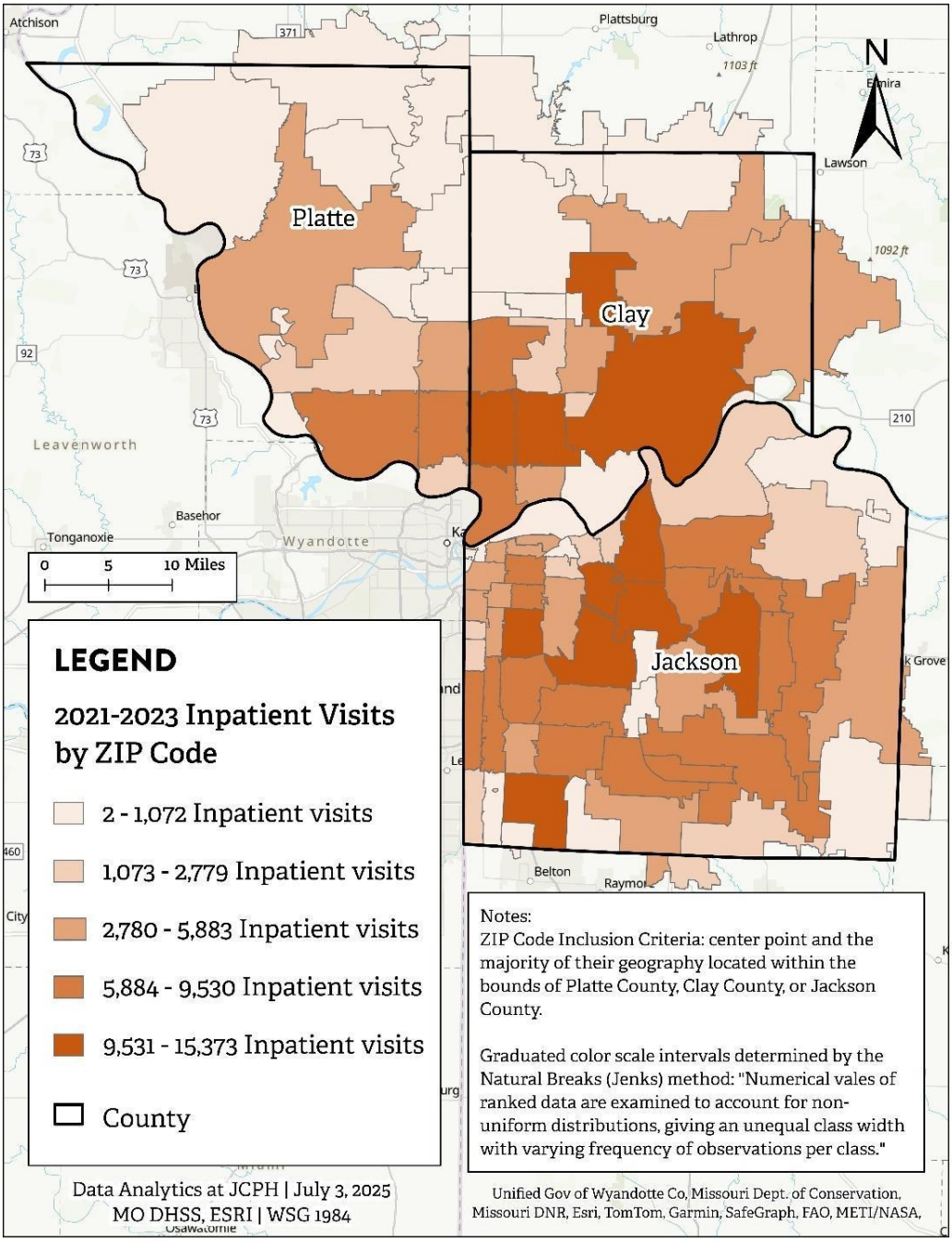


Figure 5: Geographic map showing Inpatient visits in 2021-2023 for Clay, Jackson and, Platte Counties.

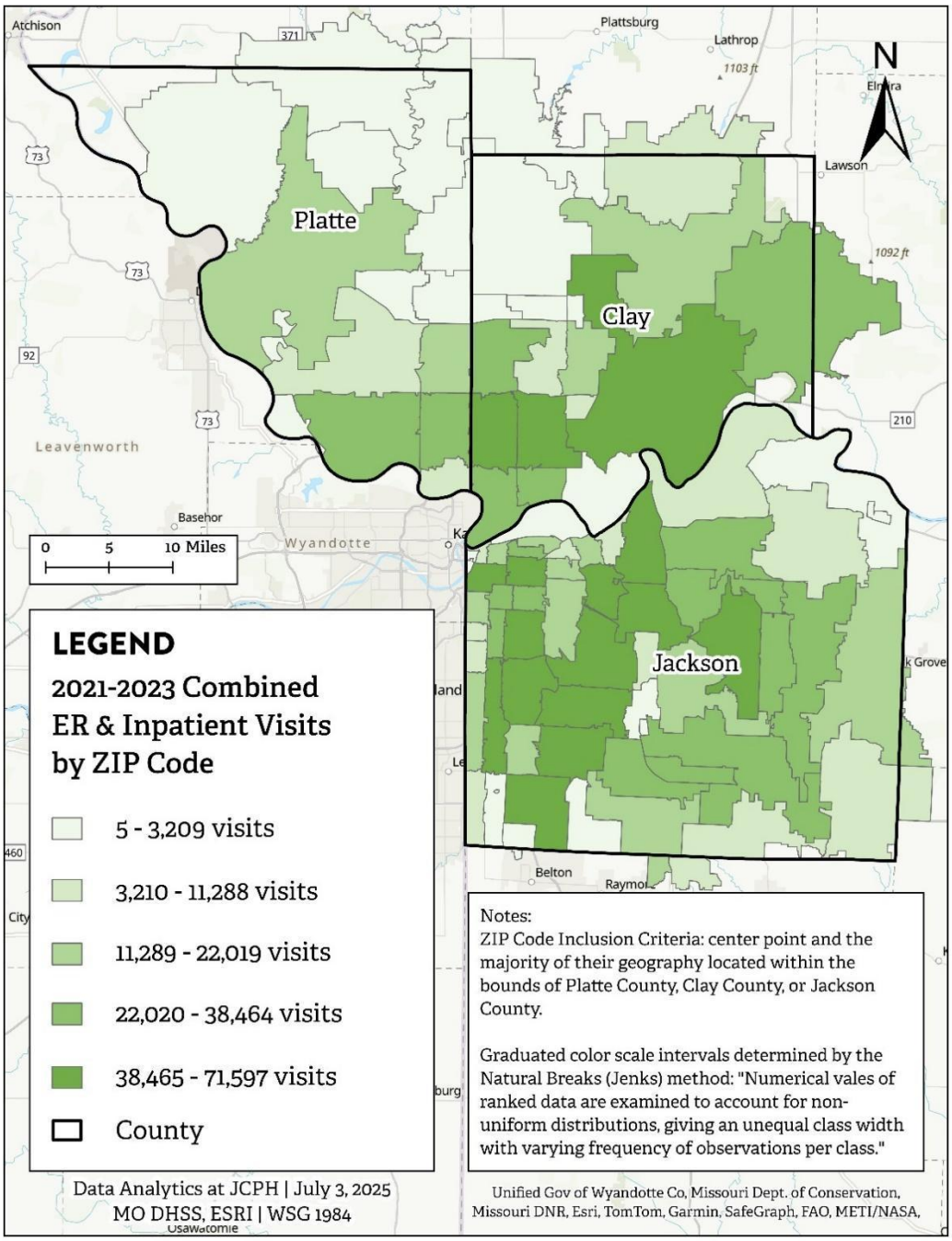


Figure 6: Geographic map showing combined ER and Inpatients visits in 2021-2023 for Clay, Jackson, and Platte Counties.

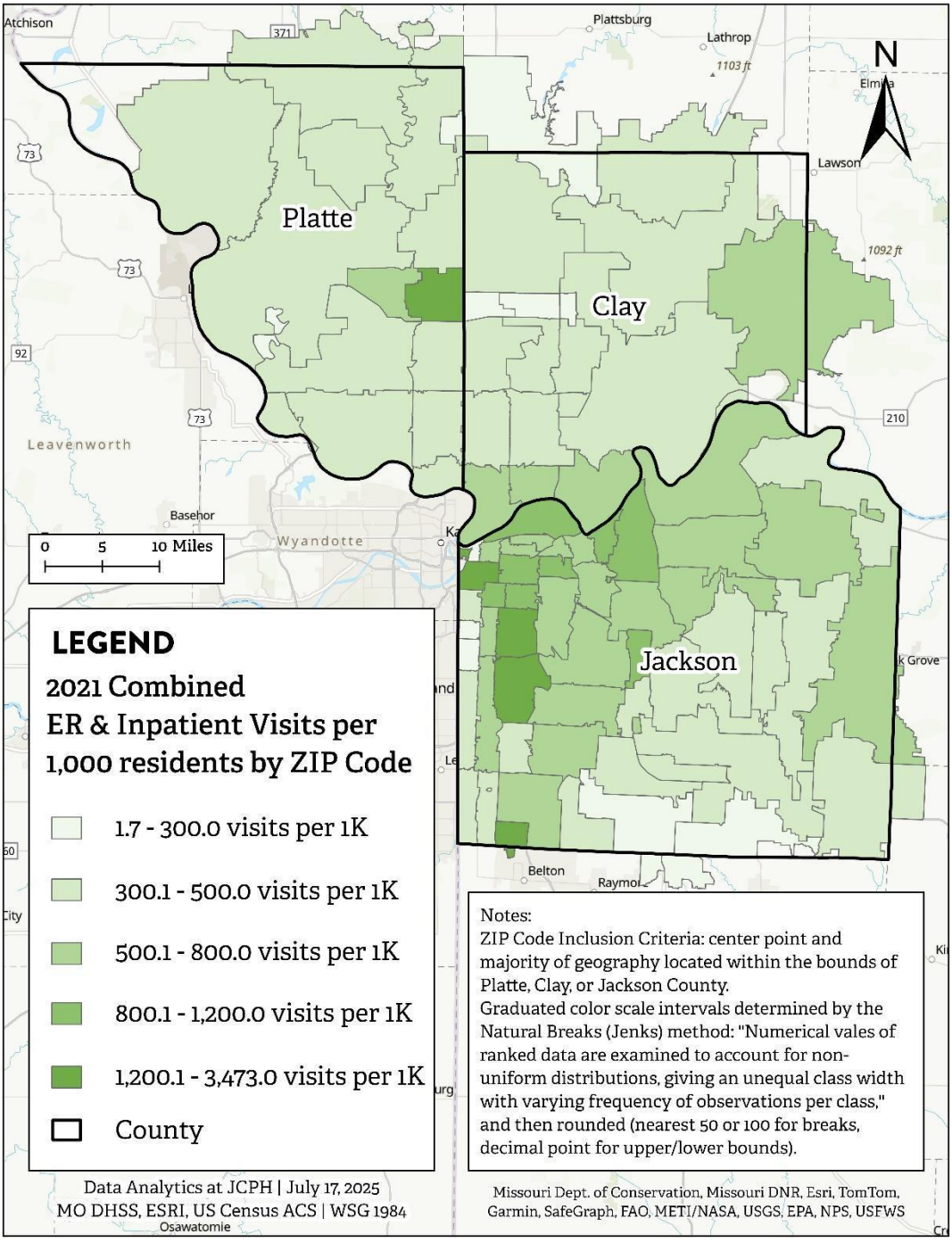


Figure 7: Geographic map showing combined ER and Inpatients visits in 2021 for Clay, Jackson, and Platte Counties.

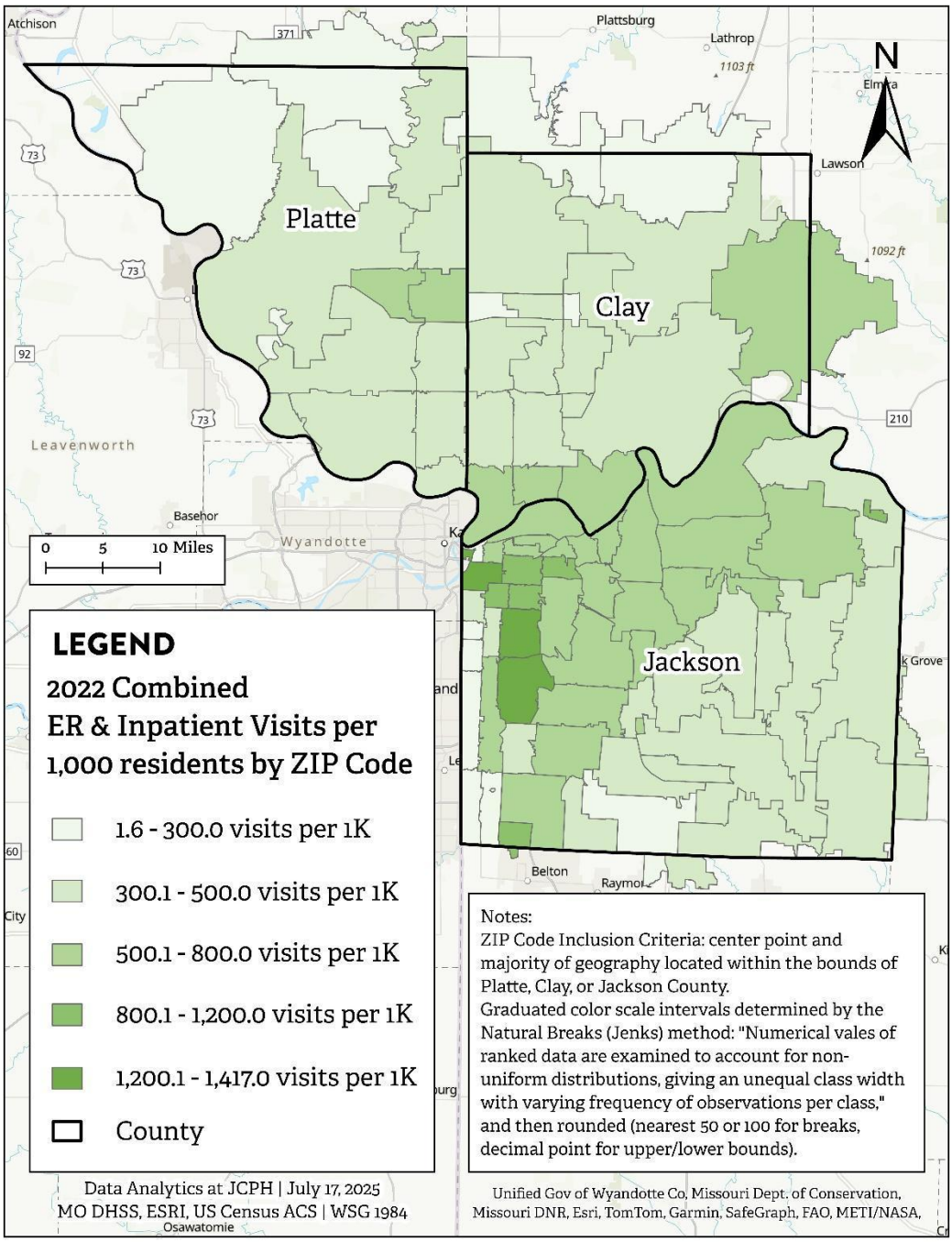


Figure 8: Geographic map showing combined ER and Inpatients visits in 2022 for Clay, Jackson, and Platte Counties.

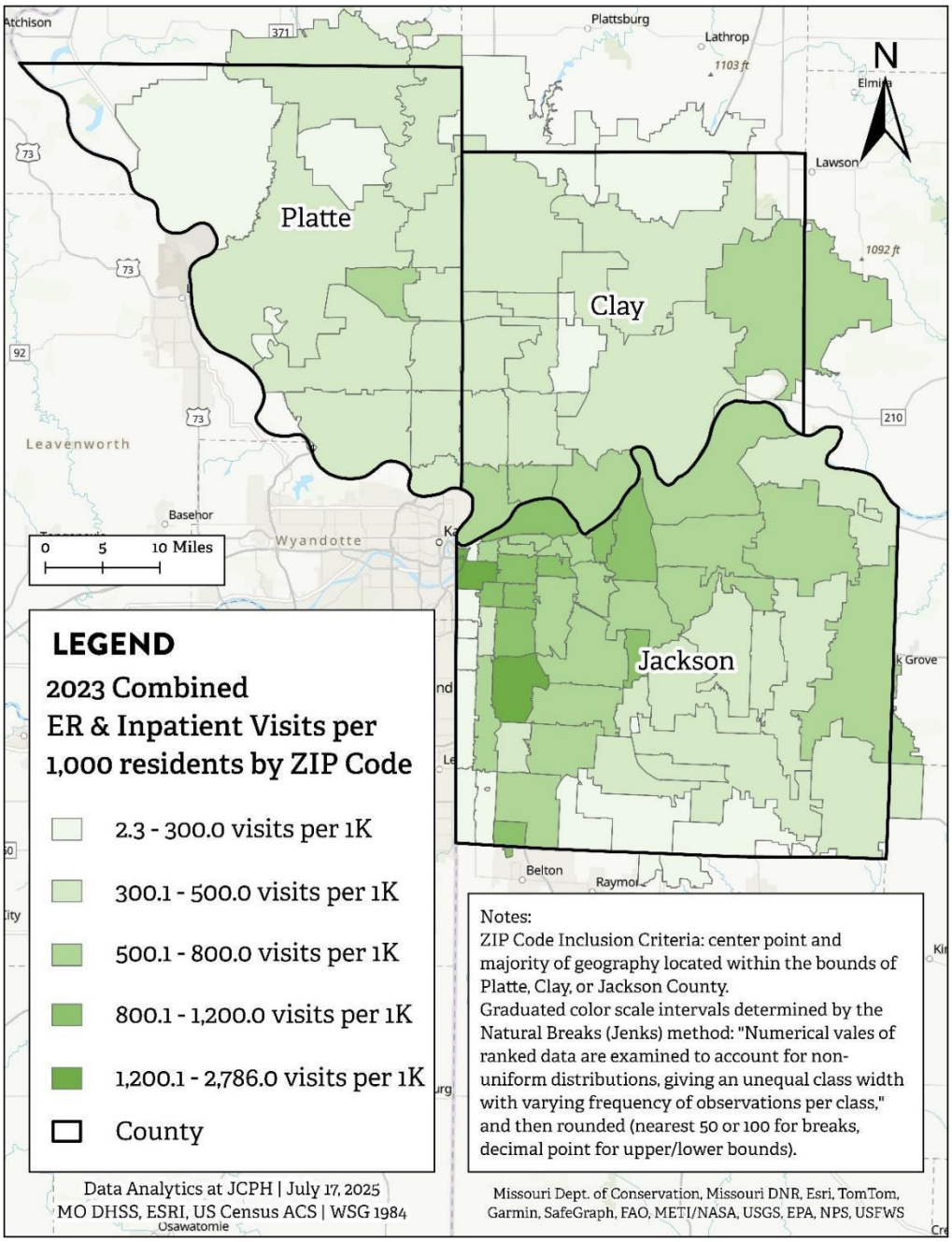


Figure 9: Geographic map showing combined ER and Inpatients visits in 2023 for Clay, Jackson, and Platte Counties.

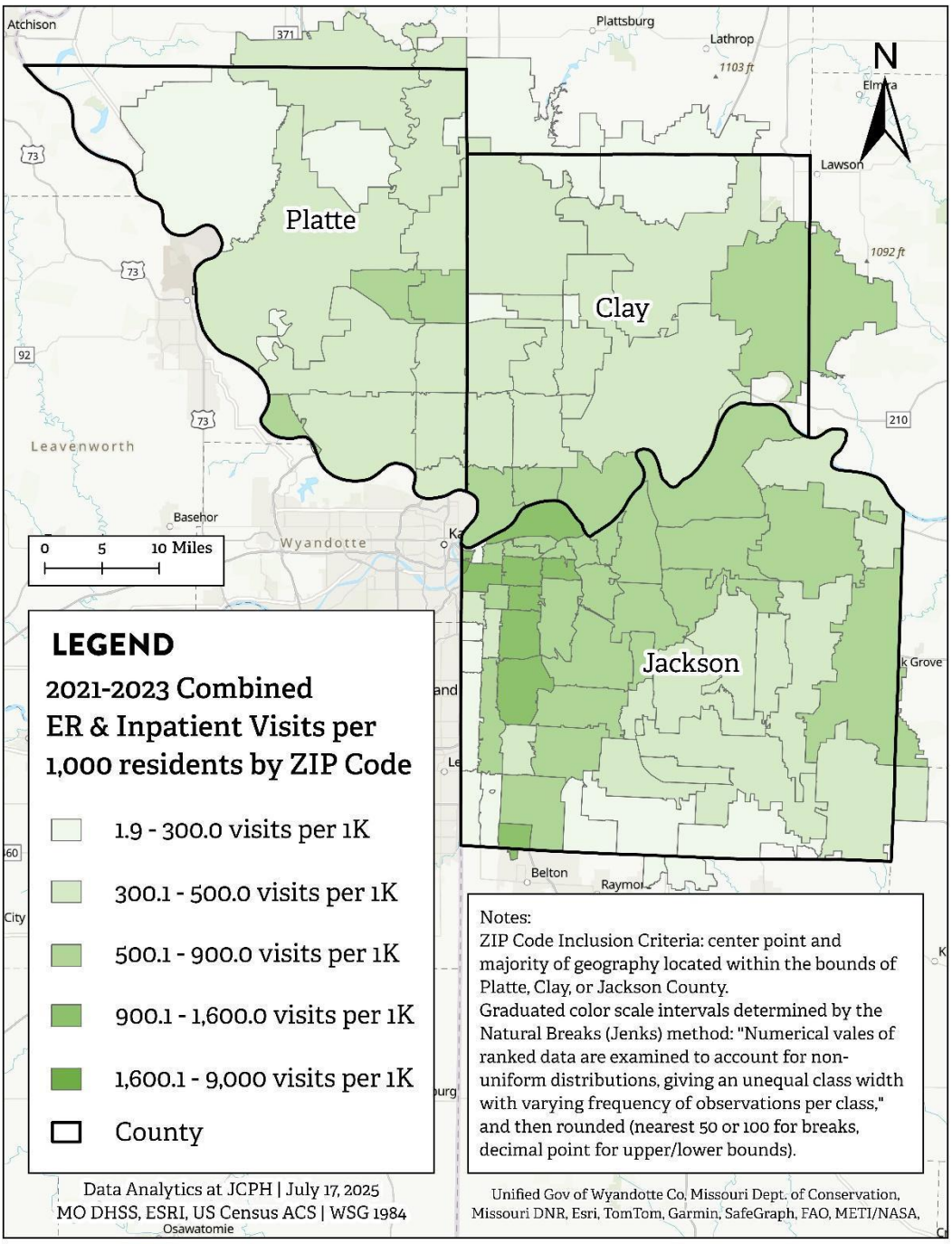


Figure 10: Geographic map showing combined ER and Inpatients visits in 2021-23 for Clay, Jackson, and Platte Counties.

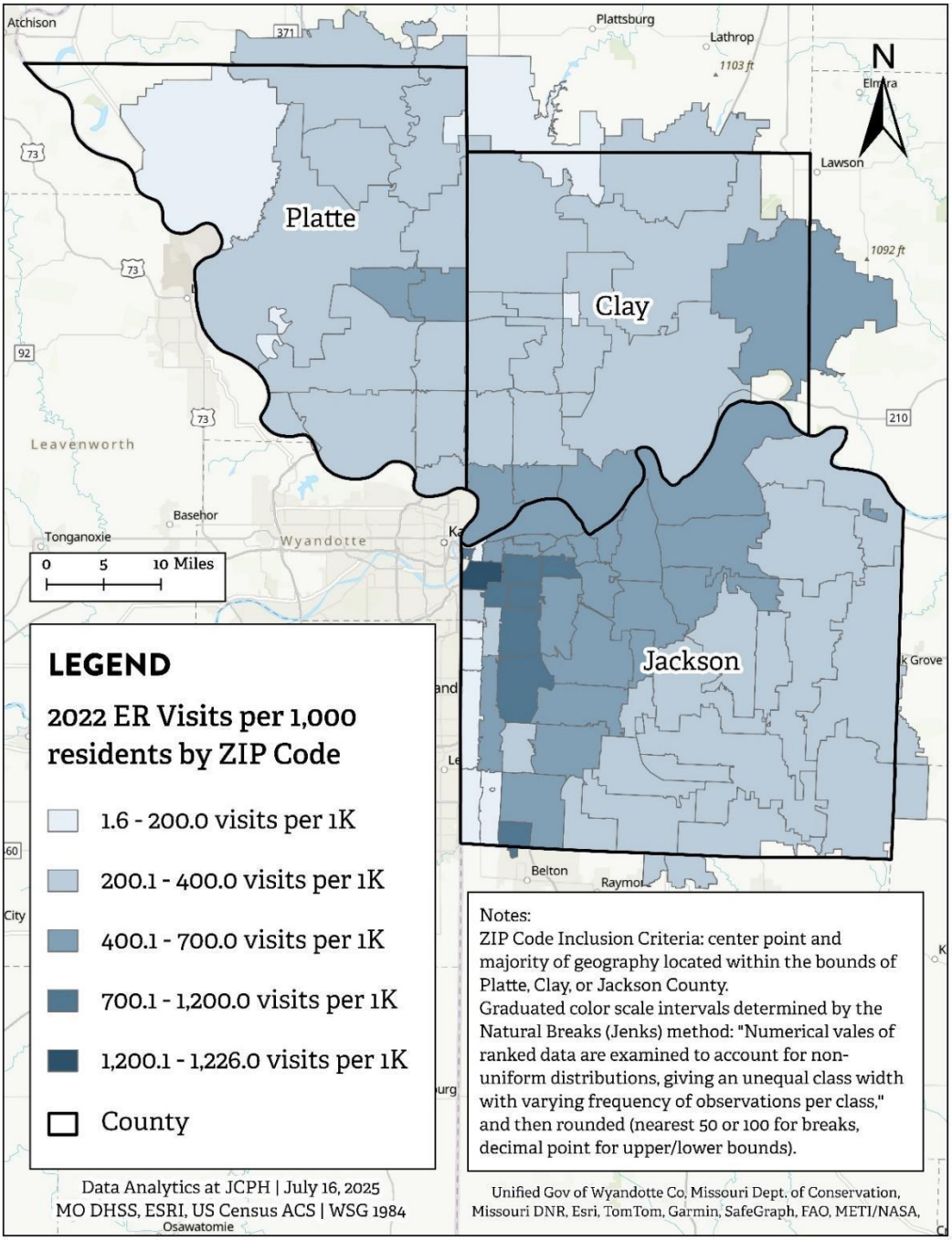


Figure 11: Geographic map showing ER visits in 2021 for Clay, Jackson, and Platte Counties.

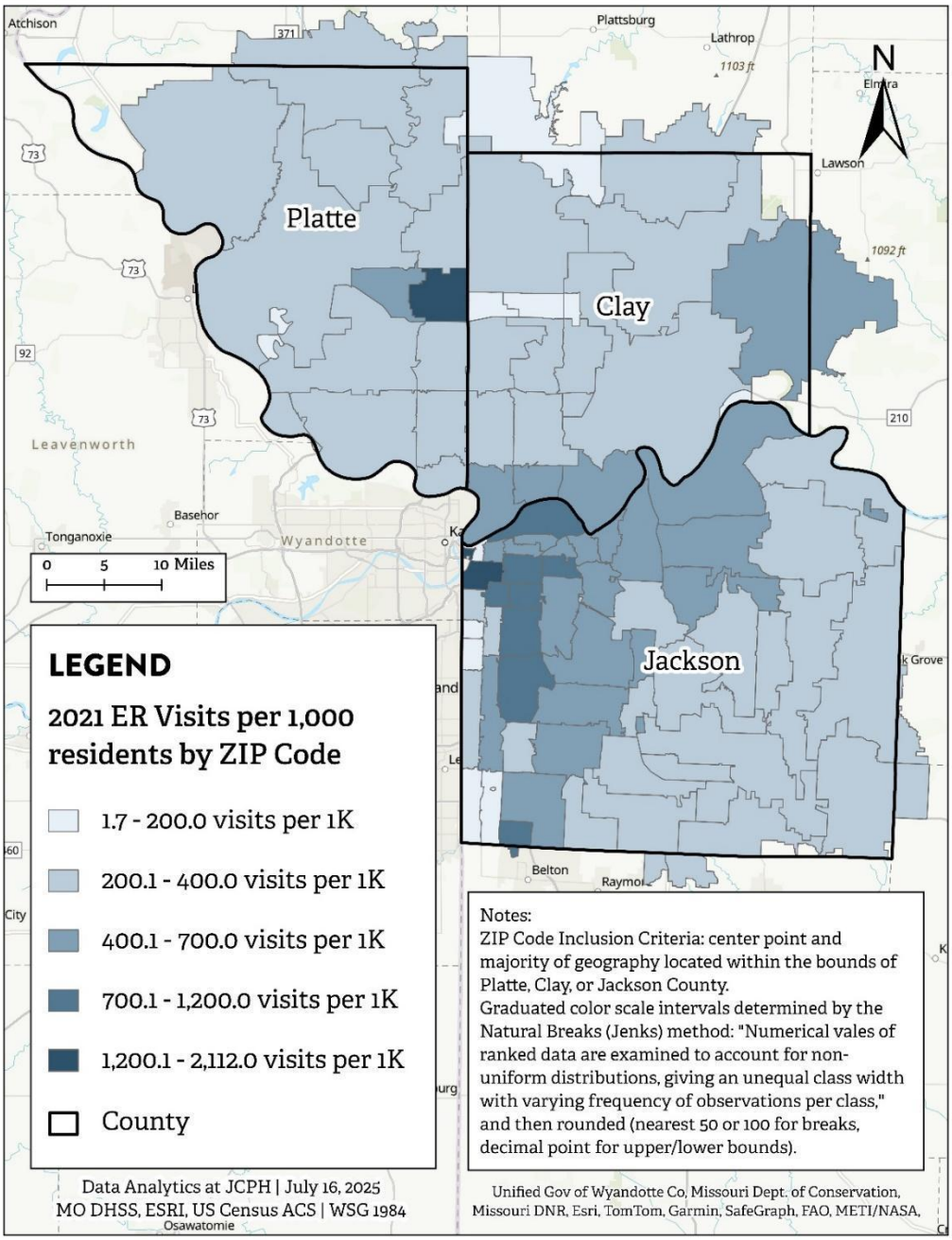


Figure 12: Geographic map showing ER visits in 2022 for Clay, Jackson, and Platte Counties.

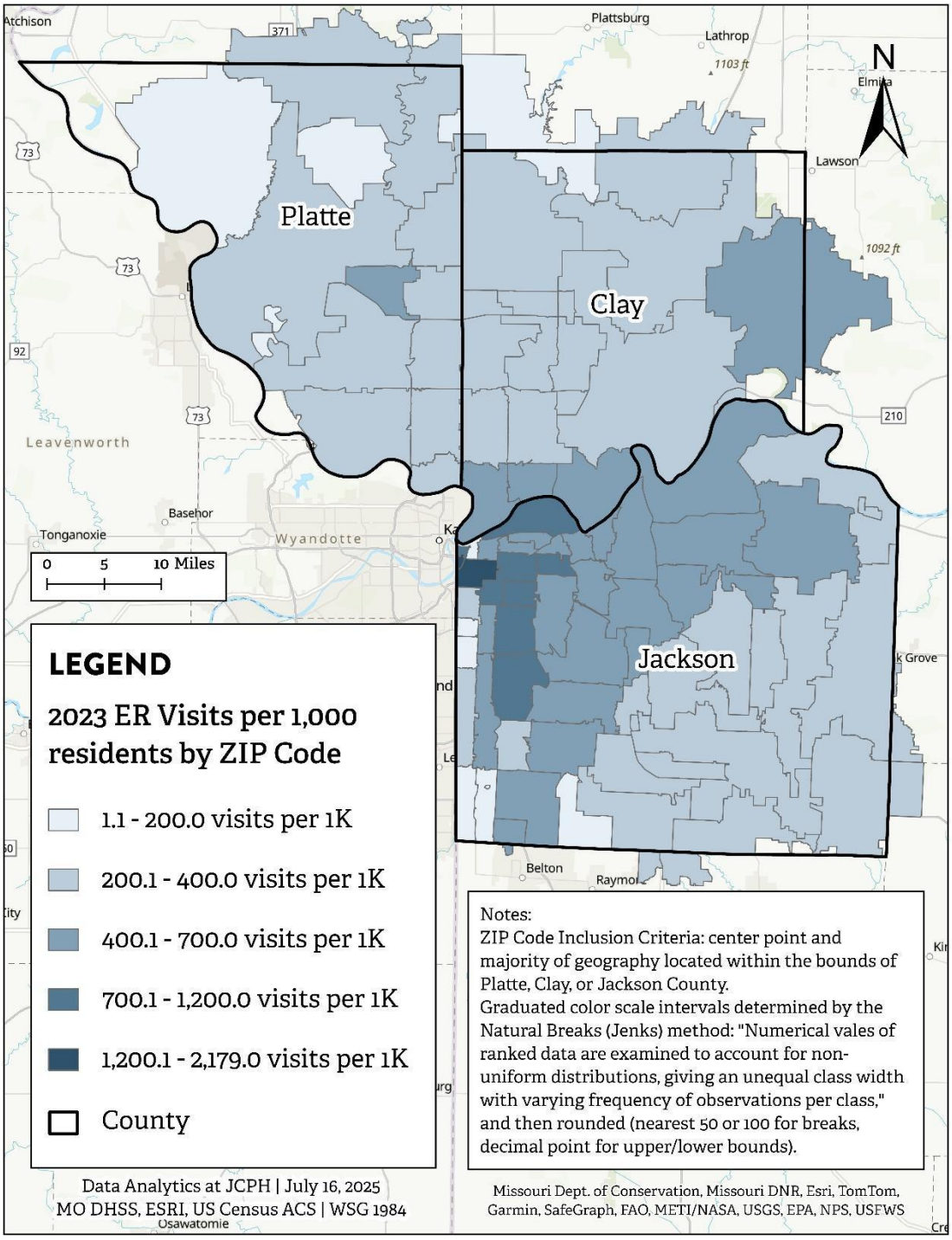


Figure 13: Geographic map showing ER visits in 2023 for Clay, Jackson, and Platte Counties.

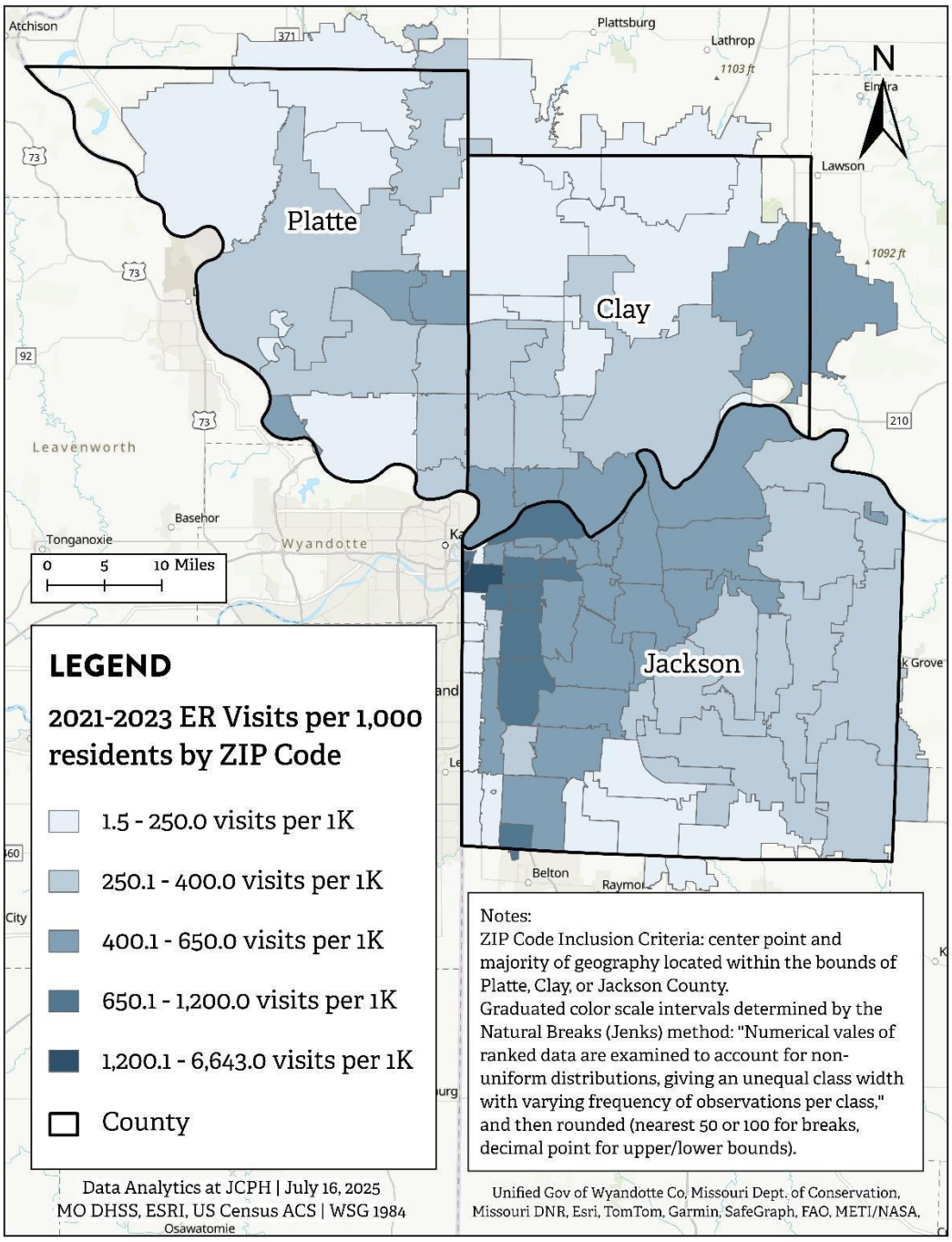


Figure 14: Geographic map showing ER visits in 2021-23 for Clay, Jackson, and Platte Counties.

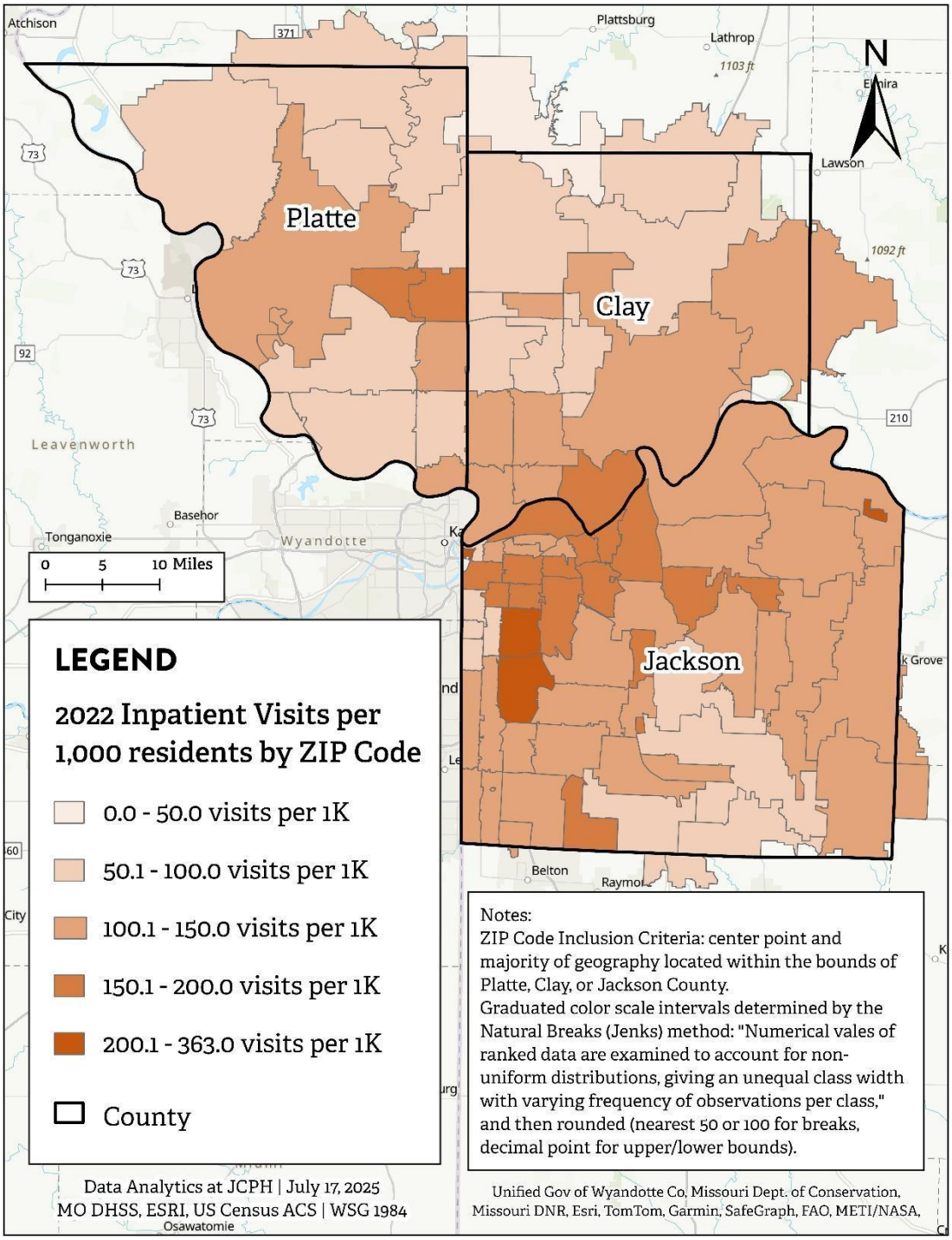


Figure 15: Geographic map showing inpatient visits in 2022 for Clay, Jackson, and Platte Counties.

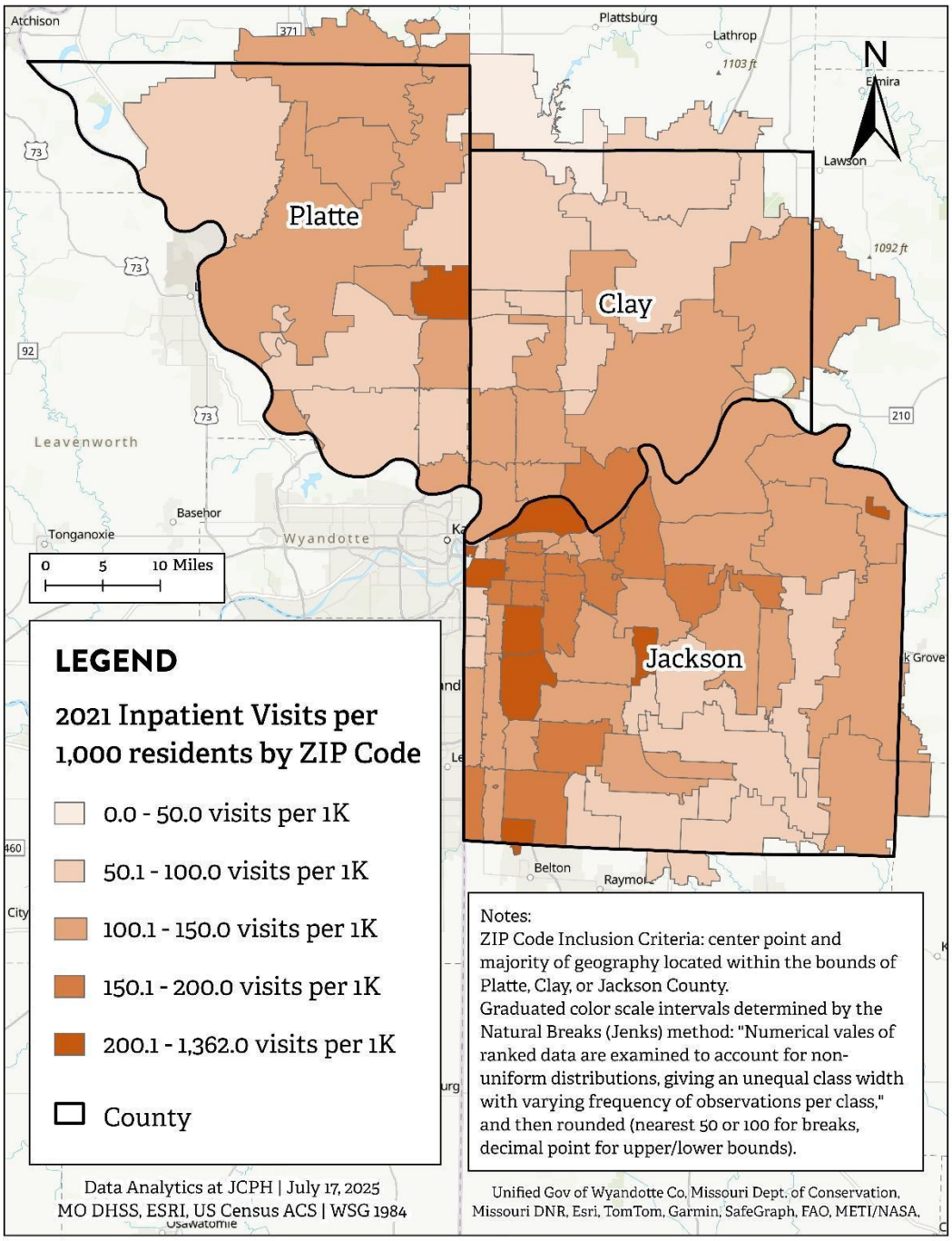


Figure 16: Geographic map showing inpatient visits in 2021 for Clay, Jackson, and Platte Counties.

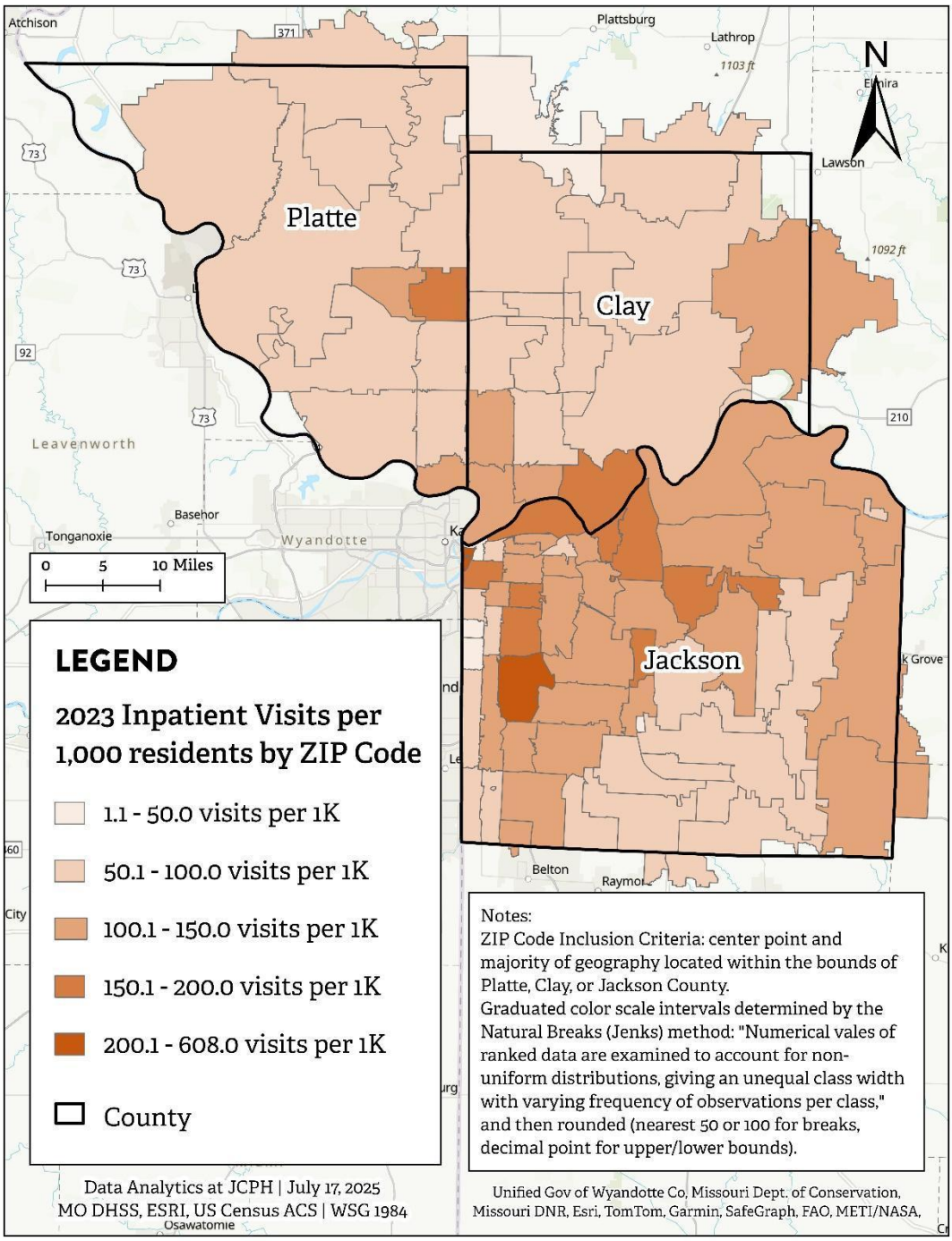


Figure 17: Geographic map showing inpatient visits in 2023 for Clay, Jackson, and Platte Counties.

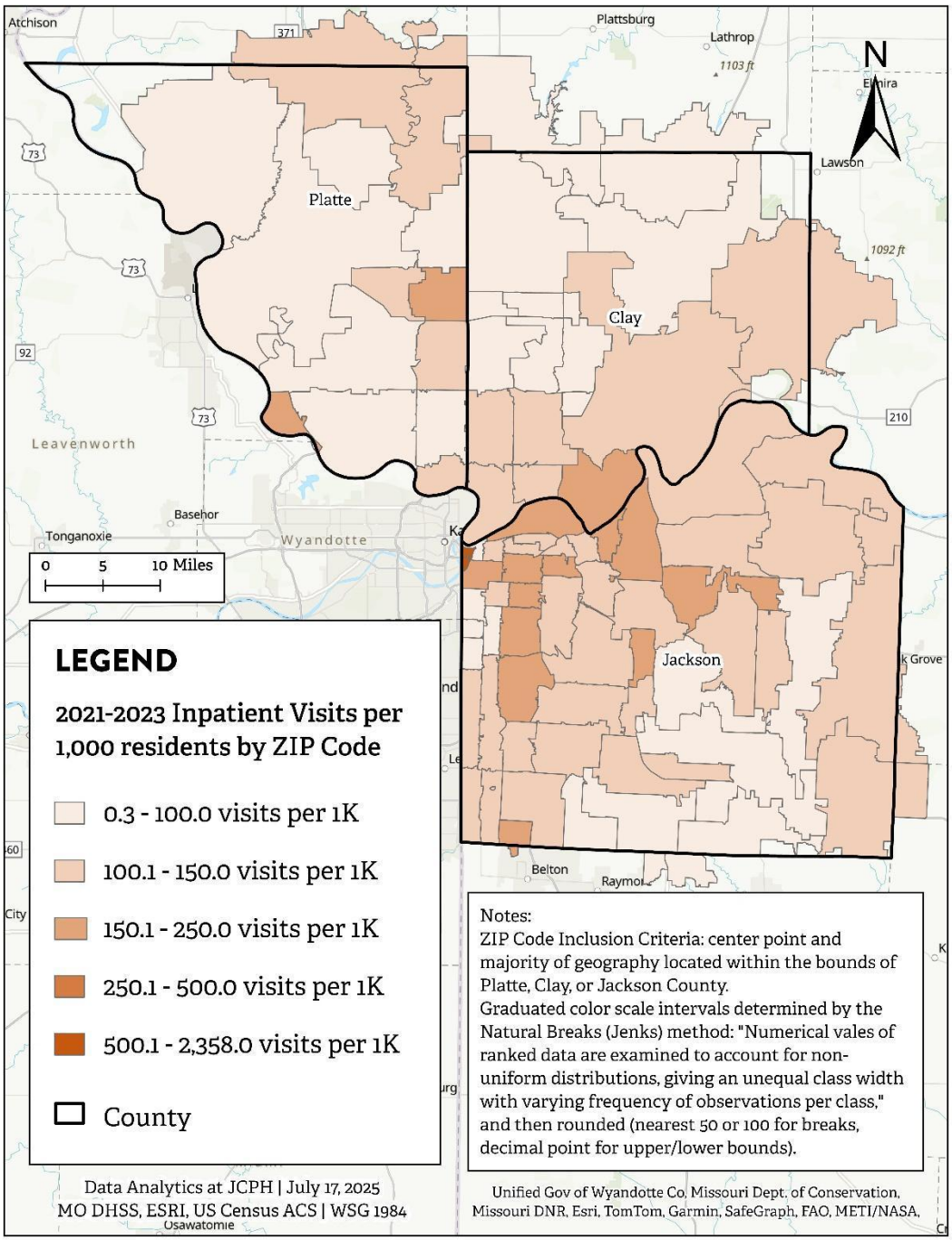


Figure 18: Geographic map showing inpatient visits in 2021-23 for Clay, Jackson, and Platte Counties.

Qualitative

Figure 1: *Participant Demographics*

Variable	Category	Count (N)	Percentage (%)
Organization Type	FQHC	8	47.1%
	Community Service Organization	4	23.5%
	Hospital	3	17.6%
	Health Department	2	11.8%
Job Title	Community Health Worker	3	17.6%
	Housing Coordinator	2	11.8%
	Director of Programs	1	5.9%
	Client Services Coordinator	1	5.9%
	Care Coordination Manager	1	5.9%
	Case Manager	1	5.9%
	Behavioral Health Navigator	1	5.9%
	Chief Health Officer	1	5.9%
	Social Worker	1	5.9%
	Family Support Worker	1	5.9%
	Nurse Care Manager	1	5.9%
	Nurse Practitioner	1	5.9%
	Community Health & Wellness Director	1	5.9%
	Supervisor of Community Outreach	1	5.9%
Education Level	ISCED 3-4	3	17.6%
	ISCED 5-6	8	47.1%
	ISCED 7-8	4	23.5%
	Undisclosed	2	11.8%
Age Group	25-36	5	29.4%
	37-49	4	23.5%
	50-64	5	29.4%
	Undisclosed	3	17.6%
Time Working in Field	1-3 years	4	23.5%
	4-6 years	5	29.4%
	7-10 years	3	17.6%
	>10 years	5	29.4%
Priority Populations	Uninsured/Underinsured	11	64.7%
	General Unhoused	7	41.2%
	Medicaid Insured	6	35.3%
	Privately Insured	5	29.4%
	Undocumented	4	23.5%

	Low-Income	3	17.6%
	Spanish-Speaking	3	17.6%
	Limited English Proficiency (LEP)	2	11.8%
	Street Homeless	2	11.8%
	Adults	2	11.8%
	Families	2	11.8%
	Medicare Insured	2	11.8%
	New Americans	1	5.9%
	Rural	1	5.9%
	Urban	1	5.9%

Figure 2: Unmet Needs of Uninsured/Underinsured Clients

Code	Count (N)	% All Codes	Interview Count	% All Interviews
Awareness of Available Services	13	1.3%	7	41.2%
Lack of Case Workers	3	0.3%	3	17.6%
Unable to Access Immunizations	1	0.1%	1	5.9%
Required to Refer to Other Organizations	1	0.1%	1	5.9%
Social Services Housed in Different Places	1	0.1%	1	5.9%
Timeliness	1	0.1%	1	5.9%
Lack of Providers Offering Sliding Scale Payment	1	0.1%	1	5.9%
Lack of Patient Resources	1	0.1%	1	5.9%
Lacking Safe Home/Place to Heal	1	0.1%	1	5.9%
Unable to Access Treatment Even with Insurance	1	0.1%	1	5.9%

Figure 3: Graph of Unmet Needs of Uninsured/Underinsured Clients

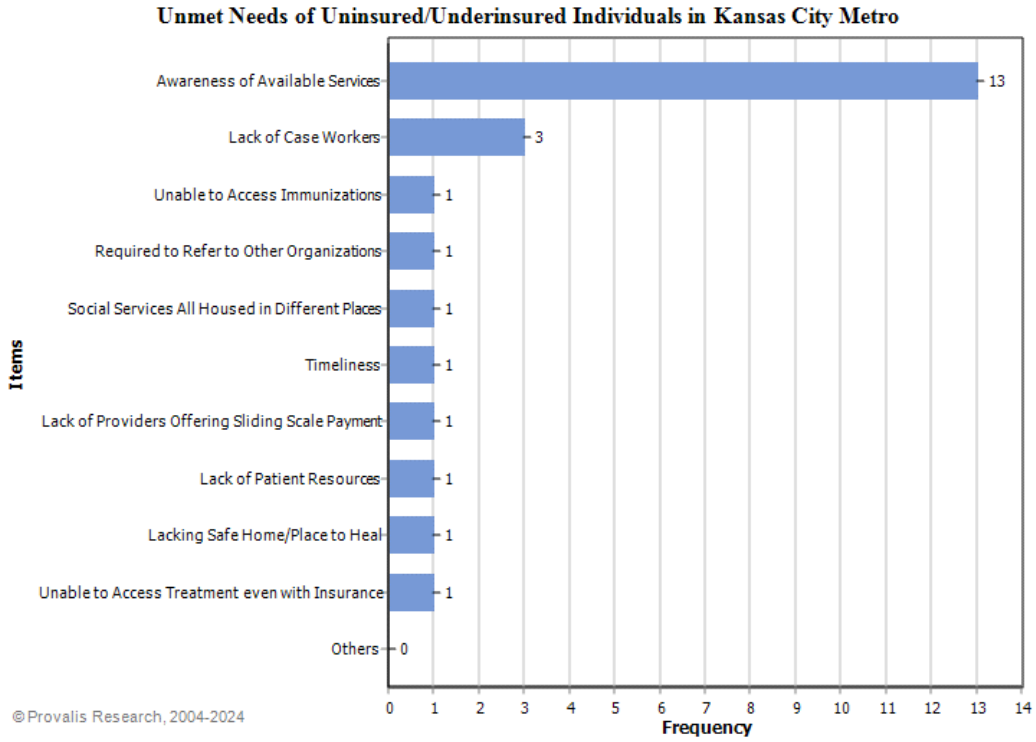


Figure 4: Top 10 Barriers to Accessing Healthcare

Code (Top 10)	Count (N)	% All Codes	Interview Count	% All Interviews
Lack of Reliable Transportation	27	2.8%	13	76.5%
Lack of Stable Housing	12	1.2%	9	52.9%
Confusing Medicaid Application Process	8	0.8%	5	29.4%
Lack of Reliable Phone/Charger	7	0.7%	5	29.5%
Low Income/Socioeconomic Status	7	0.7%	4	23.5%
Unable to Afford Services	6	0.6%	6	35.3%
Not Having Insurance	6	0.6%	4	23.5%
Lack of Mailing Address	6	0.6%	5	29.5%
Not Recognizing Need for Help	5	0.5%	5	29.5%
Past Experiences with Healthcare Services	5	0.5%	3	17.6%

Figure 5: Graph of Top 10 Barriers to Accessing Healthcare

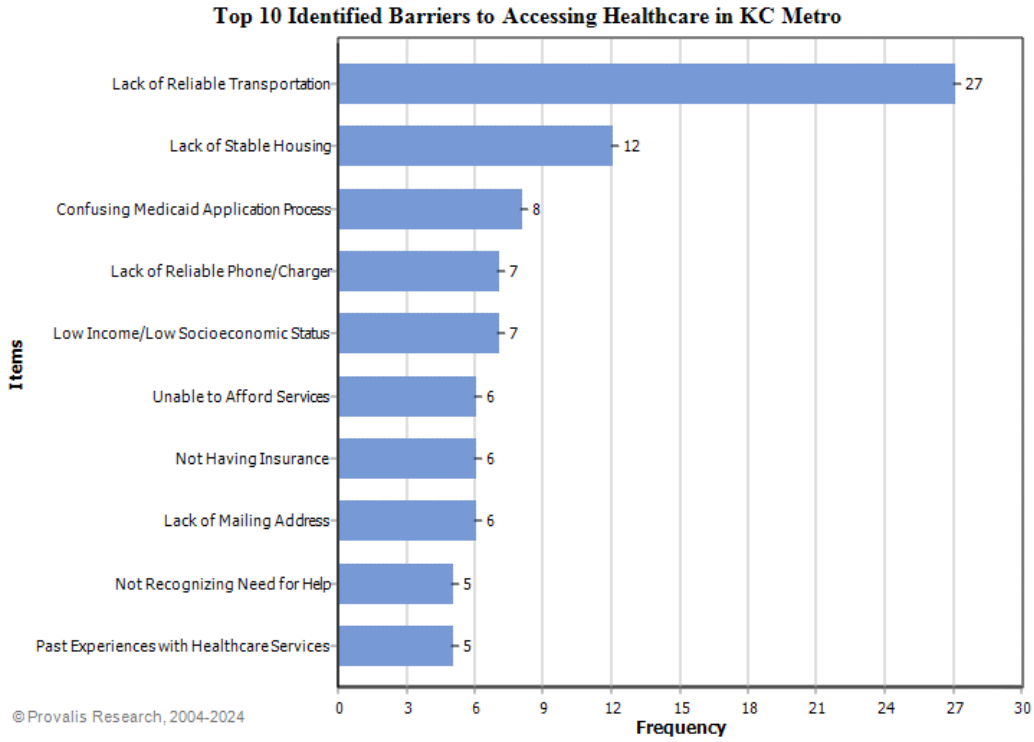


Figure 6: Top 10 Gaps in Healthcare Services

Code (Top 10)	Count (N)	% All Codes	Interview Count	% All Interviews
Wait Times for Mental Health Care	12	1.2%	10	58.8%
Cost of Medication	10	1.0%	9	52.9%
Lack of Behavioral Health Providers	10	1.0%	8	47.1%
Limited Specialty Care Options for Uninsured	9	0.9%	8	47.1%
Misuse of Emergency Room	9	0.9%	6	35.3%
Wait Times to Establish Care	8	0.8%	5	29.4%
Wait Times for Specialty Appointments	8	0.8%	6	35.3%
Limited Dental Services at FQHCs	7	0.7%	6	35.3%
High Costs for Dental Services	7	0.7%	7	41.2%
Wait Times for Dental Appointments	7	0.7%	7	41.2%

Figure 7: Graph of Top 10 Gaps in Healthcare Services

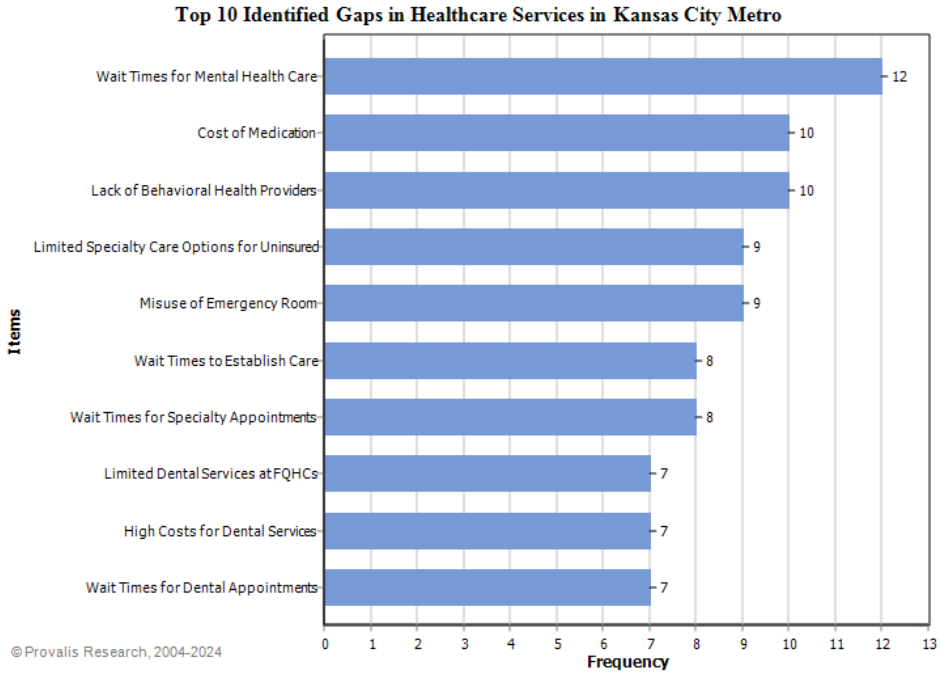


Figure 8: Populations Experiencing More Barriers to Care

Code	Count (N)	% All Codes	Interview Count	% All Interviews
Undocumented	8	0.8%	7	41.2%
Unhoused	6	0.6%	6	35.3%
Low Income	5	0.5%	4	29.4%
Limited English Proficiency (LEP)	4	0.4%	4	23.5%
Hispanic	3	0.3%	3	17.6%
Elderly	2	0.2%	2	11.8%
Military Veterans	2	0.2%	2	11.8%
Postpartum	2	0.2%	2	11.8%
Uninsured	1	0.1%	1	5.9%
Unhoused Women	1	0.1%	1	5.9%
Individuals with Disabilities	1	0.1%	1	5.9%
School-Aged Children	1	0.1%	1	5.9%
New Americans	1	0.1%	1	5.9%
Incarcerated/Formerly Incarcerated	1	0.1%	1	5.9%
Domestic Violence Survivors	1	0.1%	1	5.9%
Single Individuals	1	0.1%	1	5.9%

Figure 9: Graph of Populations Experiencing More Barriers to Care

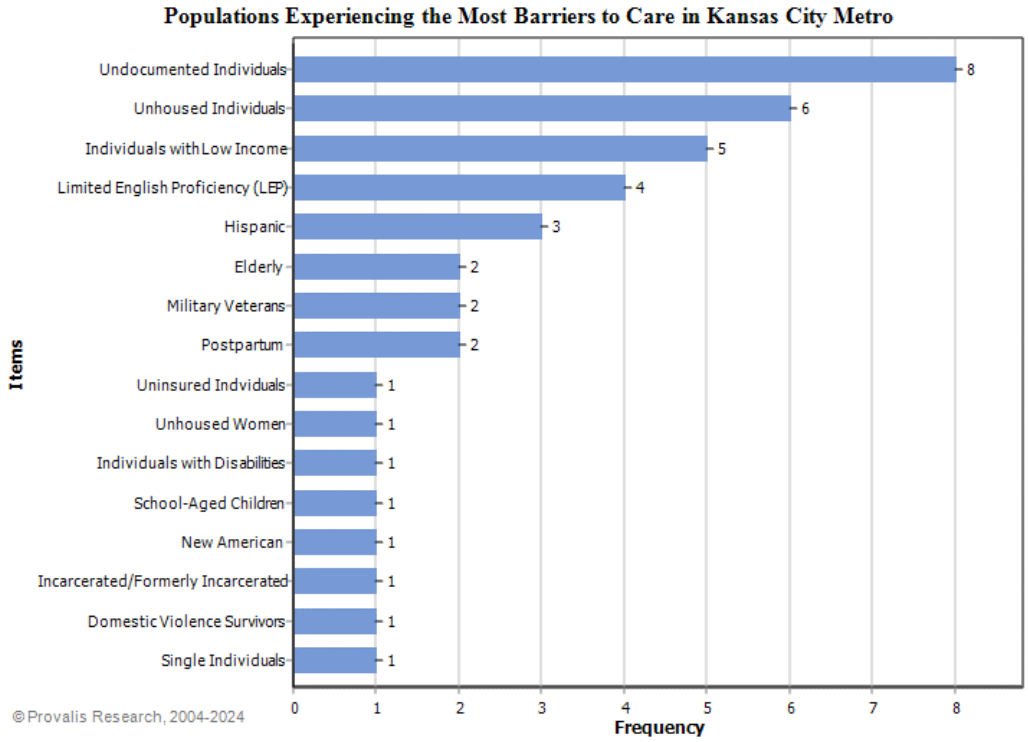


Figure 10: Health Conditions Experiencing More Barriers

Code	Count (N)	% All Codes	Interview Count	% All Interviews
Diabetes	8	0.8%	7	41.2%
Experiencing Mental Illness	6	0.6%	5	29.4%
Heart Disease	6	0.6%	5	29.4%
Limited Mobility	3	0.3%	3	17.6%
PTSD	3	0.3%	3	17.6%
Hypertension	3	0.3%	3	17.6%
Depression/Anxiety	2	0.3%	2	11.8%
Amputees	2	0.2%	2	11.8%
Frostbite	2	0.2%	2	11.8%
Postpartum	2	0.2%	2	11.8%

Figure 11: Graph of Health Conditions Experiencing More Barriers

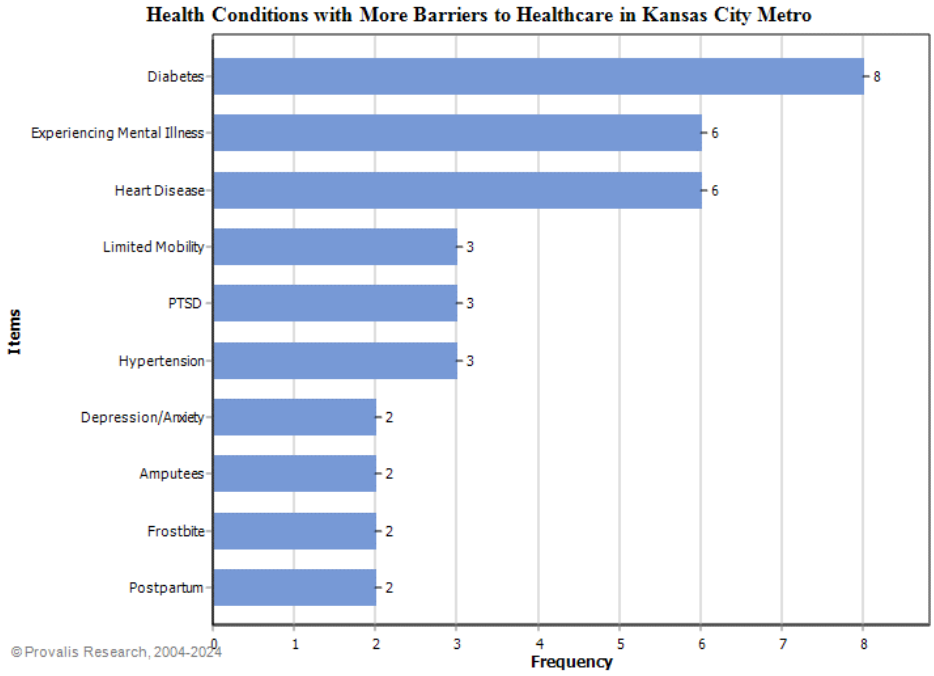


Figure 12: Changes Over Time Resulting from Medicaid Expansion

Code	Count (N)	% All Codes	Interview Count	% All Interviews
More Individuals Covered	11	1.1%	8	47.1%
Loss of Coverage Due to Unwinding	5	0.5%	3	17.6%
More Complicated Renewal Process	2	0.2%	2	11.8%
Increased Wait Times	2	0.2%	2	11.8%
Better Access to Medications	2	0.2%	2	11.8%
Better Access to Diabetes Treatment	2	0.2%	2	11.8%
Improved Dental Coverage	2	0.2%	1	5.9%
Better Care for Moms/Babies	1	0.1%	1	5.9%
More Providers Accepting Medicaid	1	0.1%	1	5.9%
Less Pregnancy/Postpartum Coverage	1	0.1%	1	5.9%
Not Enough Providers	1	0.1%	1	5.9%
Increased Cardiac Rehab Coverage	1	0.1%	1	5.9%
Less Specialty Care Options for Uninsured	1	0.1%	1	5.9%
Less Access to Medications	1	0.1%	1	5.9%
Clinics Accepting Less Private Insurance	1	0.1%	1	5.9%
More Restrictions on Medical Equipment	1	0.1%	1	5.9%
More Frequent Changes of Insurance Coverage		0.1%	1	5.9%
Higher Cost of Dental Services	1	0.1%	1	5.9%
Less Transportation Options	1	0.1%	1	5.9%

Figure 13: Graph of Changes Over Time Resulting from Medicaid Expansion

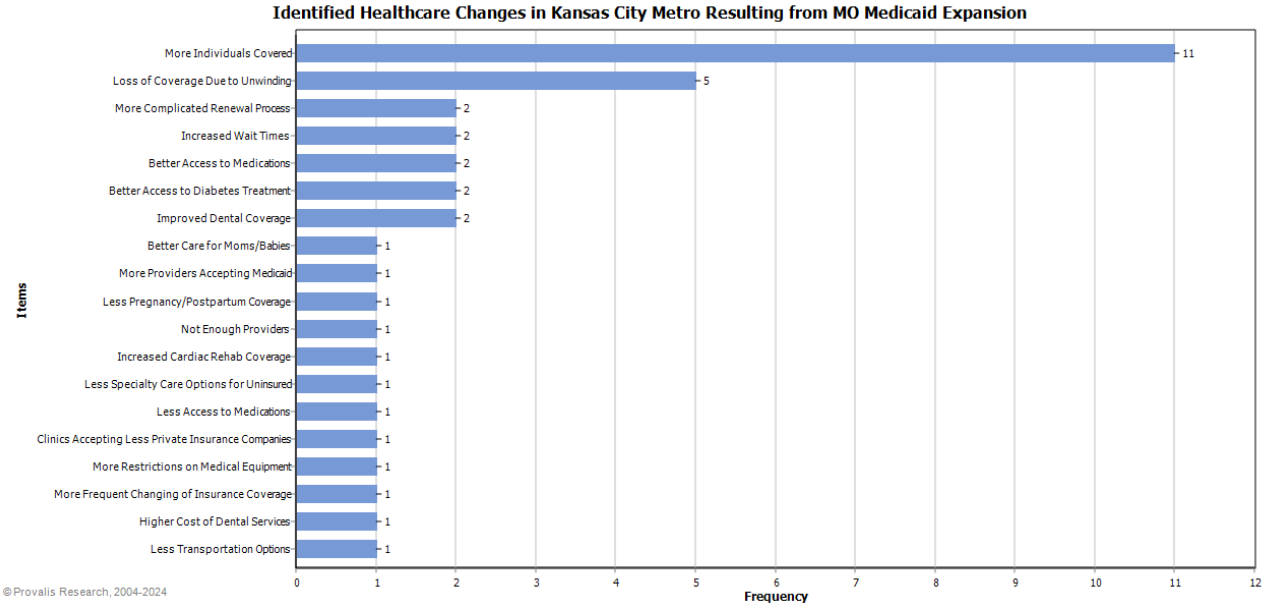


Figure 14: Changes Over Time Resulting from Pandemic

Code	Count (N)	% All Codes	Interview Count	% All Interviews
More Telehealth Options	5	0.5%	4	23.5%
Higher Prevalence Mental Health Issues	3	0.3%	3	17.6%
Worsening Insurance Coverage for Vaccines	3	0.3%	1	5.9%
Exodus of Healthcare Workers	3	0.3%	1	5.9%
Healthcare Workforce Burnout	2	0.2%	2	11.8%
Less In-Person Enrollment Options	2	0.2%	2	11.8%
Clinics Stocking Less Vaccines	2	0.2%	1	5.9%
Online MO HealthNet Portal	1	0.1%	1	5.9%
Less In-Person Connection	1	0.1%	1	5.9%
More Communication Between Social Service Orgs.	1	0.1%	1	5.9%
Higher Cost of Living	1	0.1%	1	5.9%
Less Ads About Medicaid	1	0.1%	1	5.9%
Increased Burden on Already Failing System	1	0.1%	1	5.9%
Doing Away with Valet Parking	1	0.1%	1	5.9%
Less Knowledge of How to Navigate System	1	0.1%	1	5.9%

Less Communication from Medicaid Case Workers	1	0.1%	1	5.9%
Higher Prevalence of Substance Use	1	0.1%	1	5.9%

Figure 15: Graph of Changes Over Time Resulting from Pandemic

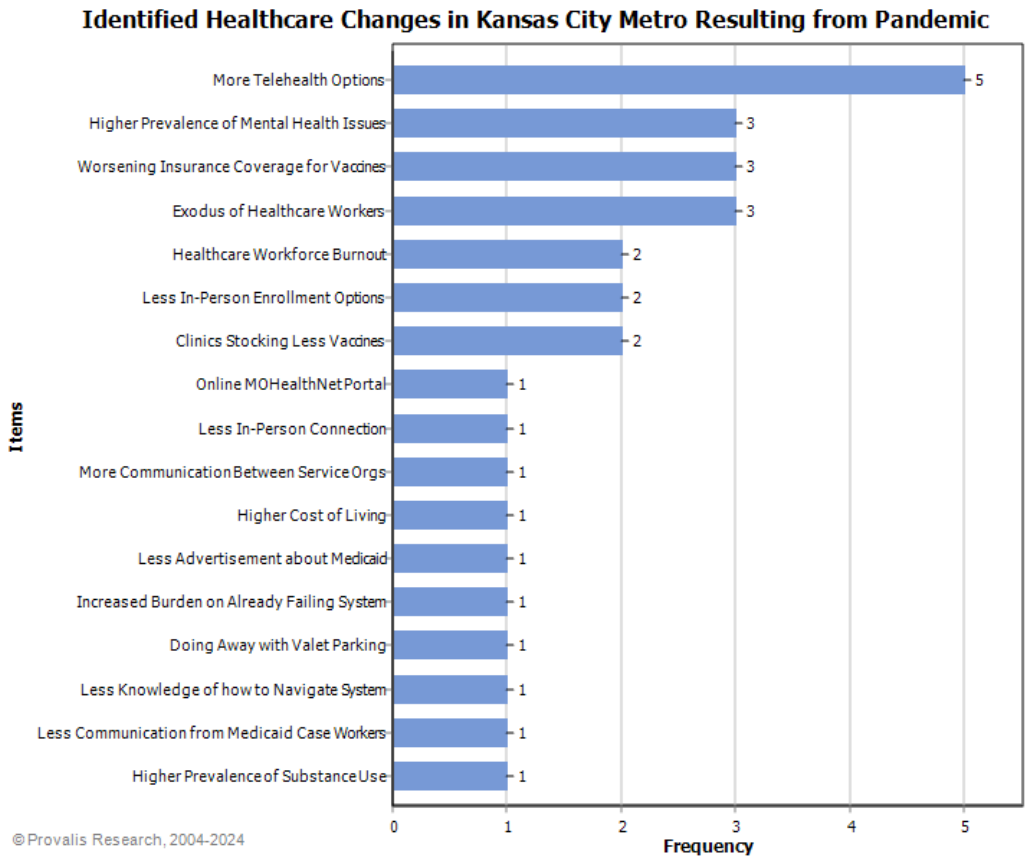


Figure 16: What Participants Wish Was More Available for Clients

Code (Top 10)	Count (N)	% All Codes	Interview Count	% All Interviews
Prevention Mindset Rather than Treatment	6	0.6%	6	35.3%
Better Transportation	3	0.3%	2	11.8%
More Rent/Utilities/Housing Assist.	3	0.3%	3	17.6%
Home Caseworker Visits	2	0.2%	2	11.8%
Easily Navigable Medicaid System	2	0.2%	2	11.8%
More Healthy Food Access	2	0.2%	2	11.8%
More Providers	1	0.1%	1	5.9%
In-Person Admin Help for Medicaid	1	0.1%	1	5.9%
More Health Dept. Resources In-House	1	0.1%	1	5.9%
Healthcare Viewed as Basic Human Right	1	0.1%	1	5.9%

Figure 17: Word Map of what Participants Wish was More Available for Clients

Figure 18: Allied Health Supports Most Useful in Improving Patient Health Outcomes

Code	Count (N)	% All Codes	Interview Count	% All Interviews
More Community Health Workers/Case Managers	8	0.8%	6	35.3%
Mass Education on Available Resources/Benefits	3	0.3%	3	17.6%
Education on Living Healthy Lifestyle	3	0.3%	2	11.8%
Access to Stable Housing	2	0.2%	2	11.8%
Access to Reliable Transportation	2	0.2%	2	11.8%
Increased Teach-Back with Patients	1	0.1%	1	5.9%
More Advocacy for Patients	1	0.1%	1	5.9%
Case Management Home Visits	1	0.1%	1	5.9%
Ads for Medicaid Enrollment	1	0.1%	1	5.9%
Home Modification Assistance	1	0.1%	1	5.9%
Home Health Visits for Patients	1	0.1%	1	5.9%
Connection to Necessary Resources	1	0.1%	1	5.9%
Community Outreach Events	1	0.1%	1	5.9%

Figure 19: Graph of Allied Health Supports Most Useful in Improving Patient Health Outcomes

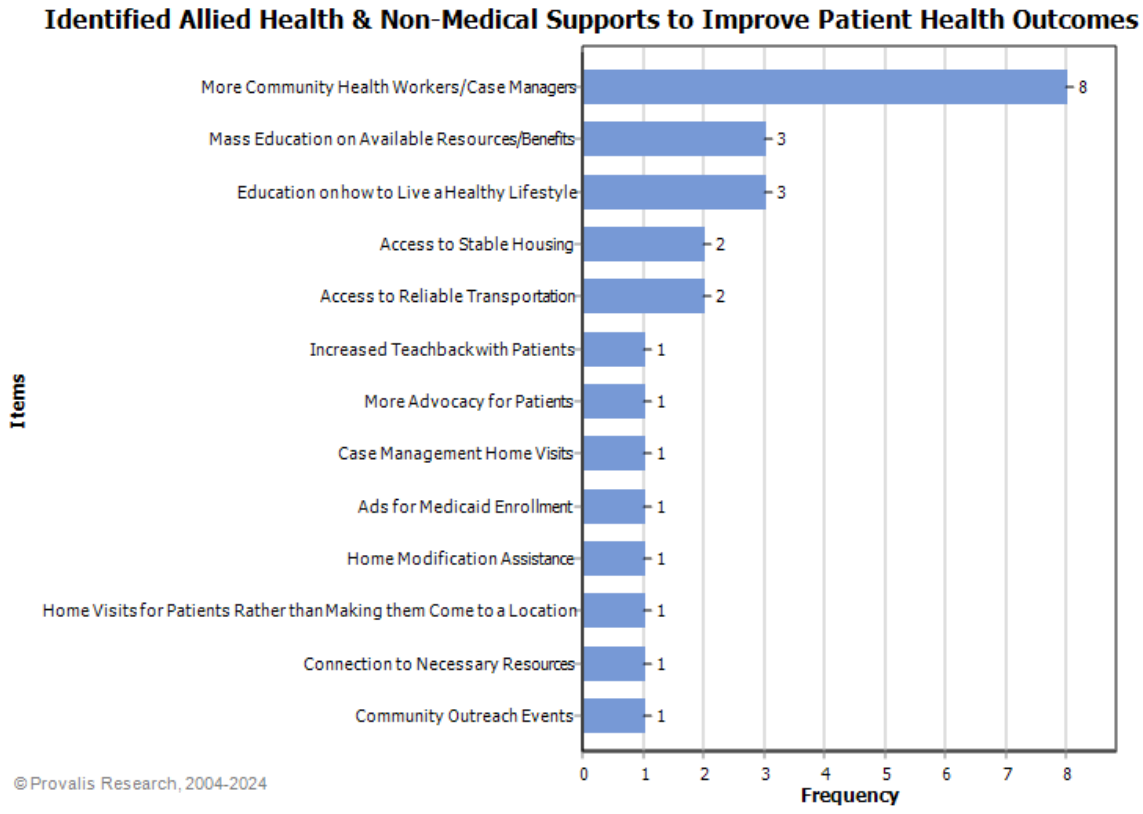


Figure 20: Changes if No Barriers Existed

Code	Count (N)	% All Codes	Interview Count	% All Interviews
Universal Healthcare	7	0.7%	7	41.2%
Insurance not Dictating Care	3	0.3%	3	17.6%
Universal Transportation	2	0.2%	2	11.8%
Supportive Community	2	0.2%	2	11.8%
Better Health Education/Knowledge	2	0.2%	2	11.8%
Assistance for Anyone in Need	1	0.1%	1	5.9%
More Psychiatric Facilities	1	0.1%	1	5.9%
More Mental Health Crisis Care	1	0.1%	1	5.9%
Collaboration Across Orgs.	1	0.1%	1	5.9%
No Loss to Follow-Up	1	0.1%	1	5.9%
More Clinics in Underserved Areas	1	0.1%	1	5.9%
Specialty Care Access for All Patients	1	0.1%	1	5.9%
Care Modeled After Mayo Clinic Efficiency	1	0.1%	1	5.9%
Health Workers Open to Growth/Improvement	1	0.1%	1	5.9%
More Caring Health Workers	1	0.1%	1	5.9%

Figure 21: Graph of Changes if No Barriers Existed

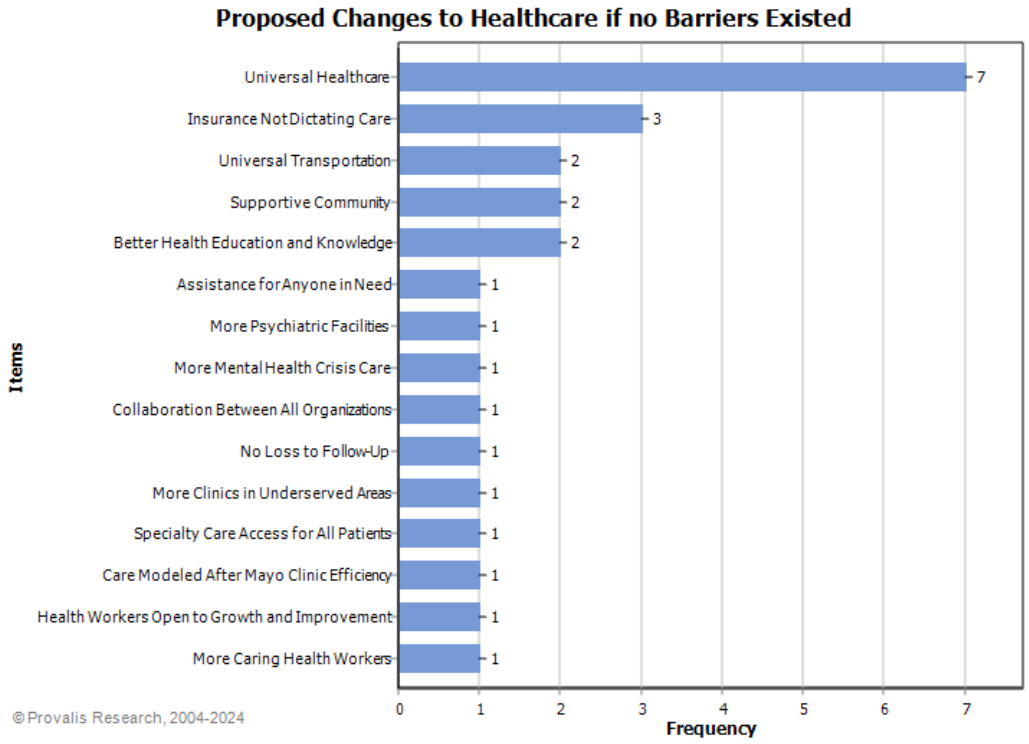
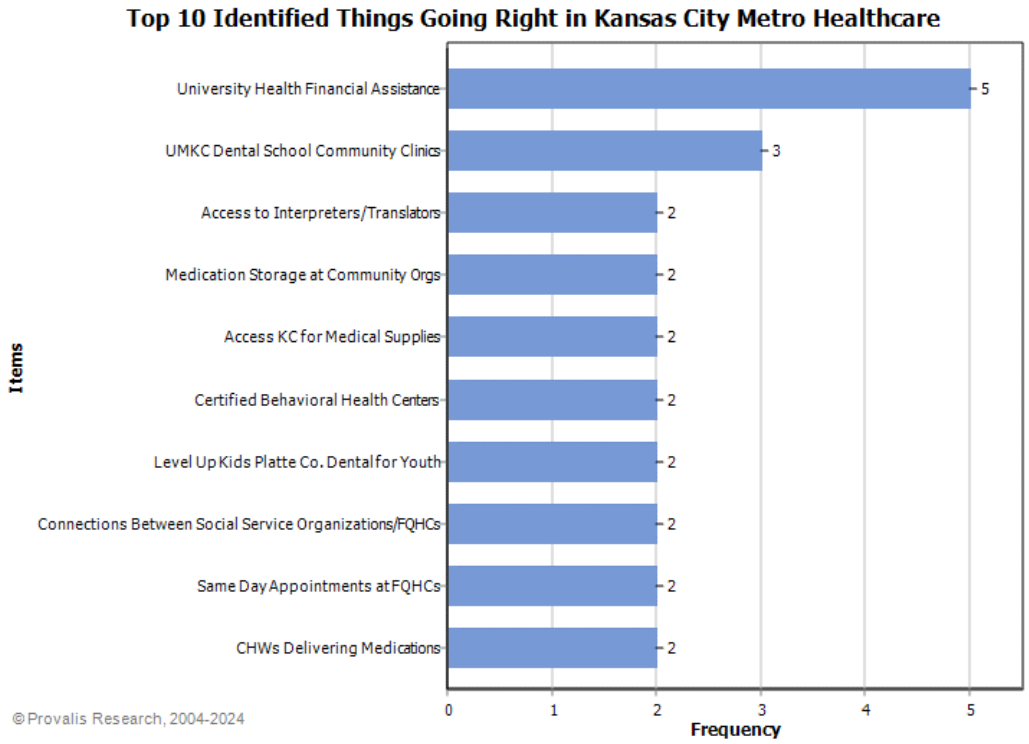


Figure 22: Things Going Right in Kansas City Metro Healthcare

Code (Top 11)	Count (N)	% All Codes	Interview Count	% All Interviews
University Health Financial Assistance	5	0.5%	4	23.5%
UMKC Dental School Community Clinics	3	0.3%	3	17.6%
Access to Interpreters/Translators	2	0.2%	2	11.8%
Medication Storage at Community Orgs.	2	0.2%	2	11.8%
Access KC for Medical Supplies	2	0.2%	2	11.8%
Certified Behavioral Health Centers	2	0.2%	2	11.8%
Level Up Kids Platte Co. Dental Services	2	0.2%	2	11.8%
Connections Between Social Service Orgs. and FQHCs	2	0.2%	2	11.8%
Same Day Appointments at FQHCs	2	0.2%	2	11.8%
Community Health Workers Delivering Meds	2	0.2%	2	11.8%

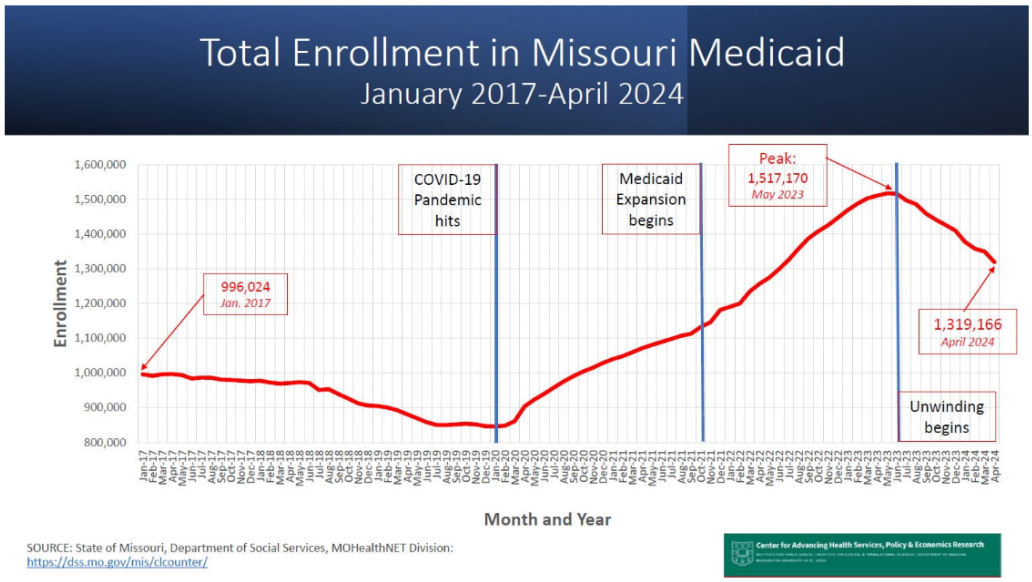
Figure 23: Graph of Things Going Right in Kansas City Metro Healthcare



APPENDIX (Tables and Figures)

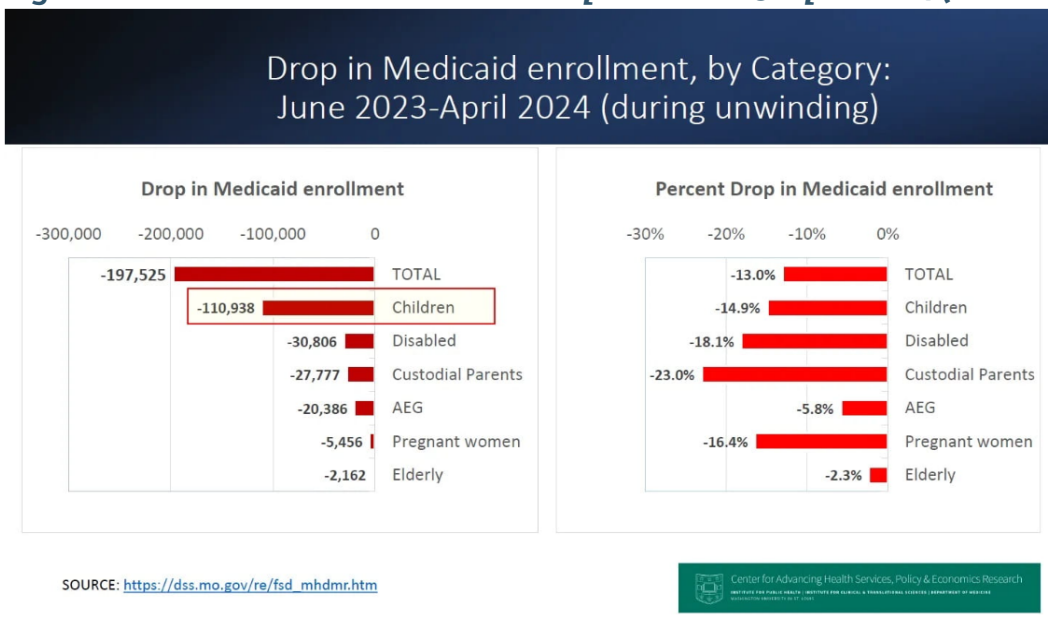
Policy Review

Figure 1: Total Enrollment in Missouri Medicaid January 2017-April 2024



Source: McBride, 2024

Figure 2: MO Medicaid Enrollment Drops June 2023-April 2024 (Unwinding)



Source: McBride, 2024

Figure 3: Jackson County Medicaid Enrollment Over Time

Date	Jan 2021	Oct 2021	May 2023	April 2024	Oct 2024

Medicaid Enrollment Count	131,923	146,447	196,487	169,646	163,083
Medicaid Enrollment % of Population	19.3%	21.4%	28.7%	24.8%	23.8%

Source: Washington University, 2024

Figure 4: Jackson County Uninsured Population over Time

Year	**2021**	**2022**	**2023**
Uninsured Count	85,747	72,787	68,699
Uninsured % of Population	12.1%	10.2%	9.6%

Source: U.S. Census Bureau, American Community Survey, 2024

Figure 5: Clay County Medicaid Enrollment over Time

Date	**Jan 2021**	**Oct 2021**	**May 2023**	**April 2024**	**Oct 2024**
Medicaid Enrollment Count	27,915	31,734	43,839	37,996	36,212
Medicaid Enrollment % of Population	11.7%	13.3%	18.3%	15.9%	15.1%

Source: Washington University, 2024

Figure 6: Clay County Uninsured Population over Time

Year	2021	2022	2023
Uninsured Count	18,575	15,400	15,719
Uninsured % of Population	7.3%	6.0%	6.1%

Source: U.S. Census Bureau, American Community Survey, 2024

Figure 7: Platte County Medicaid Enrollment over Time

Date	Jan 2021	Oct 2021	May 2023	April 2024	Oct 2024
Medicaid Enrollment Count	9,038	9,967	14,248	12,487	11,953

Medicaid Enrollment % of Population	9.1%	10.0%	14.3%	12.5%	12.0%

Source: Washington University, 2024

Figure 8: Platte County Uninsured Population over Time

Year	2021	2022	2023
Uninsured Count	8,327	9,280	5,003
Uninsured % of Population	7.8%	8.5%	4.5%

Source: U.S. Census Bureau, American Community Survey, 2024

Figure 9: Jackson County Uninsured by Age Group – ACS, 2023

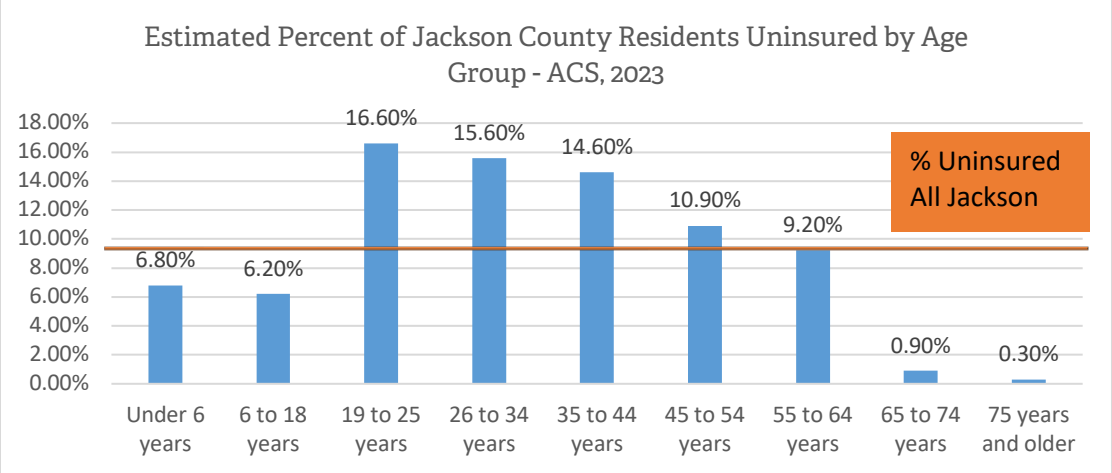


Figure 10: Jackson County Uninsured by Sex – ACS, 2023

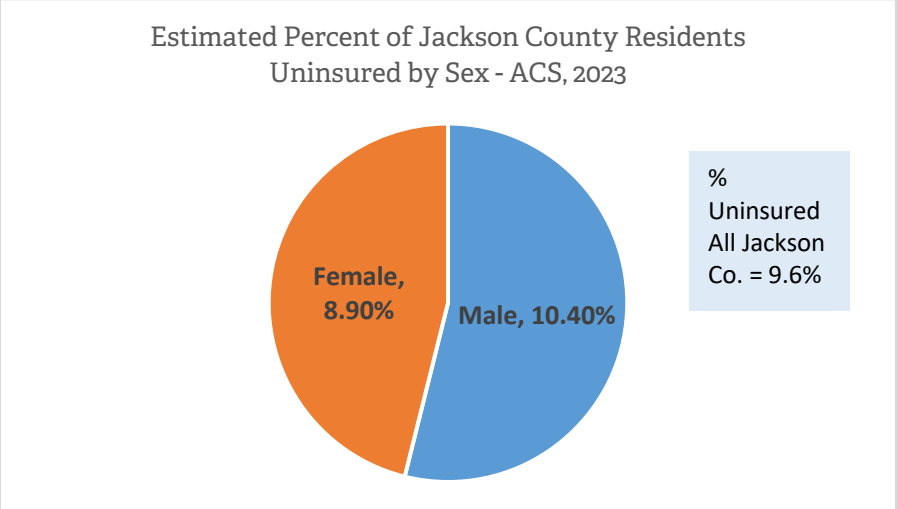


Figure 11: Jackson County Uninsured by Race/Ethnicity – ACS, 2023

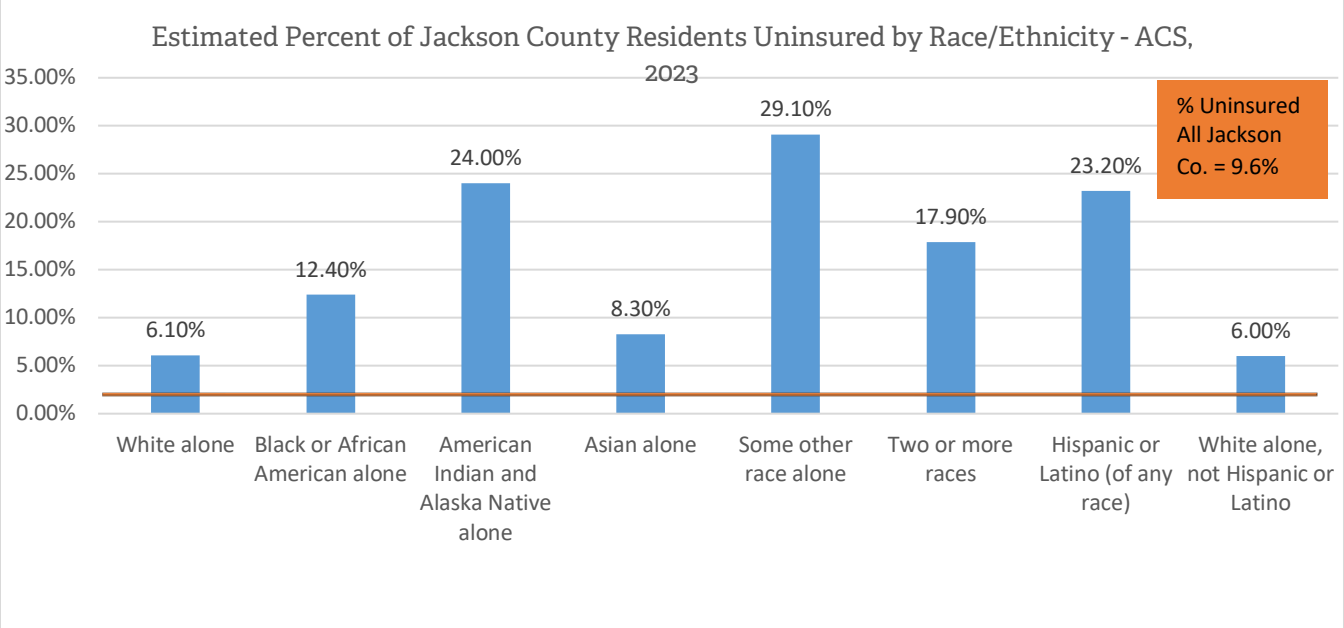


Figure 12: Jackson County Uninsured by Living Arrangement – ACS, 2023

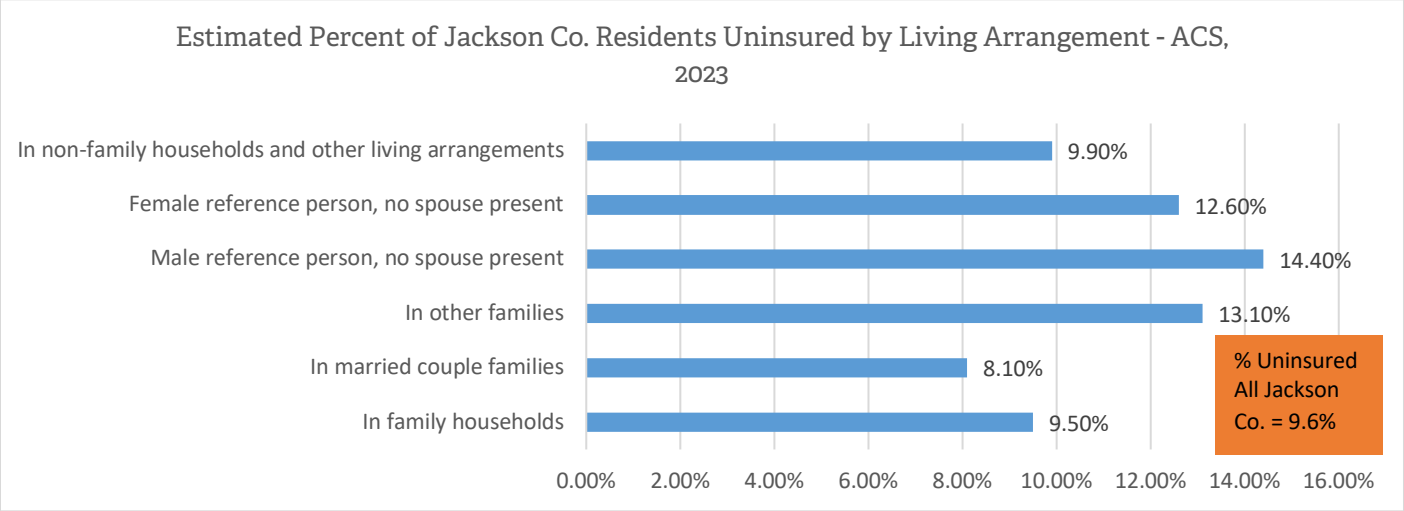


Figure 13: Jackson County Uninsured by Citizenship – ACS, 2023

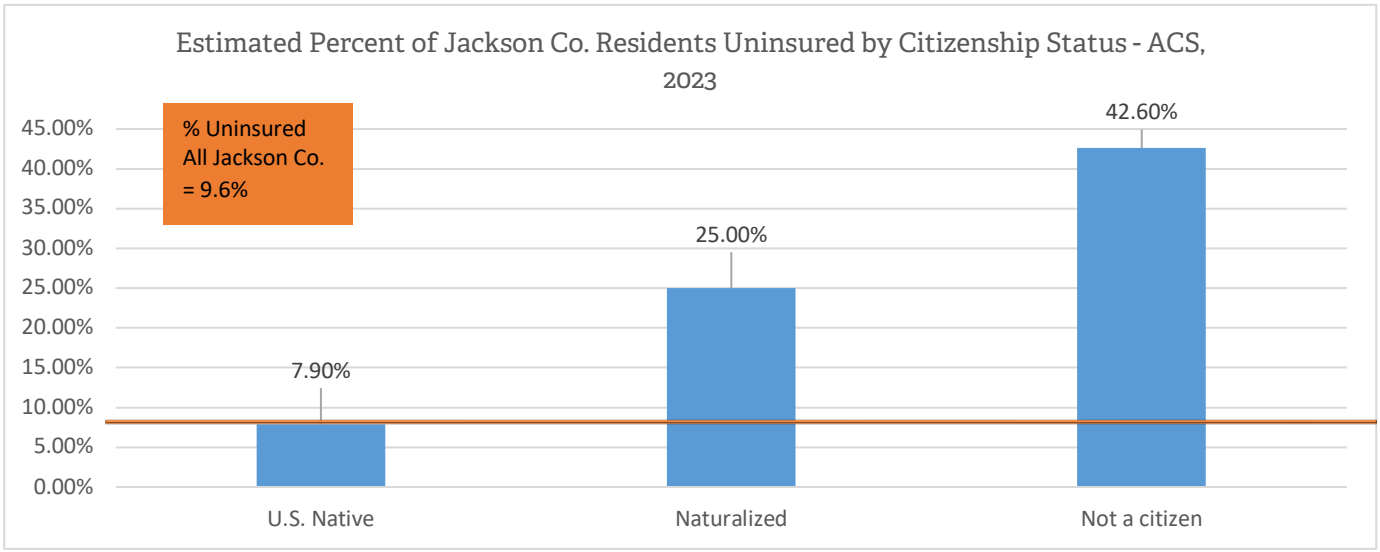


Figure 14: Jackson County Uninsured by Disability Status – ACS, 2023

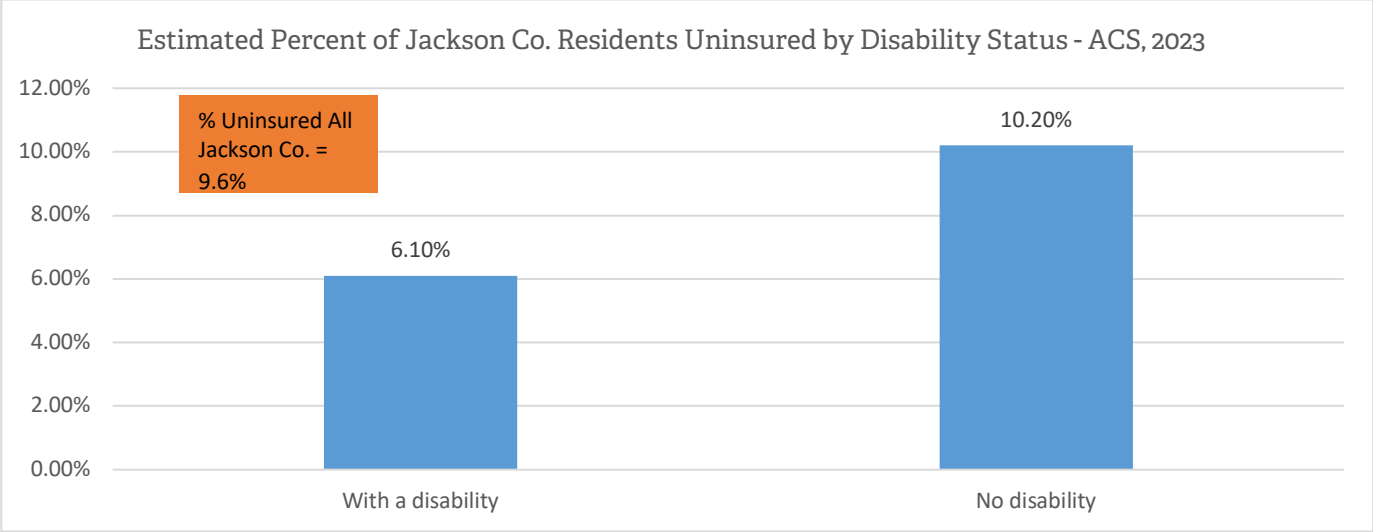


Figure 15: Jackson County Uninsured by Education Level – ACS, 2023

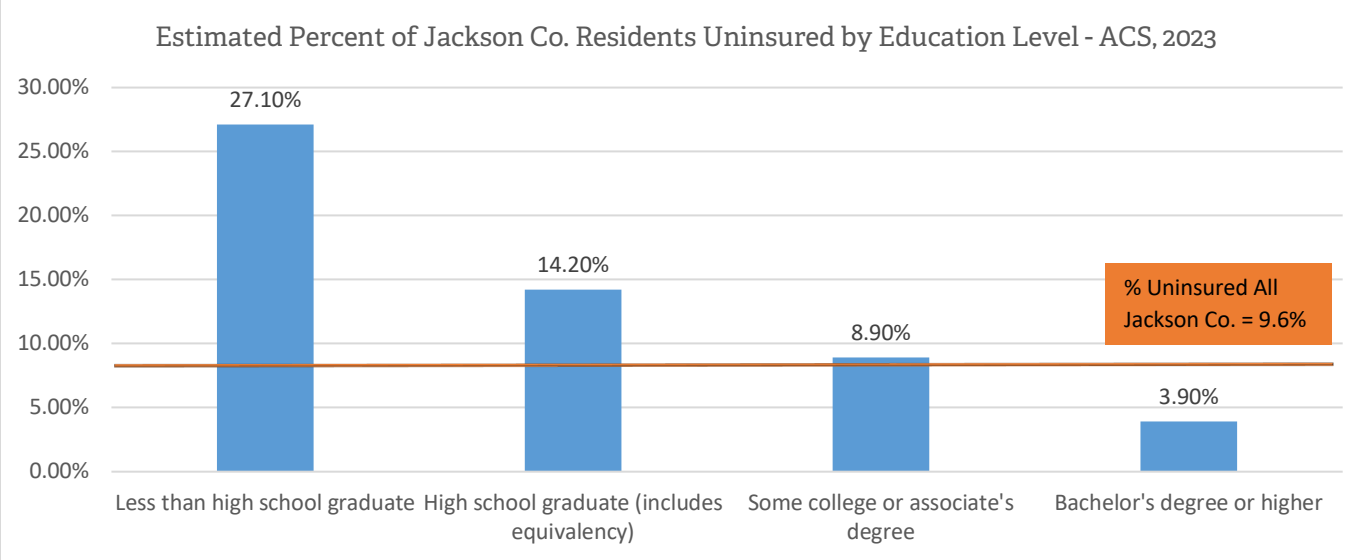


Figure 16: Jackson County Uninsured by Education Level – ACS, 2023

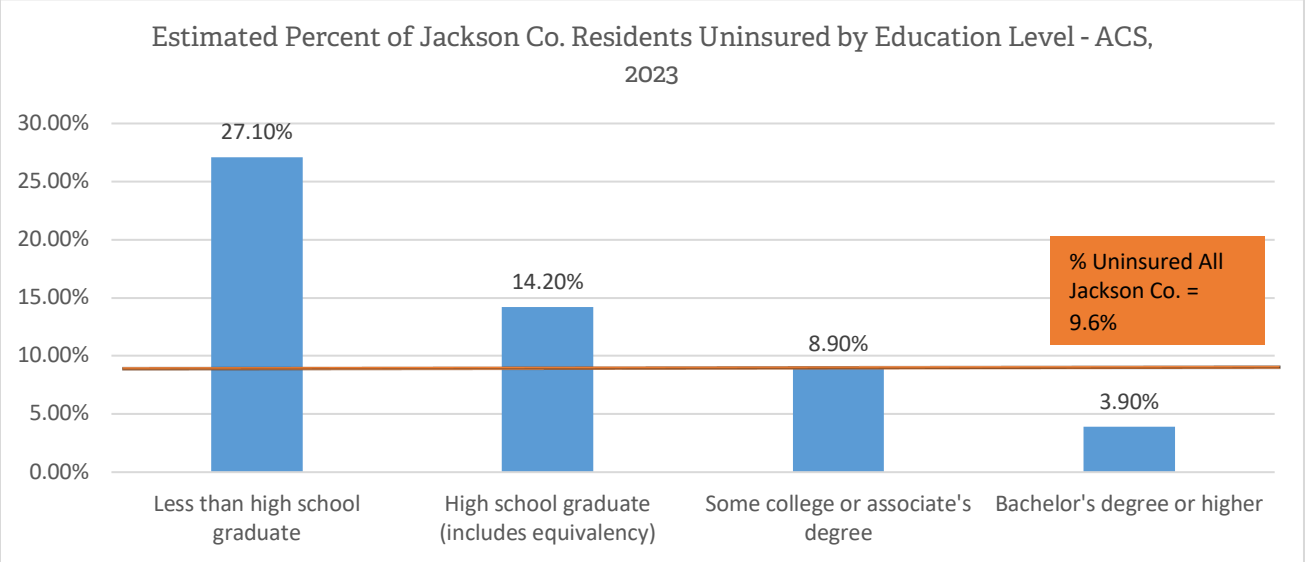


Figure 17: Jackson County Uninsured by Household Income – ACS, 2023

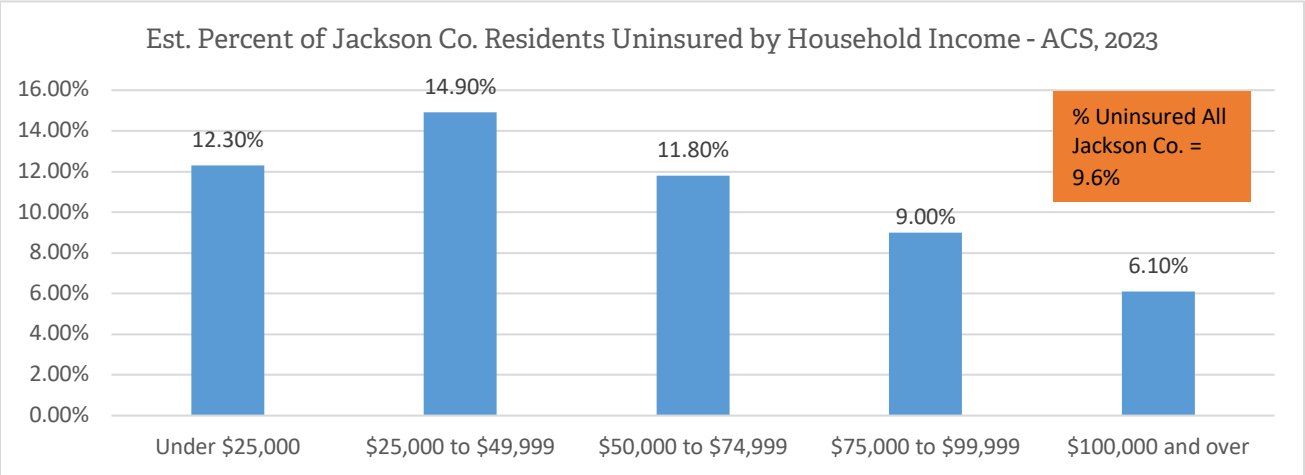


Figure 18: Jackson County Uninsured by Work Status – ACS, 2023

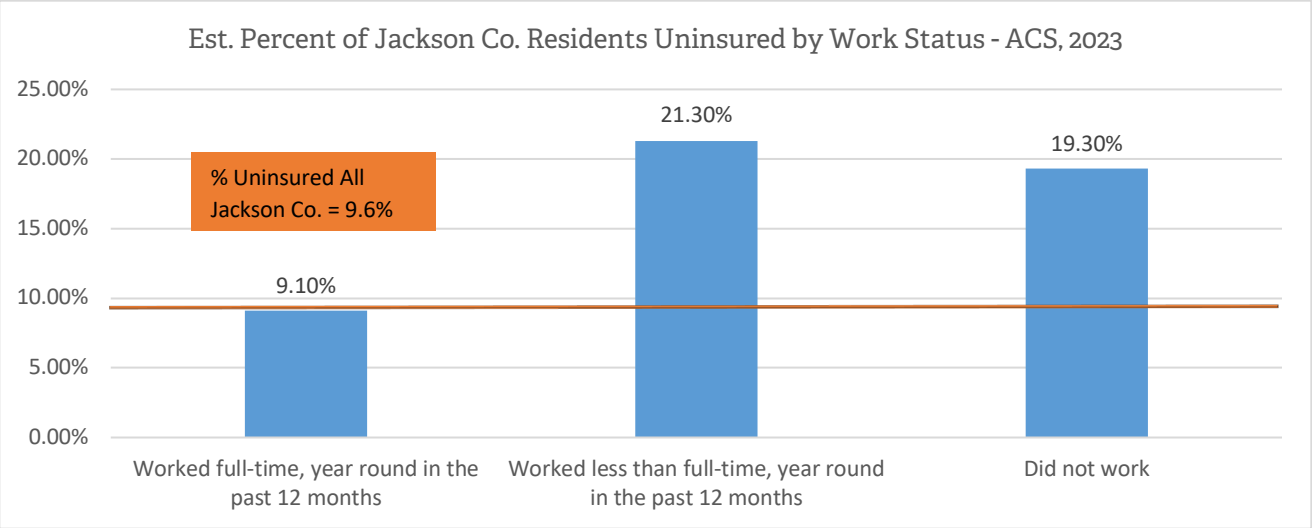


Figure 19: Platte County Uninsured by Age Group – ACS, 2023

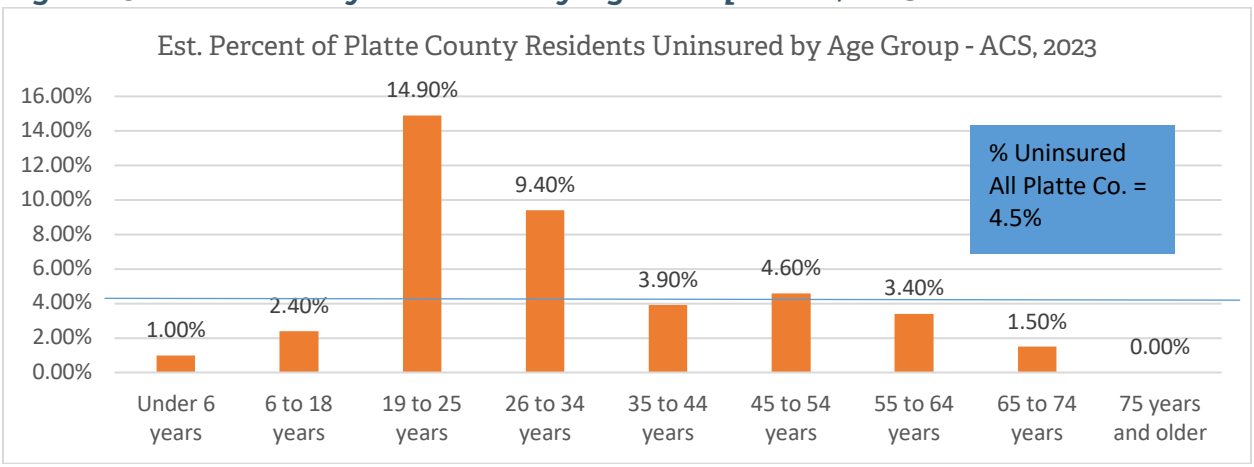


Figure 20: Platte County Uninsured by Sex – ACS, 2023

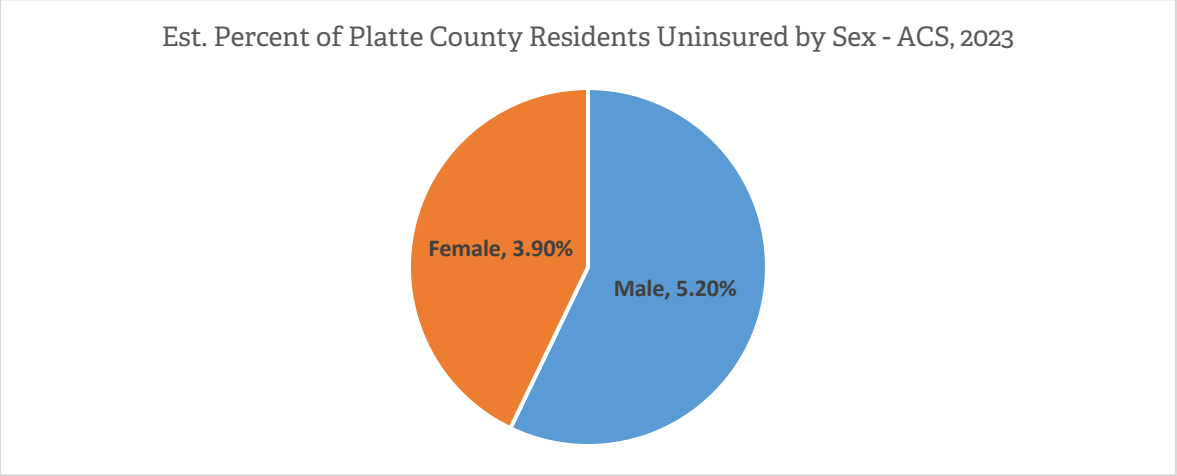


Figure 21: Platte County Uninsured by Race/Ethnicity – ACS, 2023

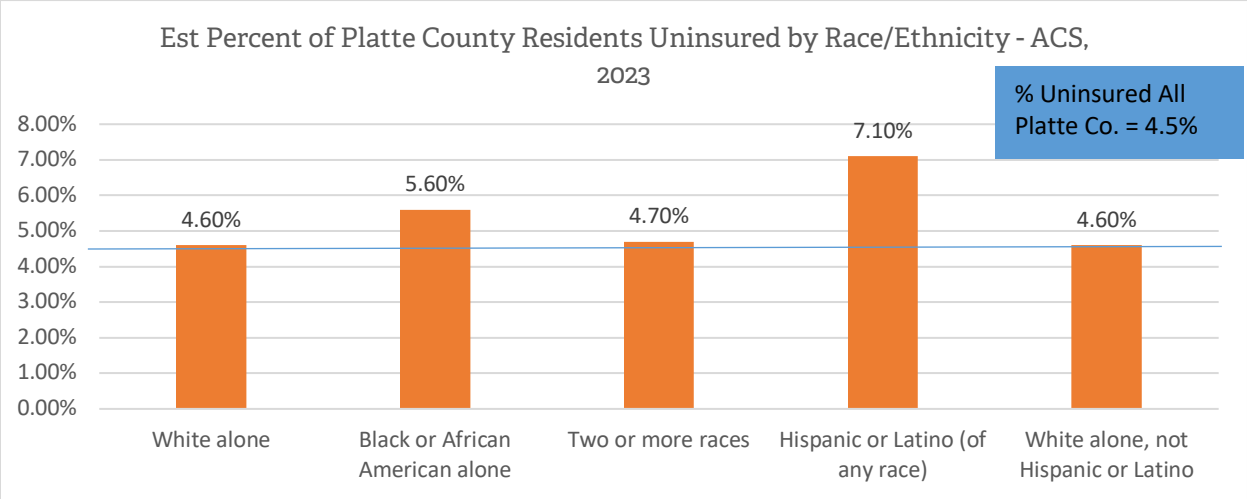


Figure 22: Platte County Uninsured by Living Arrangement – ACS, 2023

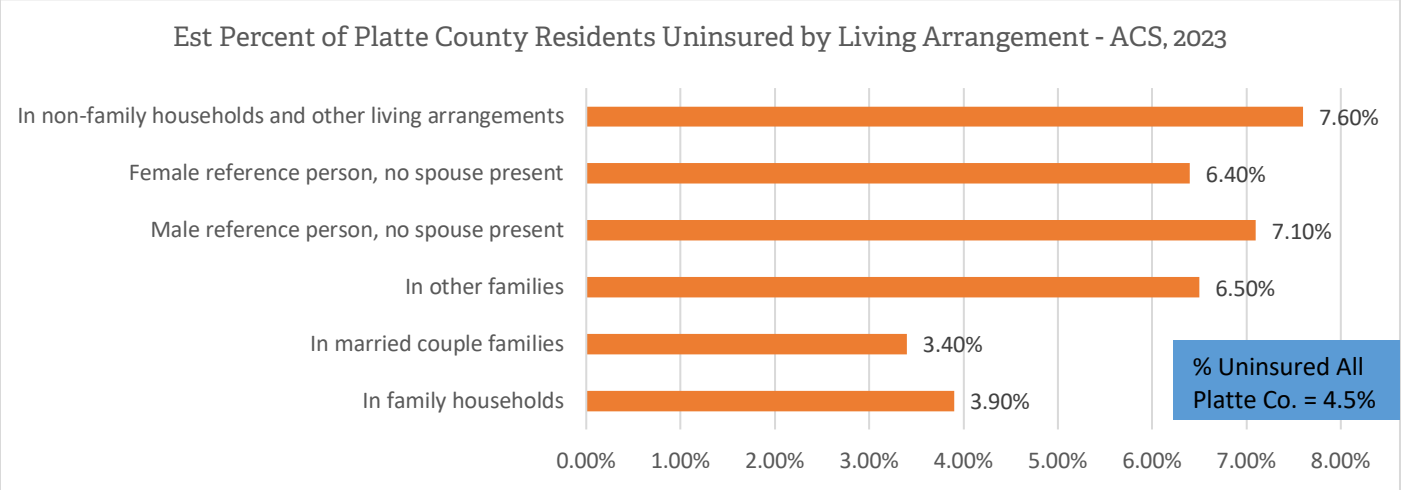


Figure 23: Platte County Uninsured by Citizenship Status – ACS, 2023

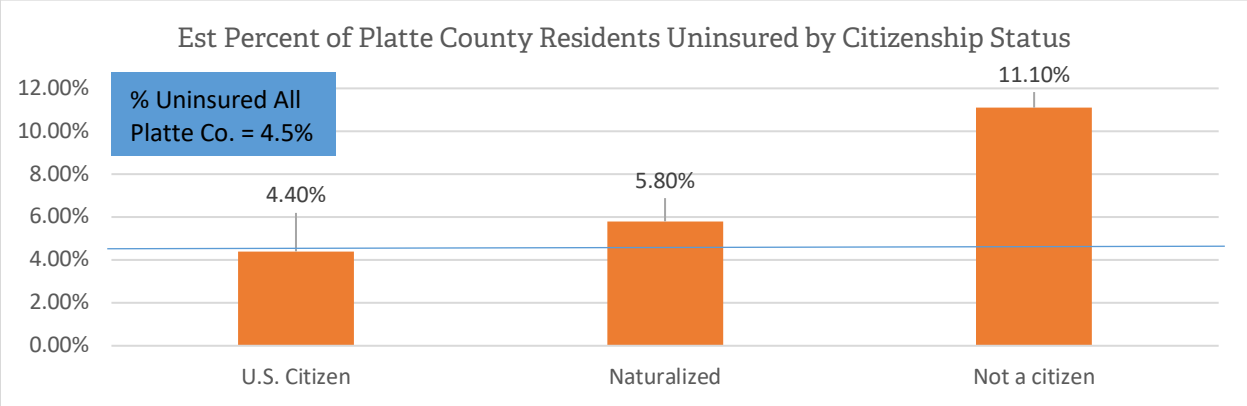


Figure 24: Platte County Uninsured by Disability Status – ACS, 2023

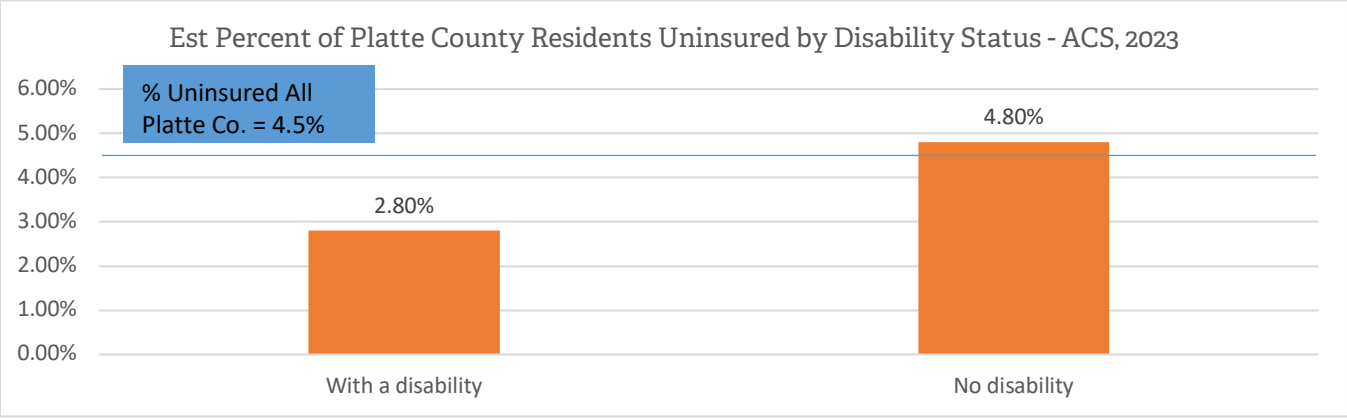


Figure 25: Platte County Uninsured by Household Income – ACS, 2023

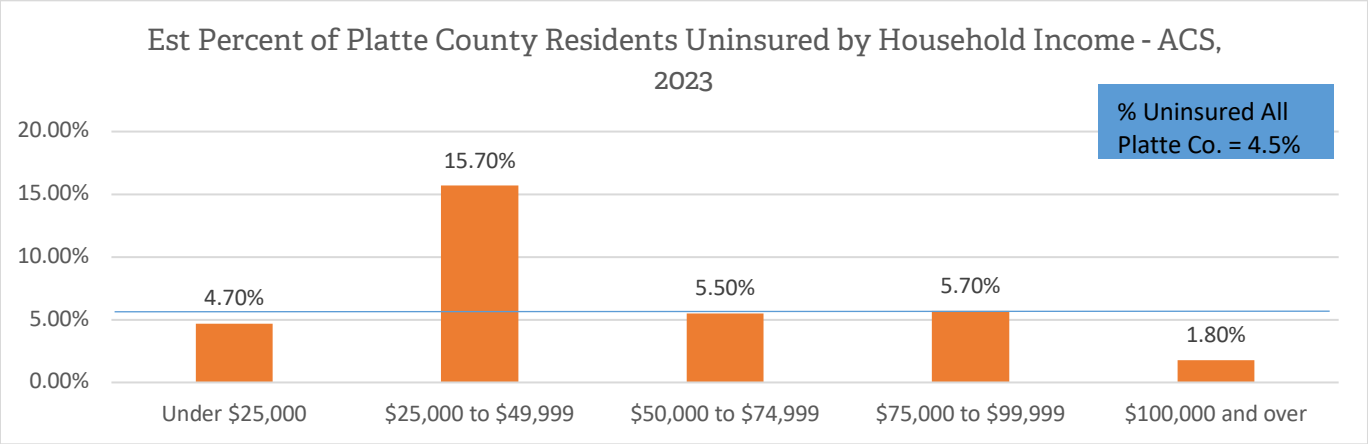


Figure 26: Jackson County Uninsured by Education Level – ACS, 2023

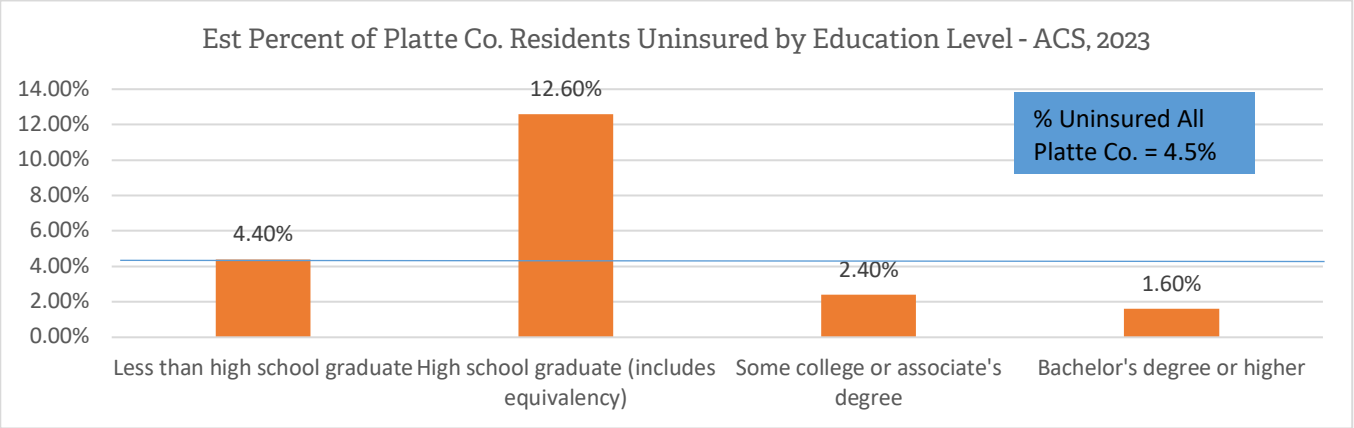


Figure 27: Platte County Uninsured by Work Status – ACS, 2023

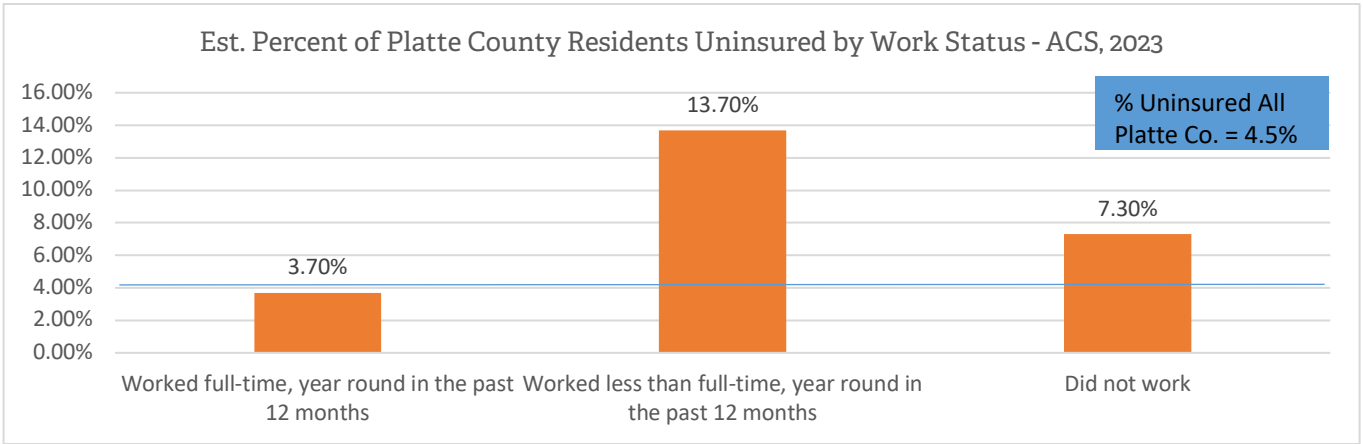


Figure 28: Clay County Uninsured by Age Group – ACS, 2023

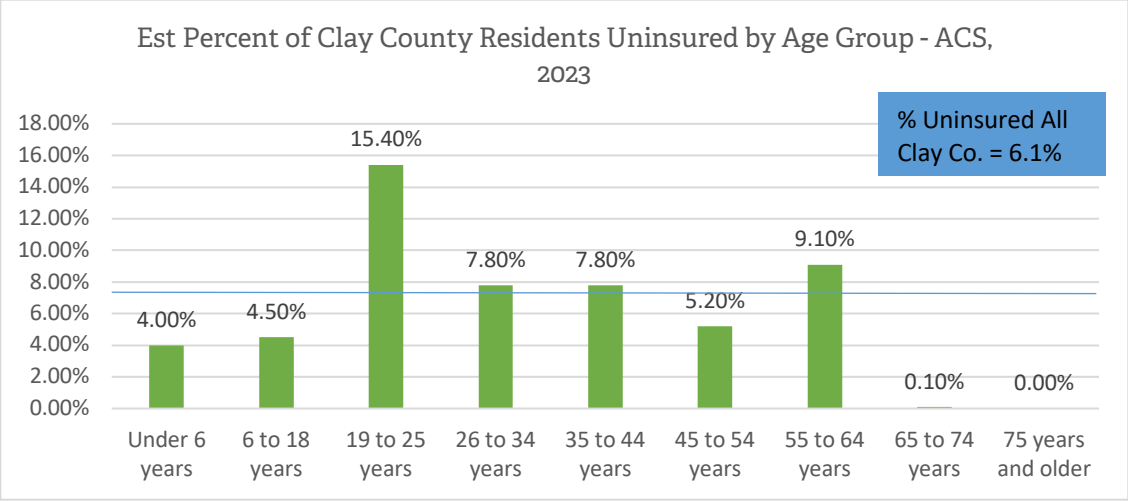


Figure 29: Clay County Uninsured by Sex – ACS, 2023

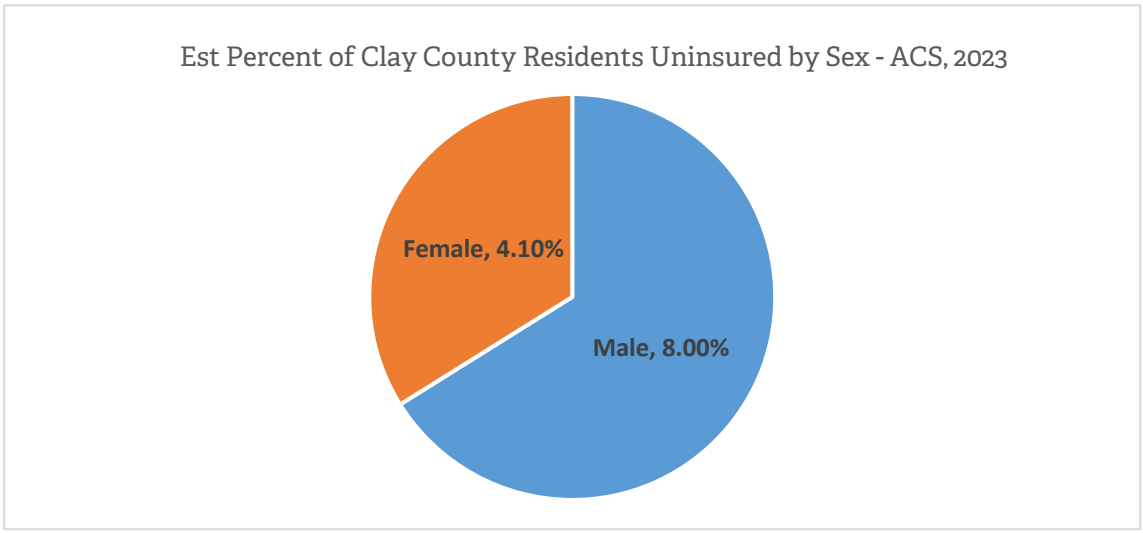


Figure 30: Clay County Uninsured by Disability Status – ACS, 2023

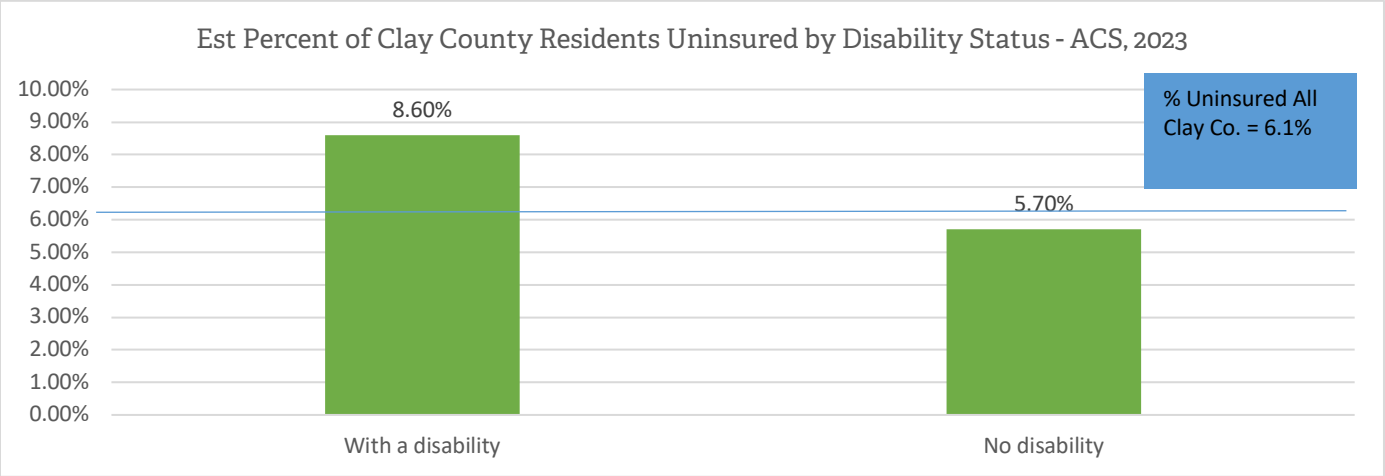


Figure 31: Clay County Uninsured by Race/Ethnicity – ACS, 2023

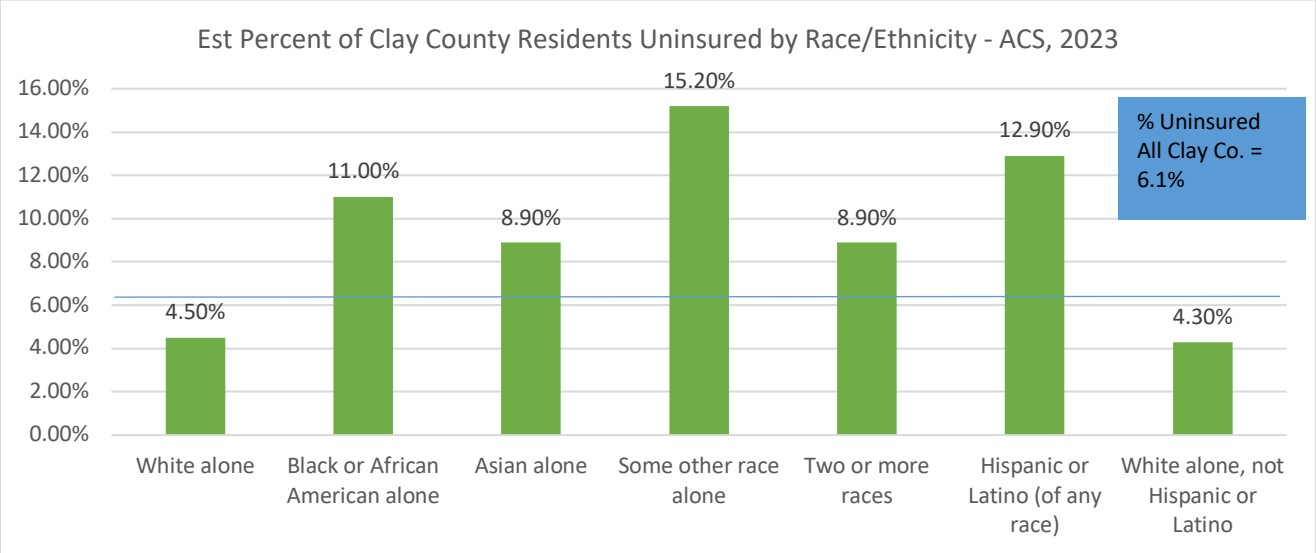


Figure 32: Clay County Uninsured by Citizenship Status – ACS, 2023

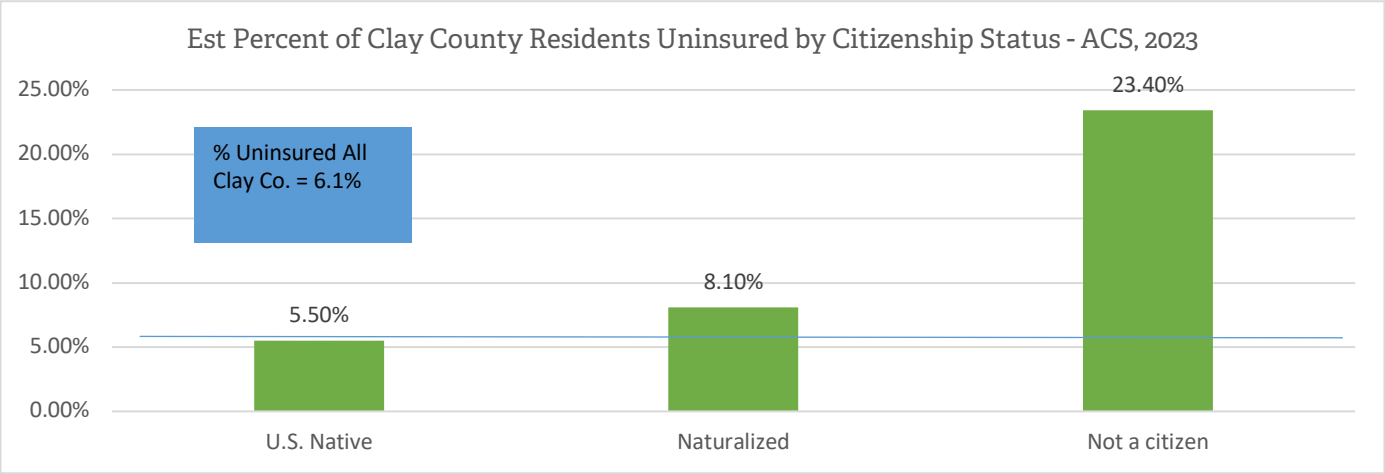


Figure 33: Clay County Uninsured by Race/Ethnicity – ACS, 2023

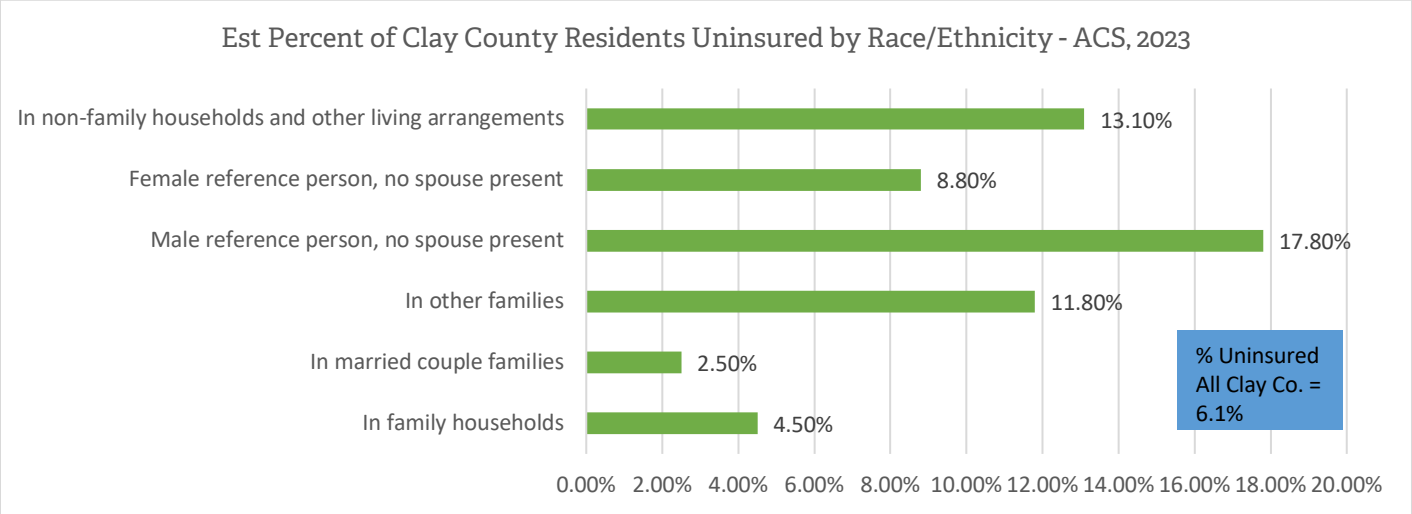


Figure 34: Clay County Uninsured by Work Status – ACS, 2023

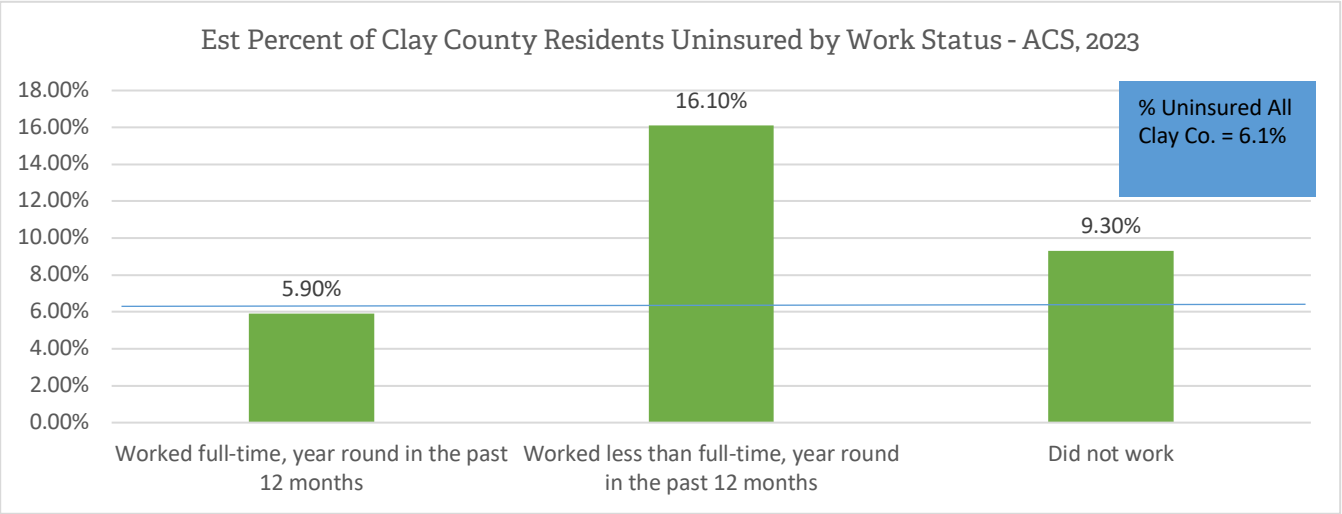


Figure 35: Clay County Uninsured by Education Level – ACS, 2023

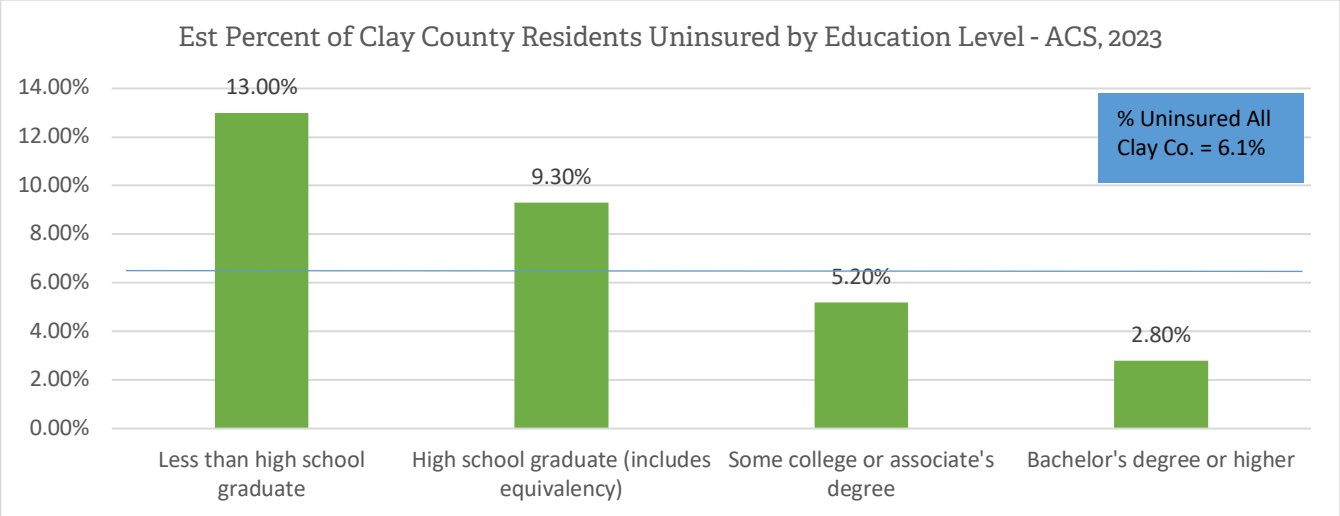


Figure 36: Clay County Uninsured by Household Income – ACS, 2023

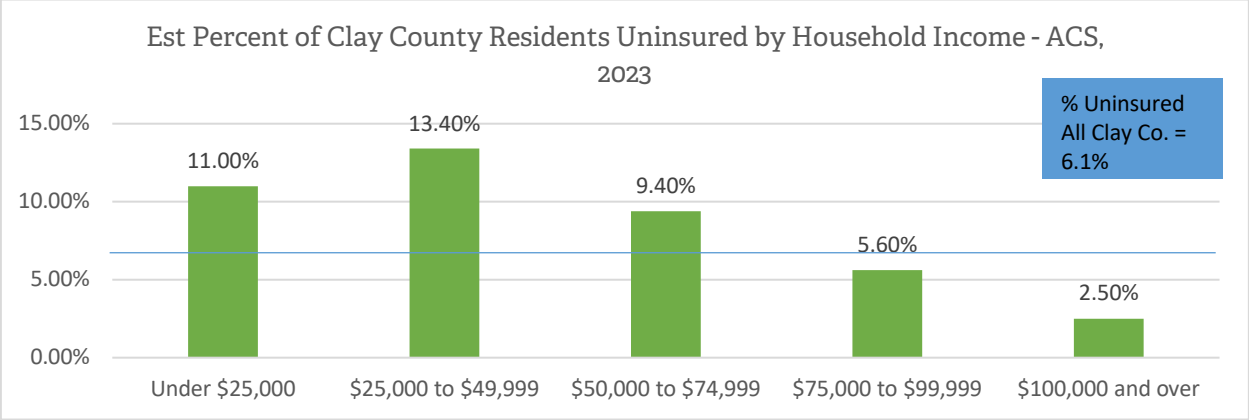
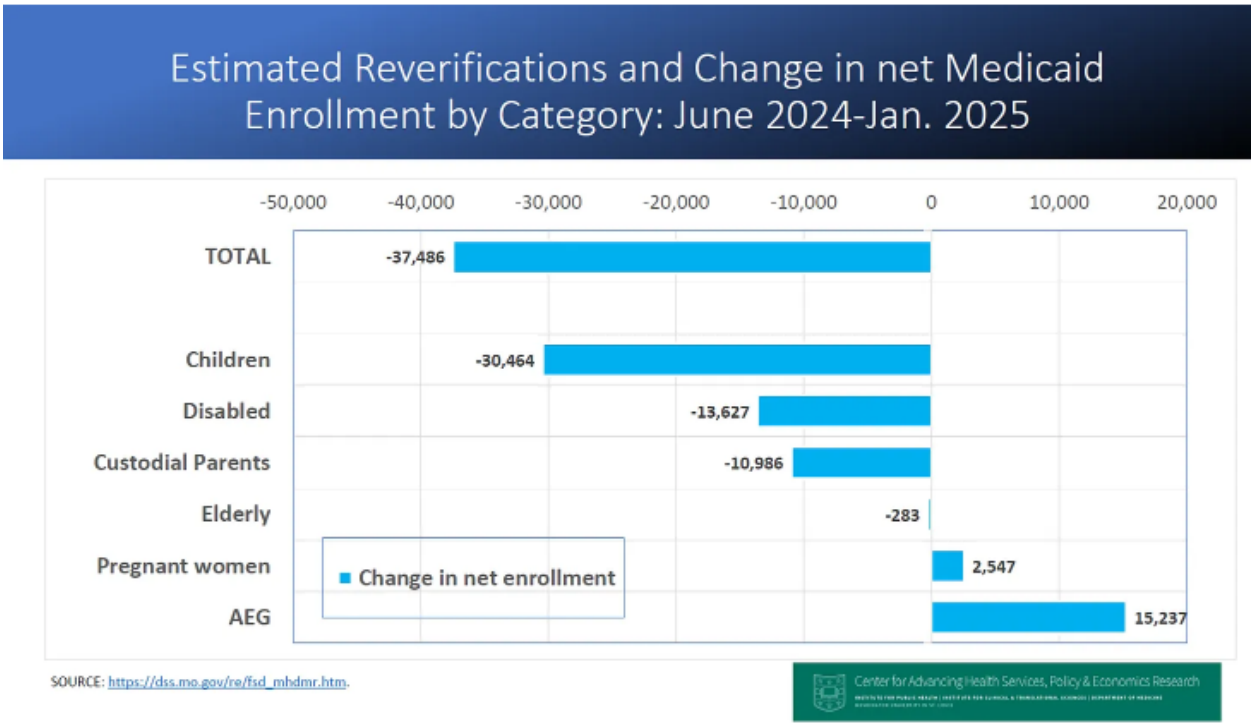
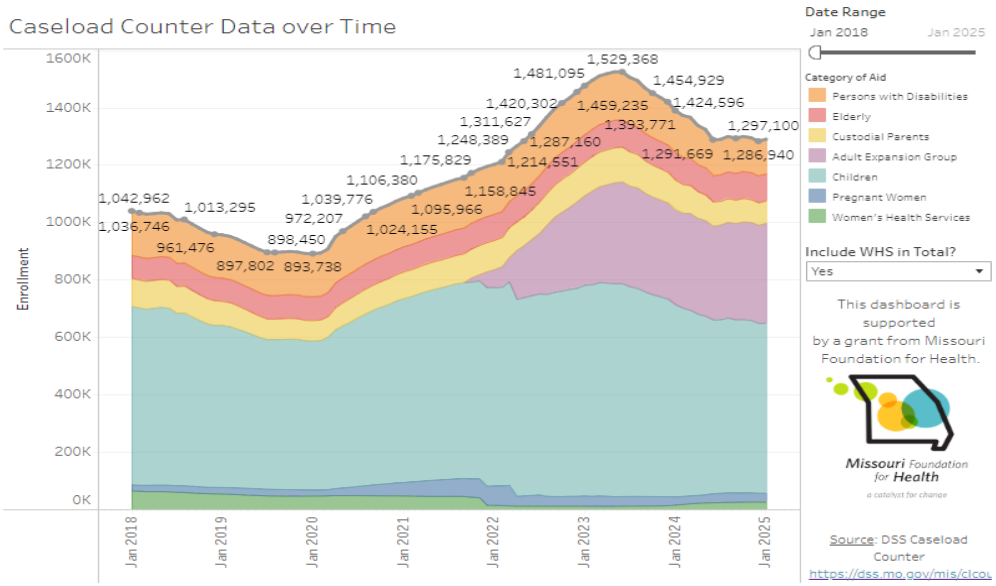


Figure 37: Est. Reverifications and Change in Medicaid Enrollment – June 2024-January 2025



Source: Washington University, 2025

Figure 38: Medicaid Caseload by Category – January 2018-January 2025



Source: Washington University, 2025