



CY 2025 Population Health Report

Kalamazoo

Southwest Michigan Behavioral Health

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1. Introduction

Southwest Michigan Behavioral Health (SWMBH) developed this Population Health Analysis to examine the health characteristics and healthcare utilization of Medicaid enrollees in Kalamazoo County. The report primarily evaluates calendar year 2025 data while incorporating trend and historical analyses from 2022 through 2025 where appropriate. Areas of focus include demographic characteristics, behavioral and chronic health conditions, multimorbidity, healthcare utilization, prescribing patterns, and healthcare quality measures.

Medicaid populations may experience complex physical, behavioral, and social health needs that influence healthcare utilization and outcomes. By examining diagnoses, utilization, and quality measures together, this report provides a broader view of population health and helps identify patterns and populations that may warrant additional attention, planning, or quality improvement efforts.

Data sources include Medicaid enrollment and encounter records for medical, behavioral health, and pharmacy services for residents of Kalamazoo County, made available to SWMBH by the State of Michigan. The Behavioral Health Treatment Episode Data Set (BH-TEDS) was also used to supplement living arrangement information for individuals receiving PIHP- or CMH-funded services.

Behavioral health and chronic physical health conditions were organized into broader diagnosis groups to examine disease prevalence, multimorbidity, and associations with healthcare utilization. Utilization analyses include inpatient hospitalizations and emergency department visits, while quality and prescribing analyses examine preventive care measures and medication use. Results are stratified by demographic characteristics, including age, sex, race and ethnicity, and Medicare-Medicaid dual eligibility, to identify populations with elevated health needs and potential disparities.

Relias's Population Performance platform was used to support analyses of healthcare quality measures and prescription patterns.

2. Key Findings

The following highlights summarize key findings from the 2025 Population Health Analysis. They are intended to provide a high-level overview of the most important population health patterns, trends, and areas for continued attention identified throughout the report. Additional detail and interpretation are provided in the sections that follow.

- **Kalamazoo County's Medicaid population became smaller in 2025 while a greater proportion of enrollees used healthcare services.** Enrollment declined from 76,181 in 2024 to 68,218 in 2025, while the percentage receiving at least one Medicaid service increased from 76.9% to 80.4%. The percentage receiving PIHP/CMH-funded services also increased to 11.4%. These patterns may reflect a smaller Medicaid population with greater and more complex healthcare needs.
- **Behavioral health needs increased in Kalamazoo County and were higher than in the rest of the SWMBH region.** Behavioral health diagnosis prevalence increased from 31.1% in 2024 to 34.2% in 2025, and Kalamazoo County had a significantly higher overall behavioral health diagnosis rate than the rest of the region. Anxiety, depression, adjustment disorder, trauma-related diagnoses, bipolar disorder, schizophrenia/psychosis, IDD, and OCD were also significantly more prevalent. The increase in behavioral health diagnoses was also evident among enrollees present in both 2024 and 2025.
- **Housing instability and other social needs were associated with greater acute-care utilization.** Among PIHP/CMH-served enrollees with recorded living arrangement information, 11.5% were identified as unhoused compared with 4.4% in the rest of the region, while independent living was substantially lower. Documented Social Determinants of Health were also strongly associated with inpatient hospitalization, suggesting that social and economic needs may help identify individuals at elevated risk for acute-care utilization.
- **Behavioral and physical health needs frequently overlapped, and greater health complexity was associated with substantially higher acute-care utilization.** Chronic physical health conditions commonly occurred alongside behavioral health diagnoses, reinforcing the importance of considering physical and behavioral health needs together rather than treating them as separate populations or service needs.
- **Individuals with SMI/SED and SUD consistently experienced elevated behavioral health and medical acute-care utilization.** In 2025, individuals with SMI/SED had the highest average medical inpatient utilization at 3.65 days per enrollee, while average inpatient utilization among individuals with SUD increased from 1.86 days in 2022 to 2.70 days in 2025. Age-stratified analyses showed that elevated medical ED and inpatient utilization persisted across much of adulthood, indicating that these differences were not explained by age alone.
- **A small portion of the ever-diagnosed population accounted for particularly high levels of acute-care utilization.** The Complex Behavioral Health and High Chronic Complexity groups represented only 9.9% of the ever-diagnosed population but had the highest acute-care utilization. Complex Behavioral Health had 3,014 ED

visits and 4,580 inpatient events per 1,000 person-years, while High Chronic Complexity had 2,122 ED visits and 4,435 inpatient events per 1,000 person-years. These groups may represent important populations for care coordination, crisis prevention, and strategies addressing co-occurring behavioral and physical health needs.

- **Medication-management measures and pharmacy indicators identified opportunities for additional monitoring and care coordination.** Kalamazoo County performed below the SWMBH regional rate on both adult disease-management measures examined. Adults triggering at least one pharmacy quality indicator had 5.34 times the overall hospitalization risk of adults triggering none, while children and adolescents triggering at least one indicator had 3.52 times the risk. These indicators may provide useful opportunities for targeted medication review and care coordination, although the observed associations do not establish that medication-related concerns caused hospitalization.

3. Who is in the Study

The total Kalamazoo County Medicaid population in 2025 included 68,218 unique enrollees with full Medicaid or Health Michigan Plan benefits at some point during the one-year report period. Individuals enrolled with unmet spenddown or with coverage limited to maternal services or emergency services only were excluded. Individuals were included regardless of the number of months they were enrolled during the year.

Each enrollee was assigned to their most recent Medicaid county during 2025. As a result, county-level counts reflect an individual's latest county of enrollment rather than all counties in which they may have been enrolled during the year.

Of those enrolled, 80.4% had at least one Medicaid service during 2025, and 11.4% received at least one PIHP- or CMH-funded service. Enrollees were covered for an average of 9.6 months during the report period.

As shown in Table 1, total Medicaid enrollment declined from 76,181 in 2024 to 68,218 in 2025. At the same time, the percentage of enrollees receiving at least one Medicaid service increased from 76.9% to 80.4%. The percentage receiving PIHP/CMH-funded services also continued to increase, rising from 9.1% in 2022 to 11.4% in 2025. These patterns provide important context for interpreting changes in diagnosis prevalence and healthcare utilization later in the report.

Table 1: Enrollment and Service Utilization, 2022-2025 - Kalamazoo County			
Year	Total Enrollees	1+ Medicaid Service	1+ CMH/PIHP Service
2022	76,143	79.9%	9.1%
2023	81,126	78.0%	9.6%
2024	76,181	76.9%	10.9%
2025	68,218	80.4%	11.4%

Medicaid coverage varied across counties. Calhoun had the highest estimated Medicaid coverage rate at 35.8%, while Barry had the lowest at 20.8%. Berrien, Branch, Saint Joseph, and Van Buren each had coverage rates of approximately 30%. These differences provide additional context for interpreting county-level population health patterns throughout the report.

Unless otherwise specified, subsequent analyses in this report describe the Kalamazoo County Medicaid population defined above.

Table 2: County Population and Medicaid Coverage - CY 2025			
County	Medicaid Enrollees	Est. County Population	Medicaid Coverage Rate
Barry	13,333	63,991	20.8%
Berrien	46,972	152,444	30.8%
Branch	14,081	45,993	30.6%
Calhoun	47,743	133,408	35.8%
Cass	13,983	51,677	27.1%
Kalamazoo	68,218	263,795	25.9%
Saint Joseph	18,740	60,968	30.7%
Van Buren	23,356	76,071	30.7%

Estimated county population (total residents, not limited to Medicaid-eligible individuals) from U.S. Census Bureau county population estimates, CY 2025.

3.1. Distribution of Kalamazoo County Enrollees by Zip Code

The map below presents a heat map of the geographic distribution of the Kalamazoo County Medicaid cohort based on zip code of residence.

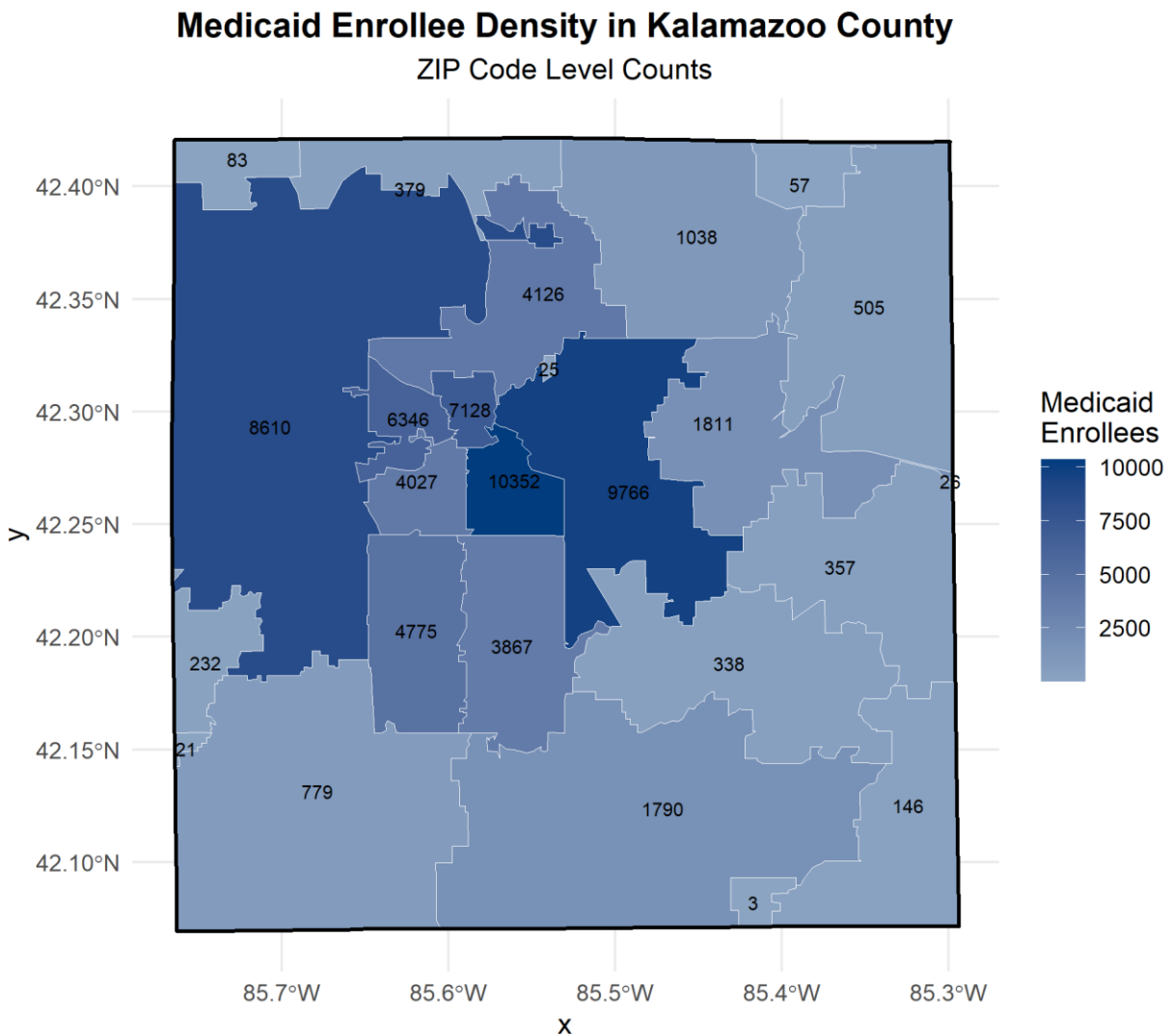


Figure 1: Count of CY 2025 Medicaid enrollees by zip code of address.

4. Population Characteristics

Understanding the demographic characteristics of the Medicaid population provides important context for interpreting the health conditions, healthcare utilization, and outcomes presented throughout the remainder of this report. This section summarizes the population by age, sex, race and ethnicity, living arrangement, and Medicare-Medicaid dual eligibility to provide a baseline description of the individuals included in the analysis.

4.1. Age and Sex

Age is strongly associated with patterns of disease burden and healthcare utilization, while both age and sex provide important context for understanding differences across the Medicaid population (Atella et al., 2019). Figure 2 shows the age distribution of Medicaid enrollees by sex, with percentages calculated within each sex to allow comparison of enrollment patterns across the lifespan. In Kalamazoo County, the average age at the end of 2025 was 28.8 years. Overall, 36.1% of enrollees were younger than 18 years, 57.8% were between 18 and 64 years, and 6.1% were 65 years or older. The population was 46.6% male and 53.4% female.

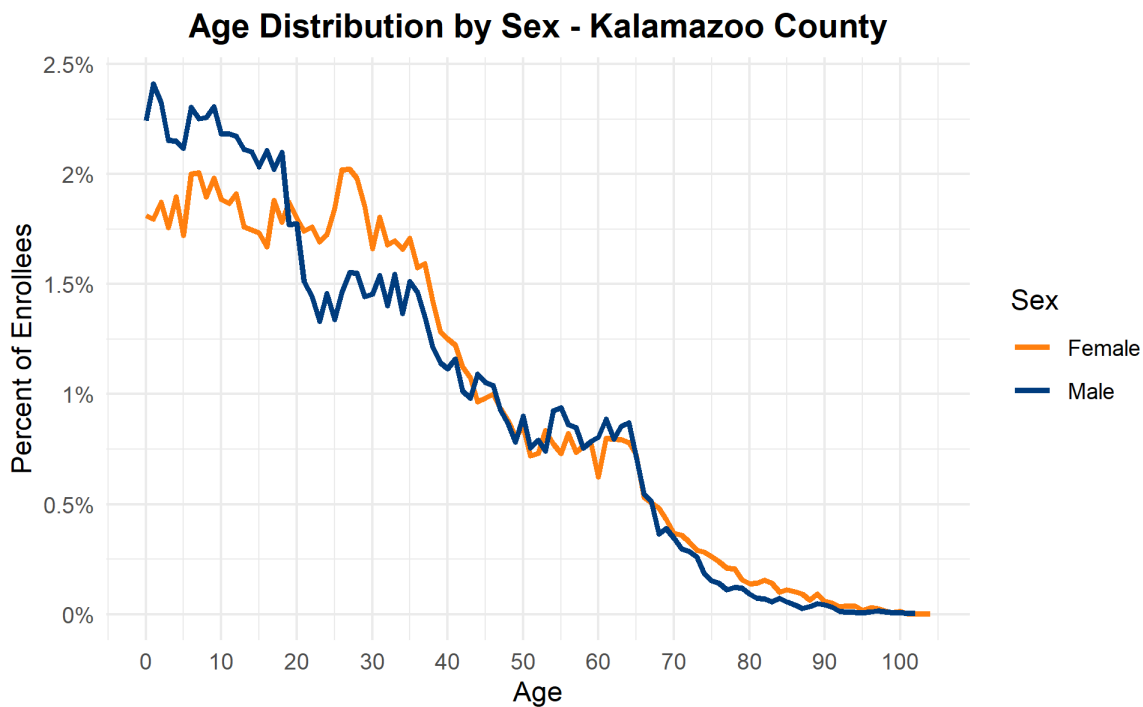


Figure 2: Percent of enrollees at each single year of age, by sex.

Male enrollees make up a larger share of the population at younger ages, while female enrollment becomes more prominent beginning in early adulthood, particularly through the 20s and 30s. The distributions become more similar through much of middle adulthood before females again represent a somewhat larger share at older ages. The higher representation of women during early adulthood may partly reflect Medicaid eligibility pathways related to pregnancy and parenting.

4.2. Race/Ethnicity

Race and ethnicity provide important context for identifying potential differences in health conditions, healthcare utilization, and quality of care across population groups. Throughout this report, race and ethnicity are used to examine whether meaningful disparities are present within the Kalamazoo County Medicaid population.

To align with MDHHS methodology for Core Set measures, race and ethnicity were assigned using the most recent Medicaid enrollment record available at the time of data extraction. Individuals identified as Hispanic ethnicity were classified in the Hispanic or Latino group regardless of reported race. For all other individuals, classification was based on the primary race field reported in Medicaid enrollment records.

Figure 3 summarizes the racial and ethnic composition of Medicaid enrollees in Kalamazoo County. Overall, 51.3% identified as White, 32.4% identified as Black or African American, 7.3% identified as Other Race, 7.1% identified as Hispanic or Latino, 1% identified as American Indian or Alaska Native, 0.8% identified as Asian, 0.1% identified as Native Hawaiian or Other Pacific Islander.

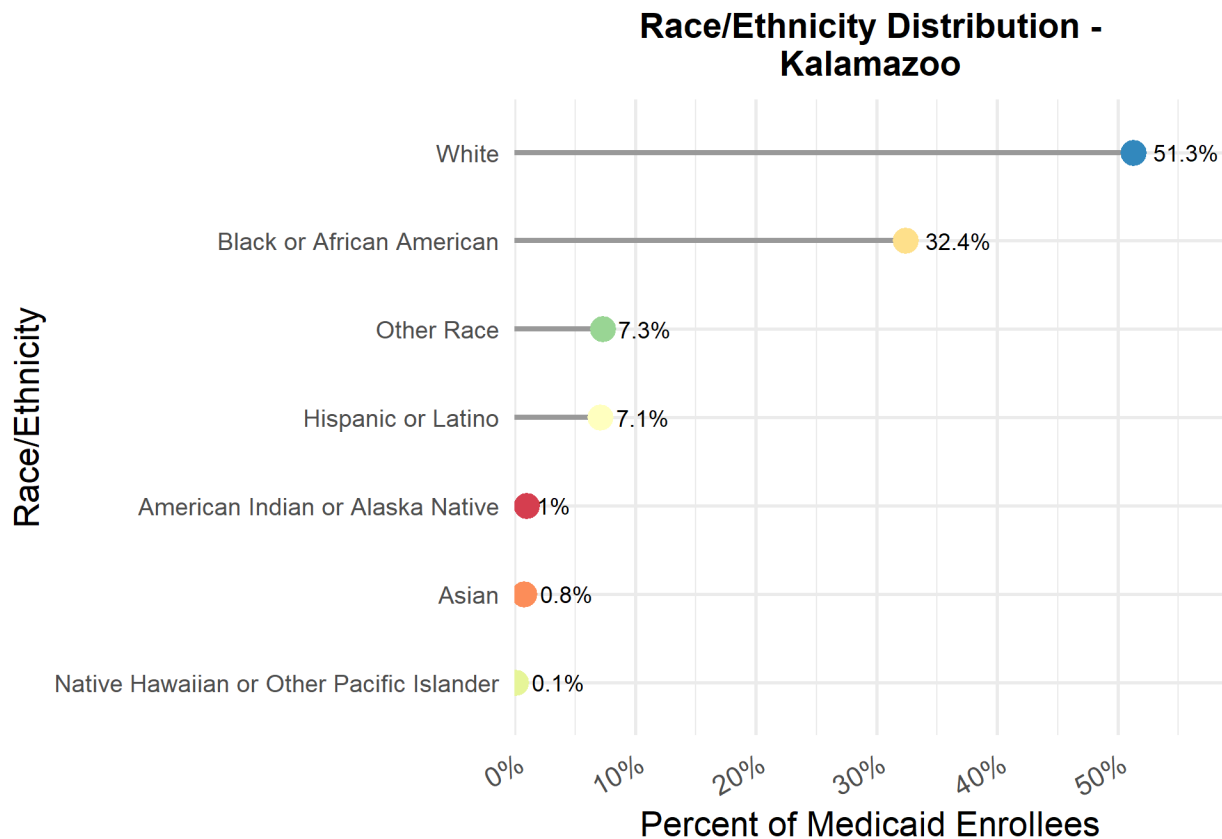


Figure 3: Percentage of Medicaid enrollees by race and ethnicity.

4.3. Living Arrangements for CMH/PIHP-Served Population

Living arrangement provides important context for understanding social support and housing stability among individuals receiving behavioral health services. Because living arrangement information is collected through the Behavioral Health Treatment Episode Data Set (BH-TEDS), this analysis is limited to Medicaid enrollees who received PIHP- or CMH-funded services and had a recorded living arrangement.

Living arrangements were grouped into four categories: dependent, independent, unhoused, and unknown. Individuals classified as “Other” were excluded from this analysis.

The following table compares the distribution of living arrangements in Kalamazoo County with the remainder of the SWMBH region. Living arrangements in Kalamazoo County differed substantially from the rest of the SWMBH region. Among PIHP/CMH-served Medicaid enrollees with recorded living arrangement information, 77.2% were living independently compared with 84.2% in the rest of the region. Kalamazoo County also had a significantly higher percentage of individuals identified as unhoused (11.5% vs. 4.4%). Dependent living was similar between Kalamazoo County and the rest of the region (11.3% vs. 11.2%).

These findings indicate that the PIHP/CMH-served population in Kalamazoo County was less likely to be living independently and substantially more likely to be identified as unhoused than comparable enrollees elsewhere in the region. As the region’s largest urban center, Kalamazoo may also serve individuals who travel to the area for shelter, behavioral health services, or other supports, which could contribute to the higher documented rate of homelessness. Differences in housing availability, population needs, service access, and documentation may also play a role.

Table 3. Living Arrangement - Kalamazoo vs. Rest of Region

Percent in each living arrangement category (2025)

Condition	Kalamazoo (N=9,526)	Rest of Region (N=24,121)
Dependent	11.3%	11.2%
Independent	77.2% ↓	84.2%
Unhoused	11.5% ↑	4.4%
Unknown	0.1%	0.1%

Bold font with red or green shading and an arrow indicates a rate is significantly higher (red ↑) or lower (green ↓) than the remaining population.

Darker shading indicates a greater proportional difference in rates.

4.3.1. Living Arrangement Trends (2022-2025)

Monitoring living arrangements over time helps identify changes in housing stability among individuals receiving behavioral health services. The figure below displays annual trends in living arrangement categories from 2022 through 2025, allowing changes in the distribution of living arrangements to be compared across years. Exact annual percentages are presented in the table below the figure.

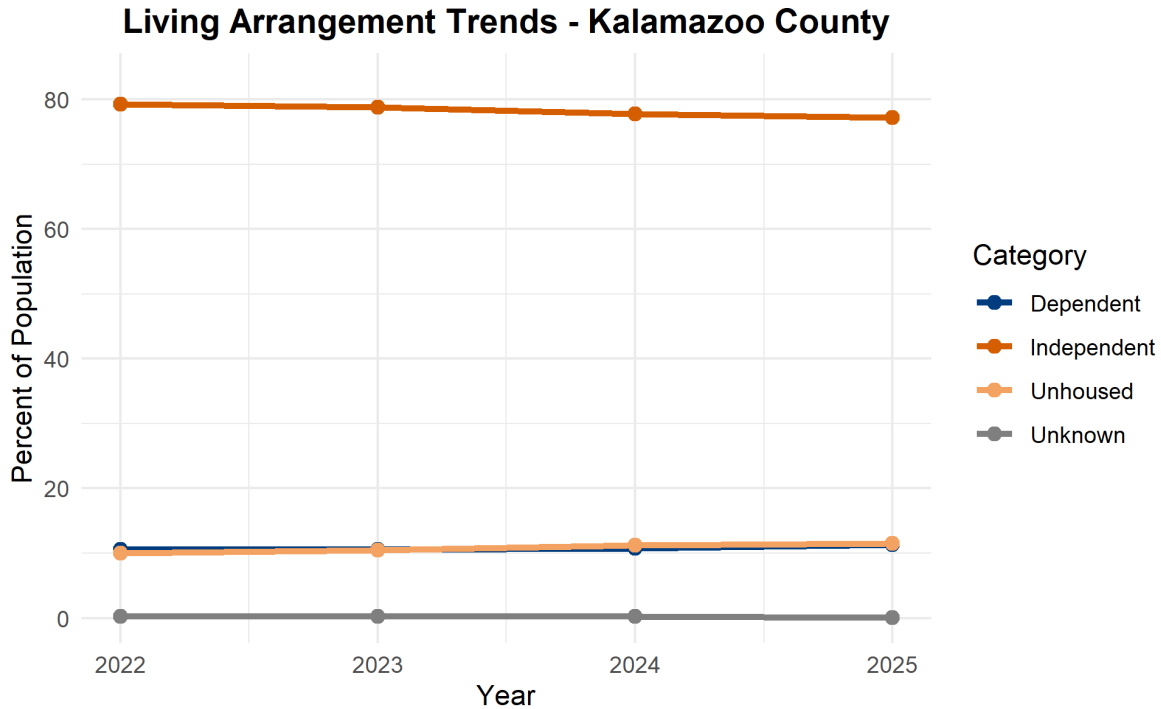


Figure 4: Percent of population in each living arrangement category, 2022-2025.

Table 4. Living Arrangement Trends

Percent of the population in each living arrangement category, 2022–2025.

Living Arrangement	2022	2023	2024	2025
Independent	79.2%	78.8%	77.7%	77.2%
Dependent	10.6%	10.6%	10.8%	11.3%
Unhoused	10.0%	10.5%	11.2%	11.5%
Unknown	0.2%	0.2%	0.2%	0.1%

Living arrangements remained relatively stable from 2022 through 2025, although there was a gradual shift away from independent living. The percentage identified as living independently decreased from 79.2% to 77.2%, while both dependent living and unhoused status increased slightly. Continued monitoring will help determine whether these small changes develop into a more substantial trend in housing instability or support needs.

4.4. Medicaid-Medicare Dual Eligibility

Medicare-Medicaid dual eligibility identifies individuals enrolled in both Medicare and Medicaid. Dual-eligible populations often have greater medical complexity and healthcare needs, making dual eligibility an important consideration when interpreting differences in disease burden and healthcare utilization later in this report.

In 2025, 11.1% of the Kalamazoo County Medicaid population was also enrolled in Medicare in 2025. This report compares adults with Medicaid-only coverage to those who are dually enrolled in both Medicaid and Medicare. Dual enrollment increases sharply with age: 9.4% of adults aged 18 to 64 and 93.1% of those aged 65 and older were enrolled in both programs. No individuals younger than 18 in the study population were identified as Medicare-enrolled.

Table 5: Medicare Coverage by Age Group - Kalamazoo County			
Age Group	Total Enrollees	Enrolled in Medicare	Percent Medicare
<18	24,629	0	0.0%
18-64	39,417	3,719	9.4%
65+	4,172	3,885	93.1%
All Ages	68,218	7,604	11.1%

5. Behavioral Health

Behavioral health conditions are an important contributor to healthcare utilization, quality of care, and overall population health. Understanding the prevalence and distribution of behavioral health conditions helps identify populations with greater service needs, monitor changes over time, and support planning for behavioral health programs and resources.

This section summarizes the prevalence of behavioral health diagnoses among Medicaid enrollees, trends from 2022 through 2025, differences across demographic groups, and geographic variation within Kalamazoo County.

5.1. Primary Behavioral Health Group Definitions

To summarize the behavioral health population, individuals with a behavioral health diagnosis were assigned to a single primary behavioral health diagnosis group. Assignment was based on the behavioral health diagnosis category that appeared most frequently across an individual's Medicaid encounter history from 2022 through 2025. These groups provide a consistent way to compare healthcare utilization, chronic physical health conditions, and other outcomes throughout the remainder of this report.

Each enrollee was assigned to only one primary behavioral health diagnosis group, so the groups do not overlap. The primary behavioral health diagnosis groups used in this report are:

- **Intellectual/Developmental Disabilities (IDD):** Intellectual disabilities and pervasive developmental disorders such as autistic disorder are included.
- **Mild/Moderate Mental Illness:** This group is primarily comprised of anxiety disorders, ADHD, and mild to moderate forms of depressive and bipolar disorders.
- **Serious Mental Illness (SMI) / Serious Emotional Disturbance (SED):** This group is primarily comprised of schizophrenia and severe forms of depressive and bipolar disorders. SMI is the adult-focused term and SED is the child/adolescent-focused term for the same underlying diagnostic severity category.
- **Substance Use Disorders (SUD):** Includes addictive and substance use-related disorders including gambling disorder.
- **Other:** This group includes behavioral health conditions not included in the other groups, such as conditions with known physiological causes (e.g., dementia), specific learning disorders, communication disorders, and unspecified mental health conditions.

5.2. Prevalence of Behavioral Health (BH) Conditions

Figure 5 summarizes the proportion of Medicaid enrollees with and without a behavioral health diagnosis in 2025. Behavioral health diagnoses include mental health conditions, substance use disorders, and intellectual/developmental disabilities identified through Medicaid encounter data. Overall, 34.2% of the Kalamazoo County Medicaid population had a recorded behavioral health diagnosis in 2025. Among those with a behavioral health diagnosis, 60% had primarily Mild/Moderate MI diagnoses, 19.8% had primarily SMI/SED diagnoses, 8.4% had primarily Other diagnoses, 6.6% had primarily SUD diagnoses, 5.2% had primarily IDD diagnoses.

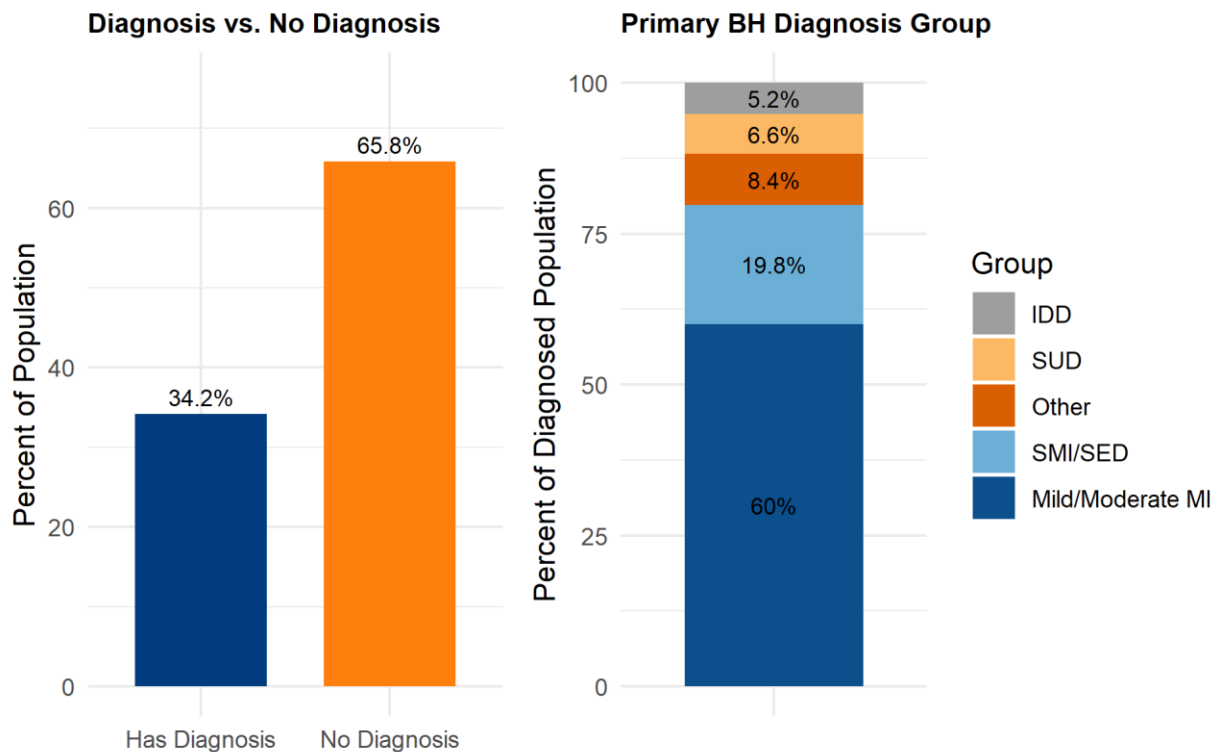


Figure 5: Left: percentage with and without a recorded BH diagnosis. Right: breakdown of primary BH diagnosis group among those with a diagnosis.

5.2.1. BH Condition Comorbidity by Primary Diagnosis Group

Behavioral health diagnoses often co-occur with one another. The following table summarizes the prevalence of individual behavioral health conditions within each primary behavioral health diagnosis group, illustrating how commonly additional diagnoses occur alongside the predominant diagnosis category.

Because each individual is assigned to only one primary behavioral health diagnosis group, the primary group reflects the diagnosis category most frequently represented in the individual's encounter history rather than the only behavioral health condition present. Several of the conditions shown are also used to define the primary diagnosis groups; therefore, this table is descriptive and was not statistically tested. Shading is used to highlight differences in diagnostic patterns across groups.

Table 6. BH Condition Comorbidity by Primary Diagnosis Group - Kalamazoo County

Percent with each condition, by primary BH diagnosis group among members with a BH diagnosis (2025)

Condition	IDD (N=1,214)	Mild/Moderate MI (N=13,994)	Other (N=1,949)	SMI/SED (N=4,622)	SUD (N=1,528)
Anxiety	22.2%	61.4%	10.2%	39.4%	30.5%
Depressive	8.6%	46.3%	8.3%	40.1%	26.4%
SUD	0.5%	6.1%	0.6%	21.8%	100.0%
Bipolar	4.5%	6.9%	0.7%	31.1%	12.3%
Schizophrenia/Psychosis	5.6%	3.8%	2.1%	32.0%	9.5%
Personality Disorder	1.3%	2.4%	0.2%	10.4%	2.9%
OCD	6.0%	2.1%	0.3%	3.2%	0.4%
Adjustment Disorder	6.8%	26.8%	5.0%	13.6%	12.0%
Dementia	1.1%	0.7%	19.7%	1.5%	0.4%
Impulse Control/Conduct	11.1%	3.5%	2.5%	11.3%	0.9%
Autism Spectrum	71.4%	2.6%	9.1%	3.4%	0.2%
IDD	48.6%	1.7%	1.7%	5.2%	0.1%
Trauma-Related (PTSD)	5.1%	11.6%	1.8%	38.8%	12.2%
ADHD	20.3%	24.5%	5.5%	14.1%	5.4%

Shading reflects diagnosis rate magnitude (lighter = lower, darker = higher). No statistical testing was performed for this table.

Distinct patterns of behavioral health comorbidity were evident across the primary diagnosis groups. Among individuals in the IDD group, autism spectrum disorder was particularly common (71.4%), while 48.6% had an IDD diagnosis and 20.3% had ADHD. The Mild/Moderate MI group showed substantial overlap with ADHD (24.5%), adjustment disorder (26.8%), and trauma-related diagnoses (11.6%). Among those classified as SMI/SED, trauma-related diagnoses were especially common at 38.8%, along with schizophrenia/psychosis (32.0%), bipolar disorder (31.1%), and SUD (21.8%). The Other group was distinguished by a high prevalence of dementia (19.7%), while individuals in the SUD group also showed notable overlap with anxiety (30.5%), depression (26.4%), bipolar disorder (12.3%), and trauma-related diagnoses (12.2%).

These patterns reinforce that the primary behavioral health groups represent broader profiles of behavioral health need rather than mutually exclusive diagnoses. Individuals within a single primary group may therefore require care addressing multiple co-occurring behavioral health conditions.

5.2.2. Behavioral Health Diagnosis Trend (2022-2025)

Monitoring diagnosis rates over time helps identify changes in the behavioral health needs of the Medicaid population. Figure 6 displays annual trends in the percentage of Medicaid enrollees with at least one behavioral health diagnosis from 2022 through 2025.

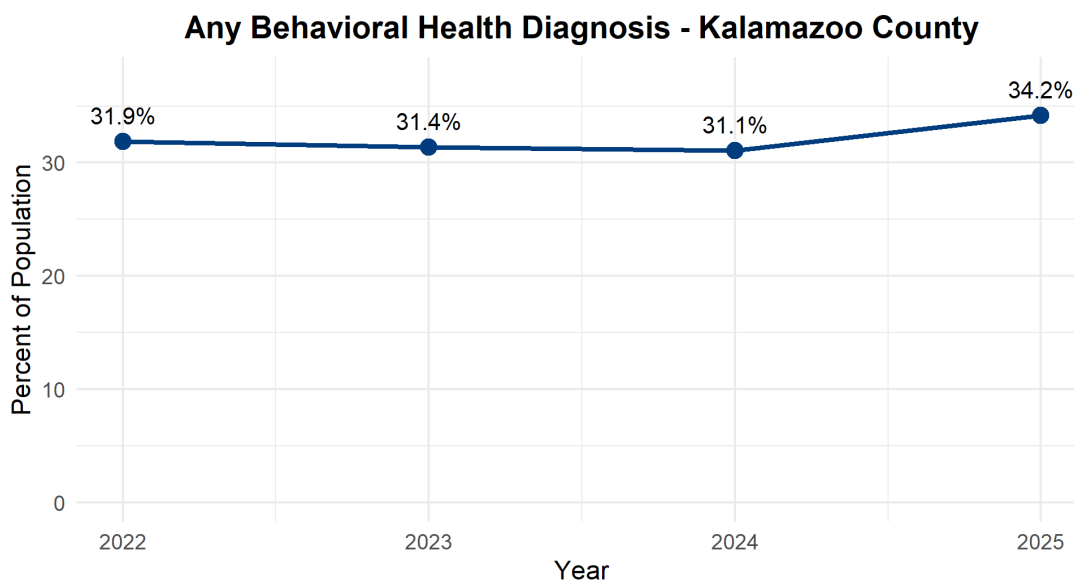


Figure 6: *Percent of population with any behavioral health diagnosis, 2022-2025.*

Behavioral health diagnosis prevalence remained relatively stable from 2022 through 2024 before increasing from 31.1% in 2024 to 34.2% in 2025. The percentage of enrollees receiving at least one Medicaid service also increased in 2025 after declining during the prior two years, suggesting that greater contact with the healthcare system may have contributed to increased identification of behavioral health conditions. However, the available data cannot determine whether the increase reflects greater underlying behavioral health need, increased identification or treatment, or a combination of factors.

5.2.3. Behavioral Health Diagnosis Trend by Primary Group (2022-2025)

Examining trends within each primary behavioral health diagnosis group helps identify whether changes in overall behavioral health prevalence are driven by specific diagnosis categories. The figure below displays annual trends in the percentage of Medicaid enrollees by primary behavioral health diagnosis group from 2022 through 2025. Exact annual percentages for each diagnosis group are presented in the table below the figure.

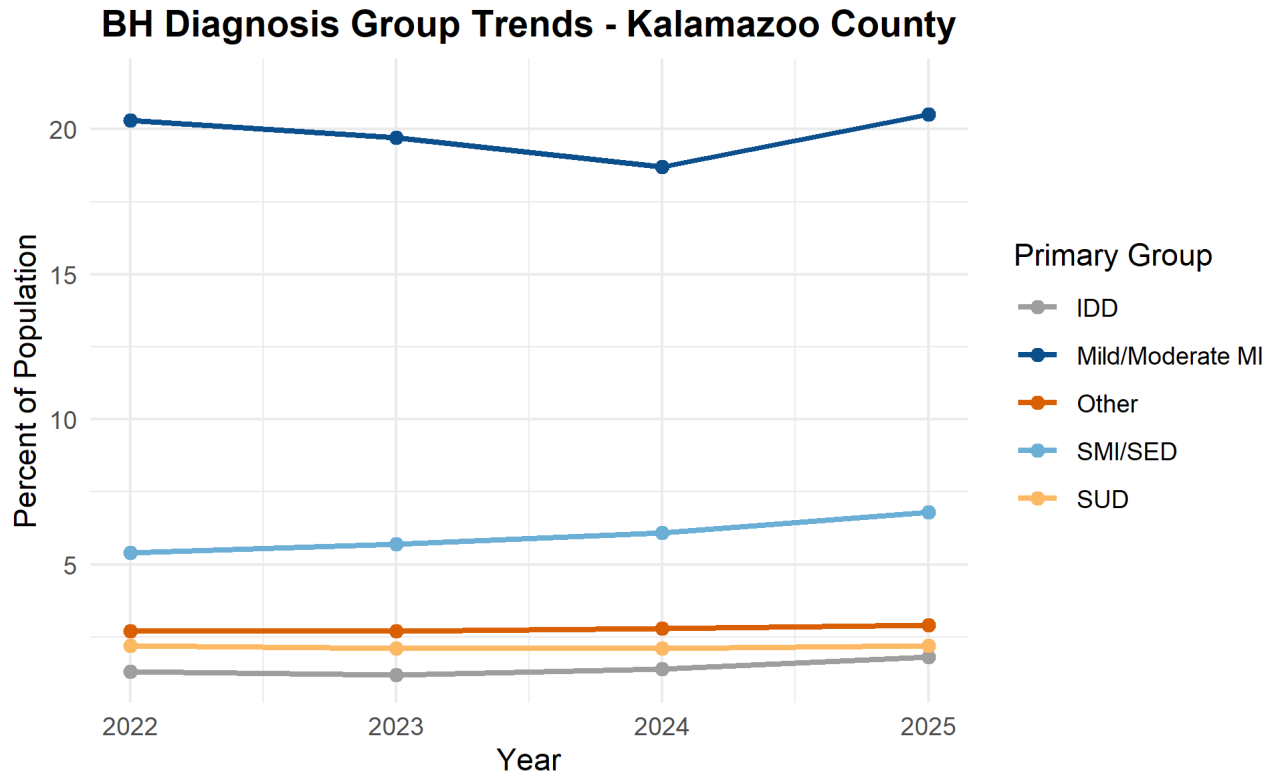


Figure 7: Percent of population with each primary BH diagnosis group, 2022-2025.

Table 7. BH Diagnosis Group Trends

Percent of the population in each primary behavioral health diagnosis group, 2022–2025.

Primary BH Diagnosis Group	2022	2023	2024	2025
IDD	1.3%	1.2%	1.4%	1.8%
Mild/Moderate MI	20.3%	19.7%	18.7%	20.5%
Other	2.7%	2.7%	2.8%	2.9%
SMI/SED	5.4%	5.7%	6.1%	6.8%
SUD	2.2%	2.1%	2.1%	2.2%

Trends varied across primary behavioral health groups. Mild/Moderate MI remained the largest group throughout the study period, declining from 20.3% in 2022 to 18.7% in 2024 before increasing to 20.5% in 2025. SMI/SED showed the clearest sustained increase, rising from 5.4% in 2022 to 6.8% in 2025. IDD also increased over the period, reaching 1.8% in 2025. In contrast, SUD remained relatively stable at approximately 2.1%–2.2%, while the Other group increased only slightly from 2.7% to 2.9%.

5.2.4. Year-Over-Year Change (2024 vs. 2025)

Changes in behavioral health diagnosis prevalence between 2024 and 2025 were evaluated among Medicaid enrollees who were active in both years (N = 57,262). Using the same individuals in both years reduces the influence of changes in Medicaid enrollment on the year-over-year comparison. As individuals age and remain engaged in care, additional conditions may be identified and documented over time; however, the matched comparison also provides insight into changes in the clinical complexity of the continuously enrolled population. Statistical significance was evaluated using McNemar's test with Bonferroni correction for multiple comparisons.

Table 8: Year-Over-Year Change - Kalamazoo County (N matched = 57,262)			
Condition	2024 %	2025 %	Change
Any BH Diagnosis	34.5%	35.6%	+1.1 ↑
Anxiety	16.0%	17.2%	+1.2 ↑
Depressive	13.2%	13.6%	+0.4 ↑
Adjustment Disorder	7.3%	7.1%	-0.2 ↓
ADHD	6.6%	7.0%	+0.4 ↑
Trauma-Related (PTSD)	5.3%	5.6%	+0.3 ↑
SUD	5.1%	4.9%	-0.2 ↓
Bipolar	3.7%	3.9%	+0.2 ↑
Schizophrenia/Psychosis	3.4%	3.3%	-0.1 ↓
Autism Spectrum	2.2%	2.5%	+0.3 ↑
Impulse Control/Conduct	1.9%	1.9%	0
IDD	1.7%	1.8%	+0.1 ↑
Personality Disorder	1.2%	1.3%	+0.1 ↑
OCD	0.7%	0.8%	+0.1 ↑
Dementia	0.7%	0.8%	+0.1 ↑

Bold, colored Change values are statistically significant (McNemar's test, Bonferroni-corrected): red = significant increase, green = significant decrease.

The increase in documented behavioral health diagnoses remained evident within the matched Kalamazoo County population, with any behavioral health diagnosis increasing by 1.1 percentage points, from 34.5% in 2024 to 35.6% in 2025. Anxiety showed the largest increase (+1.2 percentage points), followed by depressive disorders and ADHD (+0.4 each), and trauma-related and Autism Spectrum diagnoses (+0.3 each). These findings show that the increase in behavioral health diagnoses was also present among individuals enrolled in both years, supporting the broader pattern of greater behavioral health needs in the 2025 population.

5.3. Behavioral Health Diagnosis Rates by County

Behavioral health diagnosis prevalence in Kalamazoo County is compared with the remainder of the SWMBH region. Because individuals may have more than one behavioral health diagnosis, condition-specific percentages are not mutually exclusive and should not be summed.

The table below compares Kalamazoo County's 2025 diagnosis rates with the rest of the SWMBH region. Statistically significant differences between Kalamazoo County and the remainder of the region are identified using bold text, colored shading, and arrows. Conditions are ordered from highest to lowest regional prevalence.

Table 9. Behavioral Health Diagnosis Rates - Kalamazoo vs. Rest of Region

Percent with diagnosis (2025)

Condition	Kalamazoo (N=68,218)	Rest of Region (N=178,208)
Any BH Diagnosis	34.2% ↑	32.2%
Anxiety	16.6% ↑	15.5%
Depressive	13.2% ↑	12.2%
ADHD	6.6%	6.8%
Adjustment Disorder	6.9% ↑	5.0%
SUD	5.0%	4.7%
Trauma-Related (PTSD)	5.4% ↑	4.6%
Bipolar	3.9% ↑	3.3%
Schizophrenia/Psychosis	3.3% ↑	2.2%
Autism Spectrum	2.3%	2.2%
Impulse Control/Conduct	1.8%	1.7%
IDD	1.6% ↑	1.3%
Personality Disorder	1.3%	1.3%
Dementia	0.8% ↓	1.0%
OCD	0.8% ↑	0.5%

Bold font with red or green shading and an arrow indicates a rate is significantly higher (red ↑) or lower (green ↓) than the remaining population.

Darker shading indicates a greater proportional difference in rates.

Kalamazoo County had a significantly higher overall behavioral health diagnosis rate than the remainder of the region (34.2% vs. 32.2%). Anxiety, depressive disorders, adjustment disorders, trauma-related (PTSD), bipolar, schizophrenia/psychosis, IDD and OCD were also significantly more prevalent in Kalamazoo County. In contrast, dementia was significantly less prevalent than in the remainder of the region.

5.4. Behavioral Health Conditions Demographic Comparisons

Examining behavioral health diagnoses across demographic groups helps identify populations with different patterns of behavioral health need and potential disparities in diagnosis or access to care. The following analyses compare diagnosis prevalence by age, sex, race and ethnicity, and Medicare-Medicaid dual eligibility.

5.4.1. Behavioral Health Conditions by Age Group

Behavioral health diagnosis patterns varied substantially across age groups. Overall, 24.7% of enrollees younger than 18 had at least one behavioral health diagnosis, compared with 39.6% of adults ages 18–64, and 38.6% of adults ages 65 or older. The most common conditions among those younger than 18 were ADHD, Anxiety, Adjustment Disorder. Among adults ages 18–64, the most common were Anxiety, Depressive, SUD, while among adults ages 65 or older, the most common were Depressive, Anxiety, Dementia.

Table 10. Behavioral Health Conditions by Age Group - Kalamazoo County*Percent with diagnosis (2025)*

Condition	<18 (N=24,629)	18-64 (N=39,417)	65+ (N=4,172)
Any BH Diagnosis	24.7%	39.6%	38.6%
Anxiety	7.0%	22.7%	16.0%
Depressive	3.7%	18.6%	17.6%
SUD	0.2%	8.1%	3.8%
Bipolar	0.3%	6.1%	3.7%
Schizophrenia/Psychosis	0.3%	4.8%	6.7%
Personality Disorder	0.1%	2.0%	1.1%
OCD	0.3%	1.1%	0.7%
Adjustment Disorder	5.8%	8.0%	3.8%
Dementia	0.0%	0.3%	10.9%
Impulse Control/Conduct	3.3%	1.0%	0.5%
Autism Spectrum	3.8%	1.6%	0.4%
IDD	0.8%	2.0%	2.5%
Trauma-Related (PTSD)	2.8%	7.4%	2.5%
ADHD	8.8%	5.9%	0.7%

Shading reflects diagnosis rate magnitude (lighter = lower, darker = higher). No statistical testing was performed for this table.

Among children and adolescents, ADHD was the most commonly documented condition (8.8%), followed by anxiety (7.0%) and adjustment disorder (5.8%). Autism spectrum disorder was also more common among children than adults, at 3.8%.

Adults ages 18–64 had the highest rates of anxiety (22.7%), depression (18.6%), SUD (8.1%), bipolar disorder (6.1%), and trauma-related diagnoses (7.4%). Among adults ages 65 and older, depression (17.6%) and anxiety (16.0%) remained common, while dementia increased sharply to 10.9%. Schizophrenia/psychosis was also most prevalent among adults age 65 and older at 6.7%.

Overall, the age-specific patterns reflect different behavioral health profiles across the lifespan, with neurodevelopmental conditions more prominent among children, anxiety, depression, SUD, and trauma-related conditions concentrated more heavily among working-age adults, and dementia emerging as a major condition among older adults.

5.4.2. Behavioral Health Conditions by Sex

Behavioral health diagnosis patterns differed by both age and sex. Overall, 36.2% of females and 31.8% of males had at least one behavioral health diagnosis in 2025. Among adults, females had substantially higher rates of anxiety (27.1% vs. 15.6%) and depression (22.3% vs. 13.7%), while adult males had higher rates of SUD (9.8% vs. 6.0%) and schizophrenia/psychosis (6.7% vs. 3.7%). Adult females also had a higher overall behavioral health diagnosis rate than adult males (43.3% vs. 34.8%).

Among children, males had a higher overall behavioral health diagnosis rate than females (27.3% vs. 22.0%), driven in part by higher rates of ADHD (11.3% vs. 6.3%), autism spectrum disorder (5.4% vs. 2.1%), and impulse control/conduct disorders (4.5% vs. 2.0%). In contrast, anxiety was more common among female children (8.5% vs. 5.7%).

Table 11. Behavioral Health Conditions by Age Group and Sex - Kalamazoo County

Percent with diagnosis (2025)

Condition	Adult Female (N=24,340)	Adult Male (N=19,249)	Child Female (N=12,092)	Child Male (N=12,537)
Any BH Diagnosis	43.3%	34.8%	22.0%	27.3%
Anxiety	27.1%	15.6%	8.5%	5.7%
Depressive	22.3%	13.7%	5.2%	2.3%
SUD	6.0%	9.8%	0.2%	0.2%
Bipolar	6.5%	5.1%	0.4%	0.3%
Schizophrenia/Psychosis	3.7%	6.7%	0.3%	0.3%
Personality Disorder	2.4%	1.4%	0.2%	0.0%
OCD	1.1%	1.0%	0.3%	0.3%
Adjustment Disorder	8.5%	6.4%	6.0%	5.7%
Dementia	1.4%	1.2%	0.0%	0.0%
Impulse Control/Conduct	0.4%	1.5%	2.0%	4.5%
Autism Spectrum	0.8%	2.3%	2.1%	5.4%
IDD	1.5%	2.7%	0.6%	1.0%
Trauma-Related (PTSD)	8.6%	4.8%	3.1%	2.5%
ADHD	5.3%	5.4%	6.3%	11.3%

Shading reflects diagnosis rate magnitude (lighter = lower, darker = higher). No statistical testing was performed for this table.

5.4.3. Behavioral Health Conditions by Medicare-Medicaid Dual Eligibility

Comparing behavioral health diagnoses by Medicare-Medicaid dual eligibility provides insight into differences between individuals with more complex healthcare needs and those covered by Medicaid alone. In 2025, 49.2% of dual-eligible Medicaid enrollees had at least one behavioral health diagnosis, compared to 32.3% of non-dual enrollees.

Table 12. Behavioral Health Conditions by Medicare Dual Status - Kalamazoo County

Percent with diagnosis (2025)

Condition	Dual (N=7,604)	No (N=60,614)
Any BH Diagnosis	49.2%	32.3%
Anxiety	21.3%	16.0%
Depressive	20.8%	12.2%
SUD	7.8%	4.6%
Bipolar	8.5%	3.3%
Schizophrenia/Psychosis	11.4%	2.3%
Personality Disorder	3.1%	1.1%
OCD	1.5%	0.7%
Adjustment Disorder	5.4%	7.1%
Dementia	6.4%	0.1%
Impulse Control/Conduct	1.8%	1.8%
Autism Spectrum	2.8%	2.2%
IDD	7.1%	0.9%
Trauma-Related (PTSD)	6.9%	5.2%
ADHD	3.4%	7.0%

Shading reflects diagnosis rate magnitude (lighter = lower, darker = higher). No statistical testing was performed for this table.

Dual-eligible enrollees had higher documented rates across many behavioral health conditions. The largest differences were observed for schizophrenia/psychosis (11.4% vs. 2.3%), IDD (7.1% vs. 0.9%), bipolar disorder (8.5% vs. 3.3%), depression (20.8% vs. 12.2%), and dementia (6.4% vs. 0.1%). Dual-eligible enrollees also had higher rates of anxiety, SUD, personality disorder, OCD, and trauma-related diagnoses.

In contrast, ADHD was more common among non-dual enrollees (7.0% vs. 3.4%), while adjustment disorder was also somewhat higher among non-dual enrollees (7.1% vs. 5.4%). These differences should be interpreted in the context of the very different age distributions of the dual and non-dual populations, particularly the concentration of older adults among dual-eligible enrollees.

5.4.4. BH Diagnosis by Race/Ethnicity

Race and ethnicity are important factors for identifying potential disparities in behavioral health diagnoses. The following table, and the race/ethnicity tables later in this report, use abbreviated column labels for the following categories: American Indian or Alaska Native (AI/AN) and Native Hawaiian or Other Pacific Islander (NH/PI). The remaining categories - White, Black or African American, Hispanic or Latino, Asian, and Other Race - are shown by their full names.

The following table summarizes behavioral health diagnosis prevalence by race and ethnicity in 2025. Because individuals may have more than one behavioral health diagnosis, condition-specific percentages within each racial/ethnic group are not mutually exclusive and should not be summed. Statistical significance was assessed using chi-square tests with Bonferroni correction.

Table 13. Behavioral Health Diagnoses by Race/Ethnicity - Kalamazoo

Percent with diagnosis, by race/ethnicity (2025)

Condition	AI/AN (N=677)	Asian (N=561)	Black (N=22,085)	Hispanic (N=4,864)	NH/PI (N=73)	Other (N=4,978)	White (N=34,979)
Any BH Diagnosis	37.8%	17.6% ↓	28.7% ↓	24.1% ↓	28.8%	25.9% ↓	40.4% ↑
Anxiety	19.8%	8.0% ↓	11.1% ↓	11.8% ↓	12.3%	12.4% ↓	21.5% ↑
Depressive	18.6% ↑	6.4% ↓	10.0% ↓	8.9% ↓	9.6%	8.9% ↓	16.4% ↑
SUD	6.8%	0.4% ↓	4.6% ↓	2.7% ↓	1.4%	2.6% ↓	6.0% ↑
Bipolar	5.3%	0.9% ↓	2.8% ↓	1.8% ↓	5.5%	2.1% ↓	5.1% ↑
Schizophrenia/Psychosis	4.1%	0.9%	3.4%	1.4% ↓	2.7%	2.2% ↓	3.7% ↑
Personality Disorder	1.9%	0.4%	0.7% ↓	0.8%	0.0%	0.5% ↓	1.8% ↑
OCD	1.2%	0.9%	0.3% ↓	0.6%	1.4%	0.6%	1.1% ↑
Adjustment Disorder	6.8%	2.3% ↓	6.4% ↓	5.9%	1.4%	5.3% ↓	7.8% ↑
Dementia	0.3%	0.5%	0.4% ↓	0.2% ↓	1.4%	1.4% ↑	1.1% ↑
Impulse Control/Conduct	0.7%	0.4%	1.9%	0.8% ↓	0.0%	1.4%	1.9%
Autism Spectrum	1.3%	1.6%	1.9% ↓	1.0% ↓	5.5%	2.3%	2.8% ↑
IDD	0.7%	2.1%	1.1% ↓	0.5% ↓	0.0%	1.3%	2.1% ↑
Trauma-Related (PTSD)	6.4%	2.1%	4.3% ↓	3.3% ↓	9.6%	4.1% ↓	6.6% ↑
ADHD	7.4%	2.3% ↓	4.2% ↓	3.7% ↓	6.8%	6.5%	8.6% ↑

Bold font with red or green shading and an arrow indicates a rate is significantly higher (red ↑) or lower (green ↓) than the remaining population.

Darker shading indicates a greater proportional difference in rates.

Behavioral health diagnosis prevalence varied substantially across racial and ethnic groups. White enrollees had the highest overall documented prevalence of any behavioral health diagnosis at 40.4%, which was significantly higher than the remainder of the population. In contrast, Asian (17.6%), Black (28.7%), Hispanic or Latino (24.1%), and Other Race (25.9%) enrollees had significantly lower overall diagnosis rates.

White enrollees also had significantly higher rates across many individual conditions, including anxiety, depression, SUD, bipolar disorder, schizophrenia/psychosis, personality disorder, OCD, adjustment disorder, dementia, autism spectrum disorder, IDD, trauma-related diagnoses, and ADHD. American Indian or Alaska Native enrollees showed some elevated individual conditions, including a significantly higher rate of depressive disorders (18.6%), but their overall behavioral health diagnosis rate was not significantly different from the remainder of the population.

Black, Hispanic or Latino, Asian, and Other Race enrollees generally showed lower documented prevalence across multiple behavioral health conditions. These differences should not be interpreted as direct measures of underlying behavioral health need. Diagnosis prevalence may also reflect differences in access to care, help-seeking, screening, diagnostic practices, cultural factors, and documentation. The patterns may therefore help identify areas where additional review of access and potential disparities is warranted.

Together, these findings show that behavioral health diagnosis patterns vary across demographic groups, geographic areas, and diagnosis categories within the Kalamazoo County Medicaid population. These differences provide important context for the chronic physical health, multimorbidity, and healthcare utilization analyses that follow.

6. Chronic Health Conditions

6.1. Overview and Methods

Chronic physical health conditions are an important contributor to healthcare utilization, quality of life, and overall healthcare costs (Centers for Disease Control and Prevention, 2026). Understanding the prevalence and distribution of chronic conditions helps identify populations with greater medical complexity, supports prevention and care management efforts, and provides context for the healthcare utilization and multimorbidity analyses presented later in this report.

This section summarizes documented chronic physical health conditions among Medicaid enrollees, trends from 2022 through 2025, and differences across demographic groups.

For this analysis, ICD-10 diagnosis codes from Medicaid service encounters between 2022 and 2025 were used to identify documented chronic conditions among the Kalamazoo County Medicaid population. Services funded by Medicaid Health Plans or Medicaid Fee-for-Service were included, along with PIHP/CMH-funded services containing one of the diagnoses of interest. A condition was considered present if a qualifying diagnosis appeared on an encounter during the study period, regardless of funding source, service type, diagnostic position on the claim, or number of times the diagnosis was reported.

To simplify interpretation, individual diagnosis codes were organized into broader analytic condition groups based on clinically related diseases. These groupings allow related conditions to be examined together when they share common risk factors, treatment approaches, or affected organ systems. The composite groups used in this section are:

- **Cardiac Disease:** Coronary artery disease (CAD), congestive heart failure, valvular heart disease, and other chronic ischemic heart disease.
- **Vascular Disease:** Atherosclerosis, peripheral vascular disease, stroke, and transient ischemic attack (TIA).
- **Metabolic Risk Factors:** Hypertension, diabetes, hyperlipidemia, obesity/morbid obesity, and sleep apnea.
- **GI Functional Disorder:** GERD/esophageal disorders and gastrointestinal motility disorders.
- **Chronic Pain/Migraine:** Chronic pain syndrome, migraine, fibromyalgia, and myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS).
- **Social Determinants of Health (SDoH):** Housing/economic instability, social/family circumstance concerns, education/employment problems, and other psychosocial circumstances.

SDoH are included as a health-related condition grouping rather than a chronic physical health condition because social and economic circumstances can substantially influence physical and behavioral health outcomes, access to care, and treatment stability (McQueen et al., 2021).

6.2. Prevalence of Chronic Conditions

The tables in this section examine the prevalence of documented chronic health conditions among Medicaid enrollees in Kalamazoo County. These results represent documented diagnosis history among the 2025 Medicaid population rather than conditions newly diagnosed during the year.

Conditions are not mutually exclusive; an individual may be represented in more than one category when multiple chronic conditions are present. Percentages across conditions therefore should not be summed to estimate overall chronic disease prevalence.

The table compares Kalamazoo County with the remainder of the SWMBH region. Overall, 37.6% of enrollees had at least one of the chronic conditions included in this analysis. The most commonly identified conditions were Metabolic Risk Factors (23%), Chronic Pain/Migraine (10.2%), GI Functional Disorder (8.2%). Statistical significance was assessed using chi-square tests with Bonferroni correction.

Table 14. Chronic Health Condition Rates - Kalamazoo vs. Rest of Region

Percent with condition (2025)

Condition	Kalamazoo (N=68,218)	Rest of Region (N=178,208)
Any Chronic Condition	37.6%	38.2%
Metabolic Risk Factors	23.0% ↓	24.3%
Chronic Pain/Migraine	10.2% ↑	9.4%
GI Functional Disorder	8.2%	8.2%
Tobacco Use	5.0% ↓	8.0%
Asthma	6.1%	6.2%
Social Determinants of Health	4.0%	4.2%
Cardiac Disease	3.7%	3.9%
COPD	3.0% ↓	3.7%
Hypothyroidism	2.5% ↓	2.9%
Urinary Tract Infection	2.6%	2.8%
Vascular Disease	2.1% ↓	2.4%
Liver Disease	2.1%	2.1%
Chronic Kidney Disease	2.0%	2.2%

Table 14. Chronic Health Condition Rates - Kalamazoo vs. Rest of Region*Percent with condition (2025)*

Condition	Kalamazoo (N=68,218)	Rest of Region (N=178,208)
Cancer	1.7%	1.8%
Epilepsy	1.7%	1.7%
Prediabetes	2.0% ↑	1.4%
Traumatic Brain Injury	1.1% ↑	0.9%
Feeding Difficulty	0.6%	0.6%
Inflammatory Bowel Disease	0.4%	0.4%
Rheumatoid Arthritis	0.2% ↓	0.3%
Lupus/SLE	0.1%	0.2%
Multiple Sclerosis	0.2%	0.2%
Sickle Cell Disease	0.2% ↑	0.1%
Long COVID	0.1%	0.0%

Bold font with red or green shading and an arrow indicates a rate is significantly higher (red ↑) or lower (green ↓) than the remaining population.

Darker shading indicates a greater proportional difference in rates.

Overall chronic condition prevalence in Kalamazoo County was similar to the remainder of the SWMBH region, with 37.6% of enrollees having at least one documented chronic condition compared with 38.2% in the rest of the region.

Several individual conditions differed significantly. Kalamazoo County had a higher prevalence of chronic pain/migraine (10.2% vs. 9.4%), prediabetes (2.0% vs. 1.4%), traumatic brain injury (1.1% vs. 0.9%), and sickle cell disease (0.2% vs. 0.1%). In contrast, Kalamazoo County had significantly lower rates of Metabolic Risk Factors (23.0% vs. 24.3%), tobacco use (5.0% vs. 8.0%), COPD (3.0% vs. 3.7%), hypothyroidism (2.5% vs. 2.9%), vascular disease (2.1% vs. 2.4%), and rheumatoid arthritis (0.2% vs. 0.3%).

These patterns suggest that Kalamazoo County's overall chronic disease burden is comparable to the rest of the region, but the underlying condition profile differs. Differences may reflect variation in population characteristics, risk factors, healthcare access and utilization, diagnostic practices, or documentation and may help identify conditions that warrant more focused local review.

6.2.1. Chronic Condition Prevalence Trend (2022-2025)

Monitoring chronic condition prevalence over time helps identify changes in disease burden and may reflect shifts in population health, healthcare access, or diagnosis practices. The figure below displays annual trends in the percentage of Medicaid enrollees with at least one chronic physical health condition from 2022 through 2025.

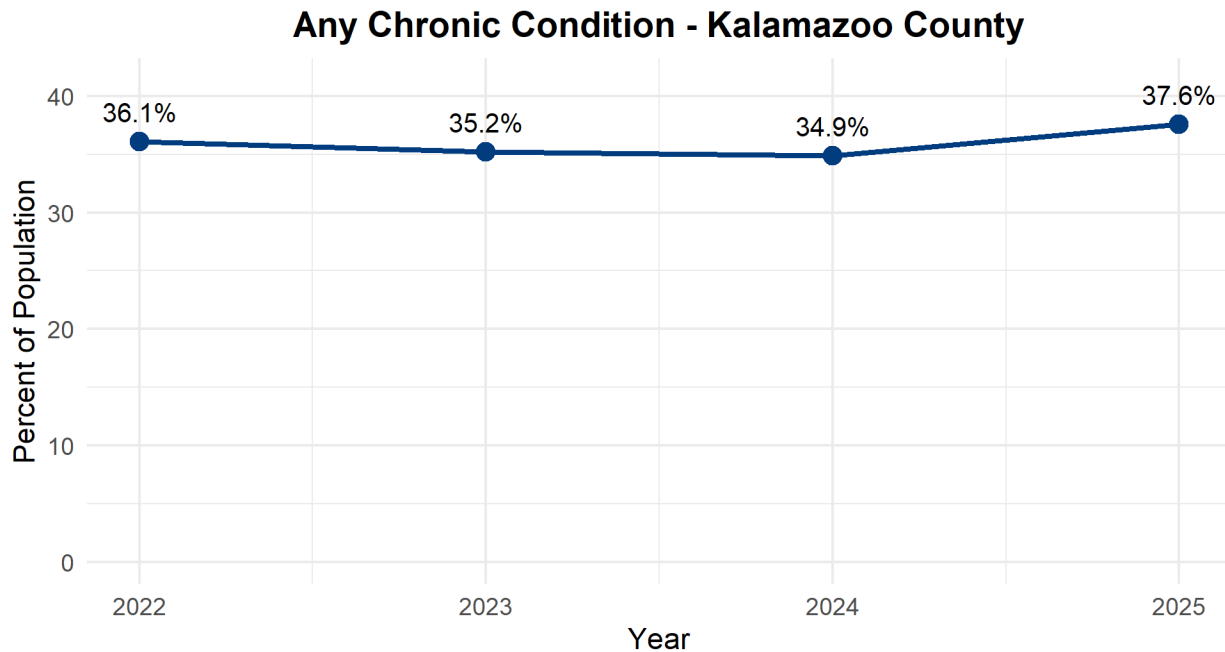


Figure 8: *Percent of population with any chronic condition studied, 2022-2025.*

Chronic condition prevalence was relatively stable from 2022 through 2024 before increasing from 34.9% in 2024 to 37.6% in 2025. This pattern is similar to the increase observed in behavioral health diagnoses during the same period. Because the percentage of enrollees receiving at least one Medicaid service also increased in 2025, greater healthcare contact may have contributed to increased identification of both chronic and behavioral health conditions.

Changes between 2024 and 2025 were also evaluated among Medicaid enrollees active in both years using McNemar's test with Bonferroni correction. This matched-cohort approach reduces the influence of changes in Medicaid enrollment on the year-over-year comparison. Because individuals were one year older in 2025 and had additional opportunities for conditions to be identified and documented over time, some increase is expected within a continuously enrolled population. The matched comparison nevertheless provides insight into changes in the medical complexity of this population. Because the matched population differs from the full population used in the annual trend figure, the percentages below will not exactly match the 2024 and 2025 values shown above.

Table 15: Year-Over-Year Change (Chronic Conditions) - Kalamazoo County (N matched = 57,262)

Condition	2024 %	2025 %	Change
Any Chronic Condition	38.1%	38.6%	+0.5 ↑
Metabolic Risk Factors	22.7%	24.0%	+1.3 ↑
Chronic Pain/Migraine	10.4%	10.7%	+0.3 ↑
GI Functional Disorder	8.0%	8.5%	+0.5 ↑
Asthma	6.2%	6.5%	+0.3 ↑
Tobacco Use	5.0%	5.2%	+0.2 ↑
Cardiac Disease	3.2%	3.8%	+0.6 ↑
Social Determinants of Health	4.0%	3.8%	-0.2 ↓
COPD	2.8%	3.2%	+0.4 ↑
Hypothyroidism	2.6%	2.6%	0
Urinary Tract Infection	2.6%	2.6%	0
Liver Disease	1.8%	2.2%	+0.4 ↑
Vascular Disease	1.9%	2.1%	+0.2 ↑
Prediabetes	1.7%	2.1%	+0.4 ↑
Chronic Kidney Disease	1.9%	2.1%	+0.2 ↑
Epilepsy	1.7%	1.8%	+0.1 ↑
Cancer	1.5%	1.7%	+0.2 ↑
Traumatic Brain Injury	1.2%	1.1%	-0.1 ↓
Feeding Difficulty	0.7%	0.5%	-0.2 ↓
Inflammatory Bowel Disease	0.4%	0.4%	0
Sickle Cell Disease	0.2%	0.2%	0
Rheumatoid Arthritis	0.2%	0.2%	0
Multiple Sclerosis	0.2%	0.2%	0
Long COVID	0.1%	0.1%	0
Lupus/SLE	0.2%	0.1%	-0.1 ↓

Bold, colored Change values are statistically significant (McNemar's test, Bonferroni-corrected): red = significant increase, green = significant decrease.

Within the matched Kalamazoo County population, documented chronic condition prevalence increased slightly from 38.1% in 2024 to 38.6% in 2025, although the overall change was not statistically significant. Several individual conditions showed statistically significant increases, led by Metabolic Risk Factors (+1.3 percentage points), cardiac disease (+0.6), and GI functional disorders (+0.5). Significant increases were also observed across several other chronic conditions, while feeding difficulty showed a small significant decrease. These findings show that increases in several chronic conditions were also present among individuals enrolled in both years.

6.3. Chronic Conditions by Age Group

Chronic disease burden varies considerably across the lifespan, making age an important consideration when comparing condition prevalence across populations (Watson et al., 2025). In Kalamazoo County, 67.6% of adults age 65 and older had at least one chronic condition, compared with 45.4% of adults ages 18–64 years, and 20.1% of children younger than 18.

Table 16. Chronic Conditions by Age Group - Kalamazoo County

Percent with condition (2025)

Condition	<18 (N=24,629)	18-64 (N=39,417)	65+ (N=4,172)
Any Chronic Condition	20.1%	45.4%	67.6%
Cardiac Disease	0.2%	3.9%	22.4%
Vascular Disease	0.1%	2.0%	14.0%
Metabolic Risk Factors	6.7%	29.7%	56.8%
GI Functional Disorder	2.8%	10.2%	22.1%
Chronic Pain/Migraine	1.7%	14.5%	18.7%
Social Determinants of Health	4.0%	4.2%	2.8%
Asthma	5.5%	6.5%	5.5%
COPD	0.0%	3.2%	18.3%
Cancer	0.1%	1.8%	9.4%
Epilepsy	0.7%	2.1%	3.2%
Hypothyroidism	0.2%	3.1%	9.9%
Long COVID	0.0%	0.1%	0.1%
Tobacco Use	0.1%	7.5%	10.4%

Table 16. Chronic Conditions by Age Group - Kalamazoo County

Percent with condition (2025)

Condition	<18 (N=24,629)	18-64 (N=39,417)	65+ (N=4,172)
Prediabetes	0.2%	2.9%	4.2%
Sickle Cell Disease	0.2%	0.2%	0.0%
Traumatic Brain Injury	0.8%	1.3%	1.6%
Urinary Tract Infection	0.8%	3.1%	8.1%
Feeding Difficulty	1.5%	0.1%	0.1%
Inflammatory Bowel Disease	0.1%	0.6%	0.7%
Liver Disease	0.2%	3.2%	3.9%
Rheumatoid Arthritis	0.0%	0.3%	1.4%
Lupus/SLE	0.0%	0.2%	0.1%
Multiple Sclerosis	0.0%	0.2%	0.5%
Chronic Kidney Disease	0.1%	1.9%	14.8%

Shading reflects diagnosis rate magnitude (lighter = lower, darker = higher). No statistical testing was performed for this table.

Chronic condition prevalence increased substantially with age, from 20.1% among children to 45.4% among adults ages 18–64 and 67.6% among adults age 65 and older. Metabolic Risk Factors showed one of the strongest age-related patterns, increasing from 6.7% among children to 29.7% among adults ages 18–64 and 56.8% among adults age 65 and older.

Several other conditions also increased markedly with age. Cardiac disease, vascular disease, COPD, chronic kidney disease, cancer, hypothyroidism, and urinary tract infection were all substantially more common among adults age 65 and older. Chronic kidney disease showed a particularly pronounced difference, increasing from 1.9% among adults ages 18–64 to 14.8% among adults age 65 and older.

In contrast, asthma and documented Social Determinants of Health concerns showed less pronounced age-related differences, while children had the lowest overall chronic condition burden across most categories.

These patterns underscore the importance of age when interpreting chronic disease prevalence and suggest that older adults may require more intensive management of multiple co-occurring physical health conditions.

6.4. Chronic Conditions by Age Group and Dual Eligibility

Medicare dual eligibility provides another way to examine differences in chronic disease burden within the Medicaid population. Individuals enrolled in both Medicare and Medicaid represent a diverse population that differs in age, disability status, healthcare needs, and patterns of service use (Fox & Reichard, 2013).

The table below presents chronic condition prevalence by age group and Medicare dual eligibility status. Examining dual and non-dual populations within age groups helps distinguish differences associated with dual eligibility from patterns that may primarily reflect the older age distribution of the dual-eligible population. Statistical comparisons are made between dual-eligible and non-dual enrollees within the same adult age group.

Table 17. Chronic Conditions by Age Group and Dual Eligibility - Kalamazoo County

Percent with condition (2025)

Condition	Dual 18-64 (N=3,719)	Dual 65+ (N=3,885)	No <18 (N=24,629)	No 18-64 (N=35,698)	No 65+ (N=287)
Any Chronic Condition	59.5% ↑	68.5% ↑	20.1% ↓	44.0% ↑	54.7% ↑
Cardiac Disease	10.4% ↑	23.0% ↑	0.2% ↓	3.2% ↓	13.9% ↑
Vascular Disease	5.5% ↑	14.6% ↑	0.1% ↓	1.7% ↓	4.5%
Metabolic Risk Factors	44.9% ↑	57.6% ↑	6.7% ↓	28.1% ↑	45.3% ↑
GI Functional Disorder	17.9% ↑	22.6% ↑	2.8% ↓	9.4% ↑	15.0% ↑
Chronic Pain/Migraine	20.6% ↑	18.9% ↑	1.7% ↓	13.9% ↑	16.4%
Social Determinants of Health	4.4%	2.5% ↓	4.0%	4.1%	6.6%
Asthma	8.5% ↑	5.7%	5.5% ↓	6.2%	2.8%
COPD	9.7% ↑	18.9% ↑	0.0% ↓	2.5% ↓	10.5% ↑
Cancer	4.2% ↑	9.6% ↑	0.1% ↓	1.5%	7.0% ↑
Epilepsy	5.7% ↑	3.4% ↑	0.7% ↓	1.8%	1.4%
Hypothyroidism	6.5% ↑	10.1% ↑	0.2% ↓	2.8% ↑	8.0% ↑
Long COVID	0.1%	0.1%	0.0% ↓	0.1%	0.0%
Tobacco Use	9.6% ↑	10.7% ↑	0.1% ↓	7.3% ↑	6.6%
Prediabetes	3.6% ↑	4.2% ↑	0.2% ↓	2.8% ↑	4.2%
Sickle Cell Disease	0.2%	0.0%	0.2%	0.2%	0.3%
Traumatic Brain Injury	1.6%	1.6%	0.8% ↓	1.2%	1.0%

Table 17. Chronic Conditions by Age Group and Dual Eligibility - Kalamazoo County

Percent with condition (2025)

Condition	Dual 18-64 (N=3,719)	Dual 65+ (N=3,885)	No <18 (N=24,629)	No 18-64 (N=35,698)	No 65+ (N=287)
Urinary Tract Infection	4.1% ↑	8.3% ↑	0.8% ↓	3.0% ↑	5.2%
Feeding Difficulty	0.1% ↓	0.1% ↓	1.5% ↑	0.1% ↓	0.0%
Inflammatory Bowel Disease	1.0% ↑	0.7%	0.1% ↓	0.5% ↑	0.7%
Liver Disease	3.9% ↑	3.8% ↑	0.2% ↓	3.1% ↑	4.9%
Rheumatoid Arthritis	0.4%	1.5% ↑	0.0% ↓	0.2%	0.7%
Lupus/SLE	0.5% ↑	0.2%	0.0% ↓	0.2% ↑	0.0%
Multiple Sclerosis	0.9% ↑	0.5% ↑	0.0% ↓	0.2%	0.0%
Chronic Kidney Disease	6.3% ↑	15.4% ↑	0.1% ↓	1.4% ↓	7.0% ↑

Bold font with red or green shading and an arrow indicates a rate is significantly higher (red ↑) or lower (green ↓) than the remaining population.

Darker shading indicates a greater proportional difference in rates.

Among adults ages 18–64, dual-eligible enrollees had substantially greater chronic disease burden than non-dual enrollees. Nearly 60% of dual-eligible adults ages 18–64 had at least one chronic condition, compared with 44.0% of non-dual adults in the same age group. Metabolic Risk Factors were also considerably more common among dual-eligible adults ages 18–64 (44.9% vs. 28.1%). Higher rates among dual-eligible adults were observed across many other conditions, including cardiac and vascular disease, chronic pain/migraine, COPD, chronic kidney disease, epilepsy, hypothyroidism, and tobacco use.

Differences remained among adults age 65 and older, although the gap in overall chronic disease burden was smaller. Any chronic condition was documented for 68.5% of dual-eligible adults age 65 and older compared with 54.7% of non-dual adults. Metabolic Risk Factors were present in 57.6% and 45.3%, respectively. Dual-eligible older adults also had notably higher rates of cardiac disease, vascular disease, COPD, chronic kidney disease, and hypothyroidism.

Overall, the findings suggest that dual eligibility identifies a population with elevated chronic health needs even when age is considered, particularly among adults ages 18–64.

6.5. Multiple Chronic Conditions by Dual Eligibility (Adults)

The number of chronic conditions present provides another measure of overall medical complexity. Individuals with multiple chronic conditions often require more intensive care management and may experience higher healthcare utilization.

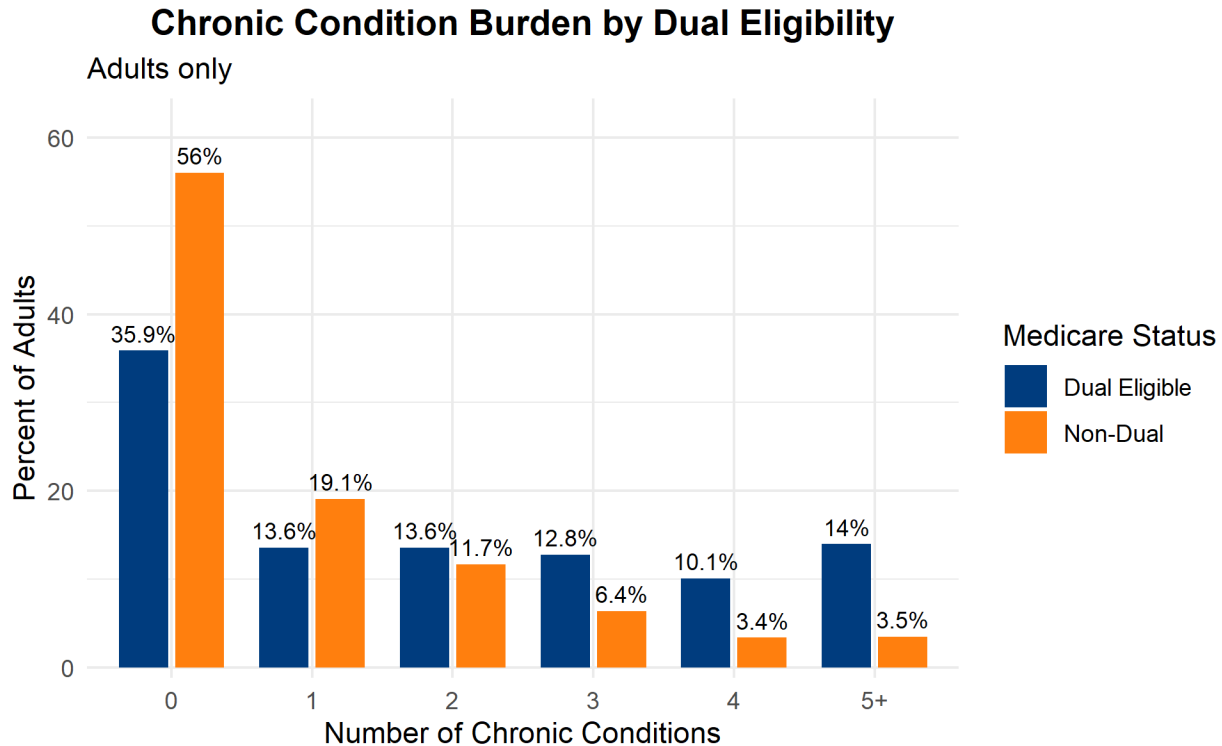


Figure 9: *Percent of adult enrollees by number of chronic conditions, by Medicare dual eligibility status.*

Dual-eligible adults had a greater chronic condition burden than non-dual adults. While 56.0% of non-dual adults had none of the chronic conditions included in this analysis, only 35.9% of dual-eligible adults had no identified chronic conditions. Differences became more pronounced at higher levels of complexity: 14% of dual-eligible adults had five or more chronic conditions, compared with 3.5% of non-dual adults. Dual-eligible adults were also more likely to have three or four chronic conditions.

These findings reinforce that dual-eligible adults represent a population with greater medical complexity and may warrant greater emphasis on care coordination and management of multiple co-occurring conditions.

6.6. Chronic Conditions by Behavioral Health Diagnosis Group

Physical and behavioral health conditions frequently occur together, and examining chronic disease prevalence across behavioral health populations can help identify groups with greater combined medical and behavioral health needs.

The following tables compare chronic condition prevalence across the primary behavioral health diagnosis groups defined earlier in this report. Individuals without an identified behavioral health diagnosis are included as a comparison group. Because chronic condition prevalence differs substantially by age, results are presented separately for children and adolescents and for adults. This stratification allows behavioral health groups to be compared within more similar age ranges and reduces the influence of age-related differences in chronic disease burden.

Table 18. Chronic Conditions by BH Diagnosis Group - Adults*Percent with condition among enrollees age 18 and older (2025)*

Condition	No BH Diagnosis (N=26,359)	IDD (N=625)	Mild/Moderate MI (N=10,630)	Other (N=526)	SMI/SED (N=3,929)	SUD (N=1,520)
Any Chronic Condition	32.5% ↓	64.5% ↑	71.4% ↑	88.2% ↑	68.5% ↑	65.9% ↑
Cardiac Disease	3.9% ↓	2.9%	7.9% ↑	30.2% ↑	7.9% ↑	8.1% ↑
Vascular Disease	1.9% ↓	3.7%	4.5% ↑	27.6% ↑	4.7% ↑	4.1%
Metabolic Risk Factors	21.4% ↓	45.3% ↑	49.2% ↑	69.8% ↑	47.9% ↑	42.8% ↑
GI Functional Disorder	5.2% ↓	18.9% ↑	20.8% ↑	38.4% ↑	20.1% ↑	15.6% ↑
Chronic Pain/Migraine	8.5% ↓	6.2% ↓	27.1% ↑	16.7%	24.3% ↑	19.9% ↑
Social Determinants of Health	1.8% ↓	3.0%	6.6% ↑	4.2%	9.9% ↑	10.9% ↑
Asthma	3.5% ↓	7.5%	11.6% ↑	5.1%	11.2% ↑	7.1%
COPD	2.7% ↓	2.2%	6.8% ↑	18.6% ↑	8.8% ↑	8.2% ↑
Cancer	1.8% ↓	2.1%	3.7% ↑	8.2% ↑	3.3%	2.3%
Epilepsy	0.8% ↓	17.3% ↑	3.3% ↑	7.2% ↑	4.9% ↑	4.4% ↑
Hypothyroidism	1.9% ↓	11.4% ↑	6.6% ↑	11.8% ↑	6.5% ↑	3.3%
Long COVID	0.0%	0.0%	0.2% ↑	0.4%	0.1%	0.0%
Tobacco Use	4.4% ↓	1.4% ↓	12.2% ↑	7.2%	15.6% ↑	17.9% ↑
Prediabetes	2.0% ↓	4.3%	4.8% ↑	1.7%	4.3% ↑	4.3%
Sickle Cell Disease	0.2%	0.2%	0.2%	0.4%	0.2%	0.1%
Traumatic Brain Injury	0.6% ↓	2.2%	2.0% ↑	8.7% ↑	2.7% ↑	2.4% ↑
Urinary Tract Infection	2.0% ↓	5.8%	5.7% ↑	17.5% ↑	6.1% ↑	5.3%
Feeding Difficulty	0.0% ↓	1.0% ↑	0.1%	0.6% ↑	0.1%	0.1%
Inflammatory Bowel Disease	0.3% ↓	0.8%	1.0% ↑	0.8%	1.1% ↑	0.8%
Liver Disease	1.8% ↓	3.8%	5.5% ↑	2.3%	3.9%	11.2% ↑
Rheumatoid Arthritis	0.3% ↓	0.3%	0.6% ↑	1.1%	0.4%	0.3%
Lupus/SLE	0.1% ↓	0.3%	0.4% ↑	0.4%	0.4%	0.1%
Multiple Sclerosis	0.2% ↓	0.2%	0.4% ↑	0.6%	0.3%	0.3%
Chronic Kidney Disease	2.2% ↓	3.2%	4.0% ↑	21.7% ↑	4.6% ↑	3.2%

Bold font with red or green shading and an arrow indicates a rate is significantly higher (red ↑) or lower (green ↓) than the remaining population.

Darker shading indicates a greater proportional difference in rates.

Among adults, chronic condition prevalence was substantially higher across all behavioral health diagnosis groups than among adults without a behavioral health diagnosis. Only 32.5% of adults with no behavioral health diagnosis had at least one chronic condition, compared with 64.5% to 88.2% across the behavioral health groups.

Adults in the Other diagnosis group had the highest overall chronic condition prevalence at 88.2%, including particularly high rates of Metabolic Risk Factors (69.8%), GI functional disorders (38.4%), cardiac disease (30.2%), vascular disease (27.6%), and chronic kidney disease (21.7%). Adults with Mild/Moderate MI and SMI/SED also showed broad elevations in chronic physical health conditions compared with adults without a behavioral health diagnosis.

The SUD group showed a somewhat different profile, with particularly high rates of tobacco use (17.9%), liver disease (11.2%), and documented Social Determinants of Health concerns (10.9%). These patterns reinforce the substantial overlap between behavioral and physical health needs and suggest that the type of chronic disease burden differs across behavioral health populations.

Table 19. Chronic Conditions by BH Diagnosis Group - Children and Adolescents*Percent with condition among enrollees under age 18 (2025)*

Condition	No BH Diagnosis (N=18,552)	IDD (N=589)	Mild/Moderate MI (N=3,364)	Other (N=1,423)	SMI/SED (N=693)	SUD (N=8)
Any Chronic Condition	15.1% ↓	30.1% ↑	36.4% ↑	32.3% ↑	40.8% ↑	37.5%
Cardiac Disease	0.1%	0.2%	0.2%	0.4%	0.1%	0.0%
Vascular Disease	0.1%	0.0%	0.1%	0.1%	0.0%	0.0%
Metabolic Risk Factors	5.1% ↓	10.0%	11.8% ↑	10.1% ↑	15.0% ↑	25.0%
GI Functional Disorder	2.1% ↓	5.9% ↑	4.9% ↑	6.5% ↑	3.2%	12.5%
Chronic Pain/Migraine	0.9% ↓	1.2%	5.8% ↑	1.4%	4.0% ↑	12.5%
Social Determinants of Health	2.5% ↓	4.8%	9.2% ↑	5.9% ↑	14.1% ↑	12.5%
Asthma	4.1% ↓	7.3%	10.0% ↑	9.8% ↑	10.4% ↑	12.5%
COPD	0.0%	0.0%	0.1%	0.1%	0.1%	0.0%
Cancer	0.1%	0.2%	0.3%	0.4%	0.1%	0.0%
Epilepsy	0.4% ↓	4.6% ↑	1.3% ↑	2.3% ↑	1.6%	0.0%
Hypothyroidism	0.1% ↓	0.2%	0.3%	0.6%	0.6%	0.0%
Long COVID	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tobacco Use	0.0% ↓	0.0%	0.3%	0.1%	1.4% ↑	0.0%
Prediabetes	0.1% ↓	0.5%	0.6% ↑	0.1%	0.9% ↑	0.0%
Sickle Cell Disease	0.3%	0.0%	0.1%	0.5%	0.0%	0.0%
Traumatic Brain Injury	0.6% ↓	0.3%	1.9% ↑	1.5%	1.6%	0.0%
Urinary Tract Infection	0.6% ↓	0.7%	1.2%	1.0%	1.6%	0.0%
Feeding Difficulty	1.0% ↓	6.3% ↑	1.2%	6.7% ↑	1.7%	0.0%
Inflammatory Bowel Disease	0.0%	0.5%	0.1%	0.1%	0.3%	0.0%
Liver Disease	0.1%	0.3%	0.4%	0.2%	0.3%	0.0%
Rheumatoid Arthritis	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Lupus/SLE	0.0% ↓	0.0% ↓	0.0% ↓	0.0% ↓	0.0% ↓	0.0% ↓
Multiple Sclerosis	0.0% ↓	0.0% ↓	0.0% ↓	0.0% ↓	0.0% ↓	0.0% ↓
Chronic Kidney Disease	0.1%	0.2%	0.2%	0.3%	0.1%	0.0%

Bold font with red or green shading and an arrow indicates a rate is significantly higher (red ↑) or lower (green ↓) than the remaining population.

Darker shading indicates a greater proportional difference in rates.

A similar pattern was observed among children and adolescents. Those without a behavioral health diagnosis had the lowest overall chronic condition prevalence at 15.1%, while prevalence ranged from 30.1% to 40.8% across the larger behavioral health groups. Children in the SMI/SED group had the highest overall chronic condition prevalence at 40.8% and also showed notably higher rates of Metabolic Risk Factors (15.0%), Social Determinants of Health concerns (14.1%), and asthma (10.4%).

Children with IDD also had elevated chronic condition prevalence, including higher rates of epilepsy (4.6%) and feeding difficulty (6.3%). The Mild/Moderate MI group showed higher rates of chronic pain/migraine, asthma, Social Determinants of Health concerns, and traumatic brain injury, while the Other group also had elevated feeding difficulty and GI functional disorders.

Overall, these findings indicate substantial overlap between behavioral and physical health needs among children with behavioral health diagnoses. The especially high chronic-condition burden among children with SMI/SED suggests that this group may benefit from integrated approaches addressing behavioral, physical, and social health needs together.

6.7. Chronic Conditions by Race/Ethnicity

The table below examines chronic condition prevalence across race and ethnicity groups to identify differences in diagnosed chronic disease burden within the Medicaid population. Differences observed across groups may reflect a combination of underlying health risk, social and environmental conditions, access to healthcare, healthcare utilization, and differences in opportunities for conditions to be diagnosed. Statistical significance was assessed using chi-square tests with Bonferroni correction.

Table 20. Chronic Conditions by Race/Ethnicity - Kalamazoo County*Percent with condition (2025)*

Condition	AI/AN (N=677)	Asian (N=561)	Black (N=22,085)	Hispanic (N=4,864)	NH/PI (N=73)	Other (N=4,978)	White (N=34,979)
Any Chronic Condition	43.0%	33.3%	35.2% ↓	29.7% ↓	42.5%	31.5% ↓	41.1% ↑
Cardiac Disease	3.7%	3.0%	3.2% ↓	1.0% ↓	4.1%	3.2%	4.4% ↑
Vascular Disease	1.0%	0.4%	1.8% ↓	0.5% ↓	1.4%	1.8%	2.5% ↑
Metabolic Risk Factors	26.0%	21.7%	22.1% ↓	17.2% ↓	27.4%	18.0% ↓	25.1% ↑
GI Functional Disorder	8.6%	6.6%	6.4% ↓	4.1% ↓	9.6%	7.4%	10.2% ↑
Chronic Pain/Migraine	13.7%	6.6%	9.3% ↓	5.8% ↓	9.6%	7.2% ↓	11.7% ↑
Social Determinants of Health	6.1%	2.7%	3.8%	4.1%	5.5%	4.7%	4.0%
Asthma	7.5%	3.6%	7.2% ↑	4.7% ↓	12.3%	4.2% ↓	5.8%
COPD	3.0%	0.7%	2.1% ↓	0.6% ↓	2.7%	1.7% ↓	4.1% ↑
Cancer	1.0%	1.8%	1.2% ↓	0.7% ↓	1.4%	1.3%	2.2% ↑
Epilepsy	2.4%	0.4%	1.4% ↓	0.7% ↓	2.7%	1.4%	2.1% ↑
Hypothyroidism	2.8%	3.0%	0.9% ↓	1.4% ↓	4.1%	2.1%	3.6% ↑
Long COVID	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Tobacco Use	4.7%	2.0%	4.0% ↓	1.9% ↓	6.8%	2.9% ↓	6.4% ↑
Prediabetes	2.2%	3.6%	2.1%	1.6%	2.7%	1.5%	2.0%
Sickle Cell Disease	0.1%	0.0%	0.6% ↑	0.1%	1.4%	0.1%	0.0% ↓
Traumatic Brain Injury	1.8%	0.0%	1.0%	0.9%	2.7%	1.1%	1.2%
Urinary Tract Infection	4.0%	2.1%	1.9% ↓	1.4% ↓	2.7%	1.9%	3.2% ↑
Feeding Difficulty	0.6%	0.2%	0.5%	0.4%	0.0%	1.1% ↑	0.6%
Inflammatory Bowel Disease	0.3%	0.7%	0.2% ↓	0.1%	0.0%	0.4%	0.6% ↑
Liver Disease	2.8%	1.8%	1.4% ↓	1.7%	1.4%	1.7%	2.7% ↑
Rheumatoid Arthritis	0.4%	0.9%	0.2%	0.1%	0.0%	0.1%	0.3%
Lupus/SLE	0.1%	0.2%	0.2%	0.1%	0.0%	0.1%	0.1%
Multiple Sclerosis	0.0%	0.0%	0.1%	0.0%	0.0%	0.1%	0.2% ↑
Chronic Kidney Disease	1.8%	2.3%	2.2%	0.7% ↓	0.0%	1.9%	2.2%

Bold font with red or green shading and an arrow indicates a rate is significantly higher (red ↑) or lower (green ↓) than the remaining population.

Darker shading indicates a greater proportional difference in rates.

Chronic condition prevalence varied across racial and ethnic groups. White enrollees had a significantly higher overall prevalence of any chronic condition at 41.1%. In contrast, Black enrollees (35.2%), Hispanic or Latino enrollees (29.7%), and those categorized as Other Race (31.5%) had significantly lower overall chronic condition prevalence than the remainder of the population. American Indian or Alaska Native enrollees had a relatively high overall prevalence at 43.0%, although this difference was not identified as statistically significant.

White enrollees also had significantly higher rates across numerous individual conditions, including cardiac and vascular disease, Metabolic Risk Factors, GI functional disorders, chronic pain/migraine, COPD, cancer, epilepsy, hypothyroidism, tobacco use, urinary tract infection, inflammatory bowel disease, liver disease, and multiple sclerosis. Black enrollees showed a different pattern: overall chronic condition prevalence was lower, but asthma (7.2%) and sickle cell disease (0.6%) were significantly higher than in the remainder of the population.

Hispanic or Latino and Other Race enrollees generally had lower documented prevalence across multiple chronic conditions. These patterns may reflect differences in underlying health risk, environmental and social conditions, healthcare access and utilization, and opportunities for conditions to be identified and documented. As a result, lower documented prevalence should not be interpreted as lower health need without additional context.

6.8. Chronic Conditions and Inpatient (IP) Hospitalization Risk

Chronic conditions are associated not only with disease burden but also with healthcare utilization. The following analyses examine the relationship between chronic conditions and inpatient hospitalization during 2025.

Inpatient utilization increased substantially as the number of chronic conditions increased. Individuals with no identified chronic conditions averaged only 0.21 inpatient days during 2025, while average inpatient days rose progressively with each additional condition. The increase became especially pronounced among individuals with nine or more chronic conditions, with average inpatient utilization exceeding 20 days for those with 9–11 conditions.

Although average inpatient days declined among individuals with 12 chronic conditions, the highest condition-count groups likely include relatively small numbers of enrollees and should be interpreted cautiously. Overall, the pattern demonstrates a strong relationship between greater chronic disease burden and increased use of inpatient care.

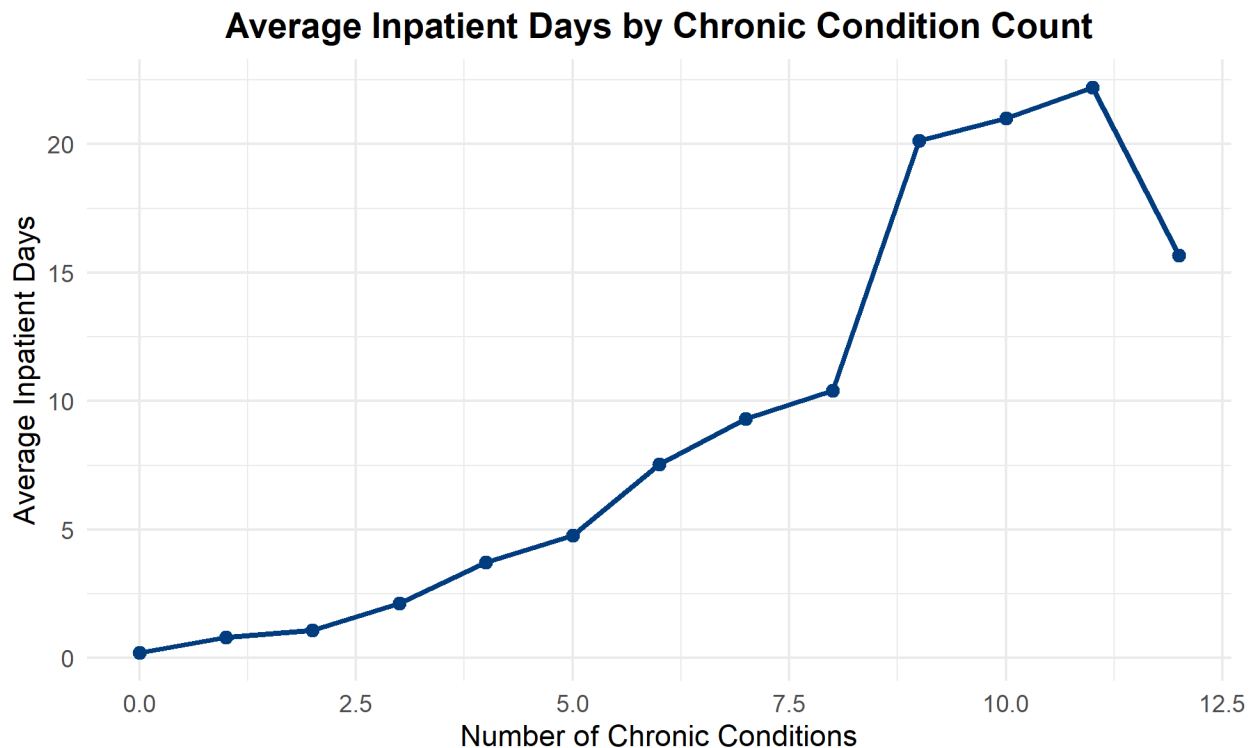


Figure 10: Average number of inpatient days among Medicaid enrollees, by total number of chronic conditions.

To identify which chronic conditions were most strongly and independently associated with inpatient hospitalization, a multivariable logistic regression model was used, predicting any inpatient hospitalization in 2025 from all conditions studied simultaneously. This approach estimates the association between each condition and hospitalization while accounting for the other conditions included in the model (LaValley, 2008).

Results are reported as adjusted odds ratios (ORs). An odds ratio greater than 1 indicates higher odds of hospitalization among individuals with the condition, while an odds ratio below 1 indicates lower odds, after accounting for the other conditions in the model.

Because very large samples can produce statistically significant results even when differences are small, statistical significance should be considered alongside the magnitude of the observed association (Peeters, 2016). For this reason, the table emphasizes conditions with **meaningfully large** associations (odds ratios greater than 1.5 or less than 0.67) rather than relying solely on statistical significance. These thresholds help distinguish conditions that may have greater practical importance for understanding hospitalization risk.

Table 21: Chronic Conditions Associated with Inpatient Hospitalization - Kalamazoo County			
Condition	Odds Ratio	95% CI	p-value
Sickle Cell Disease	8.06	(5.61 - 11.49)	<0.001
Social Determinants of Health	4.62	(4.20 - 5.07)	<0.001
Feeding Difficulty	3.01	(2.32 - 3.86)	<0.001
Urinary Tract Infection	2.88	(2.55 - 3.25)	<0.001
Cardiac Disease	2.49	(2.23 - 2.78)	<0.001
Liver Disease	2.42	(2.12 - 2.76)	<0.001
Inflammatory Bowel Disease	2.39	(1.75 - 3.21)	<0.001
Epilepsy	2.35	(2.02 - 2.73)	<0.001
Tobacco Use	2.08	(1.88 - 2.29)	<0.001
GI Functional Disorder	1.98	(1.82 - 2.15)	<0.001
Vascular Disease	1.79	(1.56 - 2.06)	<0.001
Multiple Sclerosis	1.72	(1.02 - 2.81)	0.036
Cancer	1.71	(1.46 - 2.00)	<0.001
Chronic Kidney Disease	1.66	(1.44 - 1.91)	<0.001

Table 21: Chronic Conditions Associated with Inpatient Hospitalization - Kalamazoo County

Condition	Odds Ratio	95% CI	p-value
Traumatic Brain Injury	1.64	(1.33 - 2.01)	<0.001
Metabolic Risk Factors	1.60	(1.49 - 1.72)	<0.001
Rheumatoid Arthritis	1.52	(1.01 - 2.24)	0.039
COPD	1.50	(1.33 - 1.70)	<0.001
Hypothyroidism	1.18	(1.03 - 1.36)	0.020
Long COVID	1.16	(0.43 - 2.70)	0.753
Asthma	1.14	(1.03 - 1.26)	0.012
Lupus/SLE	0.99	(0.55 - 1.73)	0.977
Chronic Pain/Migraine	0.80	(0.74 - 0.88)	<0.001
Prediabetes	0.64	(0.53 - 0.76)	<0.001

Multivariable logistic regression predicting any inpatient hospitalization in 2025, adjusting for all conditions listed simultaneously. OR > 1 indicates increased odds of hospitalization. Bold/colored rows have a meaningfully large odds ratio (>1.5 or <0.67), not just a significant p-value.

Several chronic conditions remained strongly associated with inpatient hospitalization after accounting for the other conditions included in the model. Sickle cell disease had the strongest association, with 8.06 times the odds of hospitalization compared with individuals without the condition, holding the other modeled conditions constant. Social Determinants of Health and feeding difficulty were also strongly associated with hospitalization, with adjusted odds ratios of 4.62 and 3.01, respectively.

Other conditions with meaningfully elevated hospitalization odds included urinary tract infection, cardiac disease, liver disease, inflammatory bowel disease, epilepsy, tobacco use, GI functional disorders, vascular disease, multiple sclerosis, cancer, chronic kidney disease, traumatic brain injury, Metabolic Risk Factors, rheumatoid arthritis, and COPD. In contrast, prediabetes was associated with lower adjusted odds of hospitalization. Chronic pain/migraine also had an odds ratio below 1, although it did not meet the report's threshold for a meaningfully large association.

The strong association observed for Social Determinants of Health is particularly notable. Although SDoH diagnoses do not represent a chronic physical disease, their association with hospitalization suggests that documented social and economic needs may be important markers of individuals at elevated risk for acute healthcare utilization.

While individual conditions provide useful information about hospitalization risk, the preceding analyses also demonstrate the importance of overall disease burden. Many

Medicaid enrollees experience multiple chronic and behavioral health conditions simultaneously. Examining these conditions together provides a more complete picture of health complexity and its relationship with healthcare utilization than considering individual diagnoses in isolation.

7. Inpatient and Emergency Department Utilization

Emergency department visits and inpatient hospitalizations represent some of the most intensive forms of healthcare utilization. Examining these patterns helps identify populations with greater healthcare needs and may highlight opportunities for prevention, care coordination, and earlier intervention. This section summarizes inpatient and emergency department utilization during 2025 and examines how utilization varies by age and behavioral health diagnosis group.

7.1. Overview and Methods

Medicaid inpatient and emergency department (ED) encounters during 2025 were analyzed to assess patterns of acute healthcare utilization in Kalamazoo County. The analysis included PIHP- and CMH-funded behavioral health inpatient services, including behavioral health state inpatient services, as well as acute medical inpatient and ED services funded by Medicaid Health Plans and Medicaid Fee-for-Service.

ED visits and medical inpatient days with a primary substance use service diagnosis were not available for this report because of 42 CFR Part 2 privacy protections. As a result, ED and medical inpatient utilization among individuals with substance use disorders is underrepresented in the analyses that follow.

For this analysis, an ED visit or inpatient day was classified as behavioral when the principal service diagnosis associated with the claim was behavioral and as medical when it was not. If multiple ED claims were billed on the same day and included both behavioral and medical principal service diagnoses, the visit was counted in both categories.

7.2. Overall Utilization

The following summary provides an overview of medical and behavioral health ED and inpatient utilization during 2025. Percentages represent the proportion of enrollees with at least one visit or inpatient day, while averages reflect utilization across the full Medicaid population, including individuals with no utilization during the year.

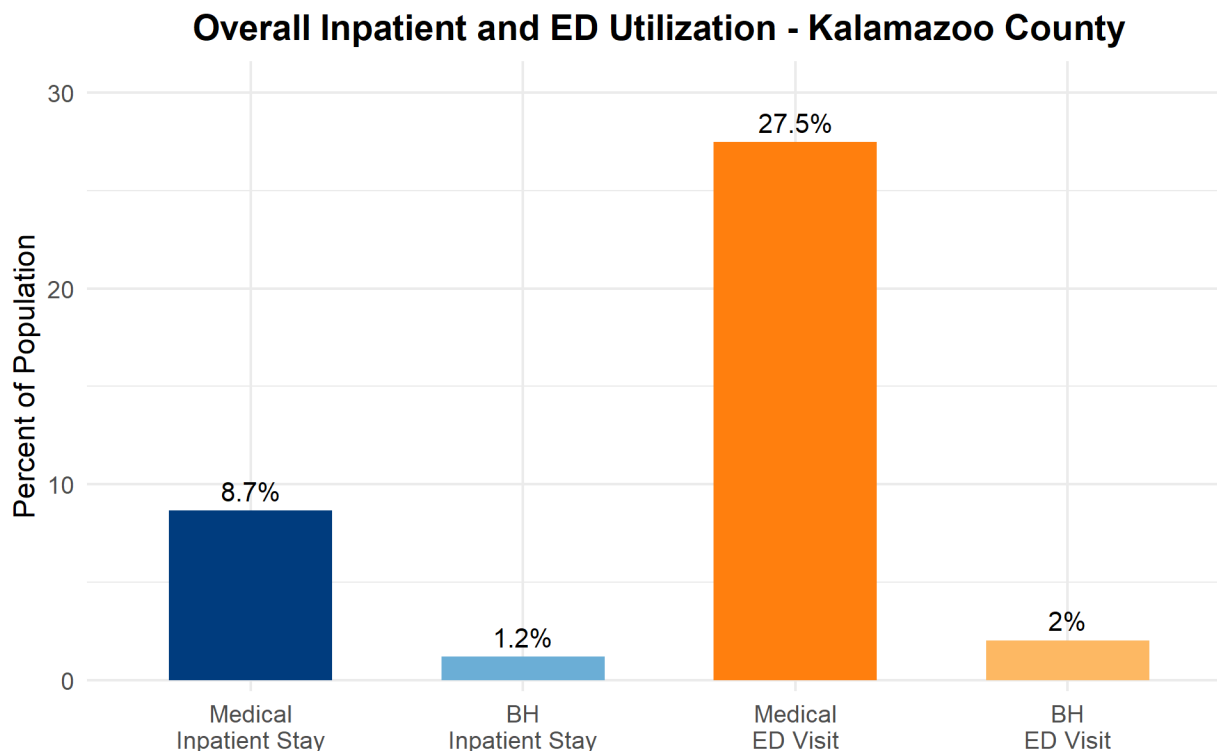


Figure 11: *Percent of Medicaid enrollees with at least one inpatient stay or emergency department visit, by service type, 2025.*

Medical emergency department use was the most common form of acute-care utilization, with 27.5% of enrollees having at least one medical ED visit during 2025. In comparison, 8.7% had at least one medical inpatient day, 2% had a behavioral health ED visit, and 1.2% had a behavioral health inpatient day. Across the full Medicaid population, enrollees averaged 2.35 medical ED visits and 0.14 behavioral health ED visits, along with 9.65 medical inpatient days and 2.98 behavioral health inpatient days.

7.3. Utilization by Age

Patterns of healthcare utilization vary across the lifespan as healthcare needs change with age. The following figures compare average medical and behavioral health ED visits and inpatient days across age groups during 2025.

7.3.1. Emergency Department Visits

The figure below compares average medical and behavioral health ED visits per enrollee across age groups.

Average BH and Medical ED Visits per Person by Age Group

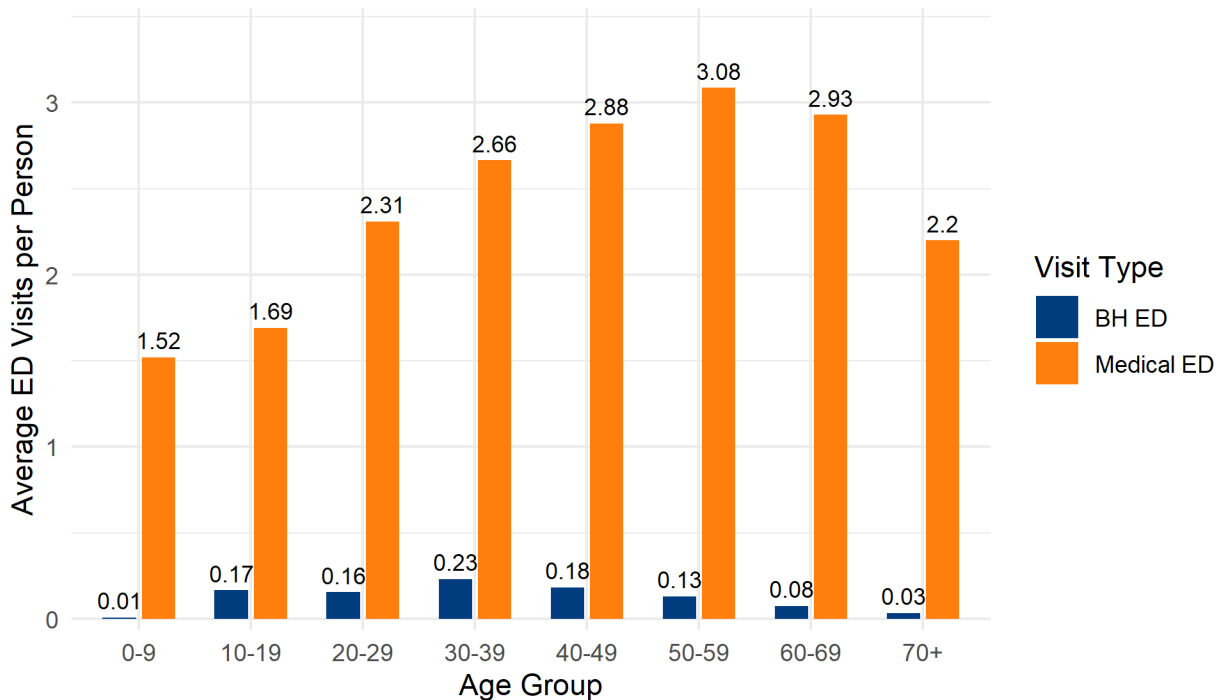


Figure 12: Average number of ED visits per Medicaid enrollee stratified by age group and visit type.

Medical ED utilization increased from childhood through middle adulthood, peaking among adults ages 50–59 at 3.08 visits per person before declining somewhat at older ages. Behavioral health ED utilization was much lower overall and showed a different age pattern, with the highest average rates among adolescents and younger adults. Behavioral health ED visits peaked among ages 30–39 at 0.23 visits per person and then declined steadily with age.

7.3.2. Inpatient Utilization

The figure below compares average medical and behavioral health inpatient days per enrollee across age groups.

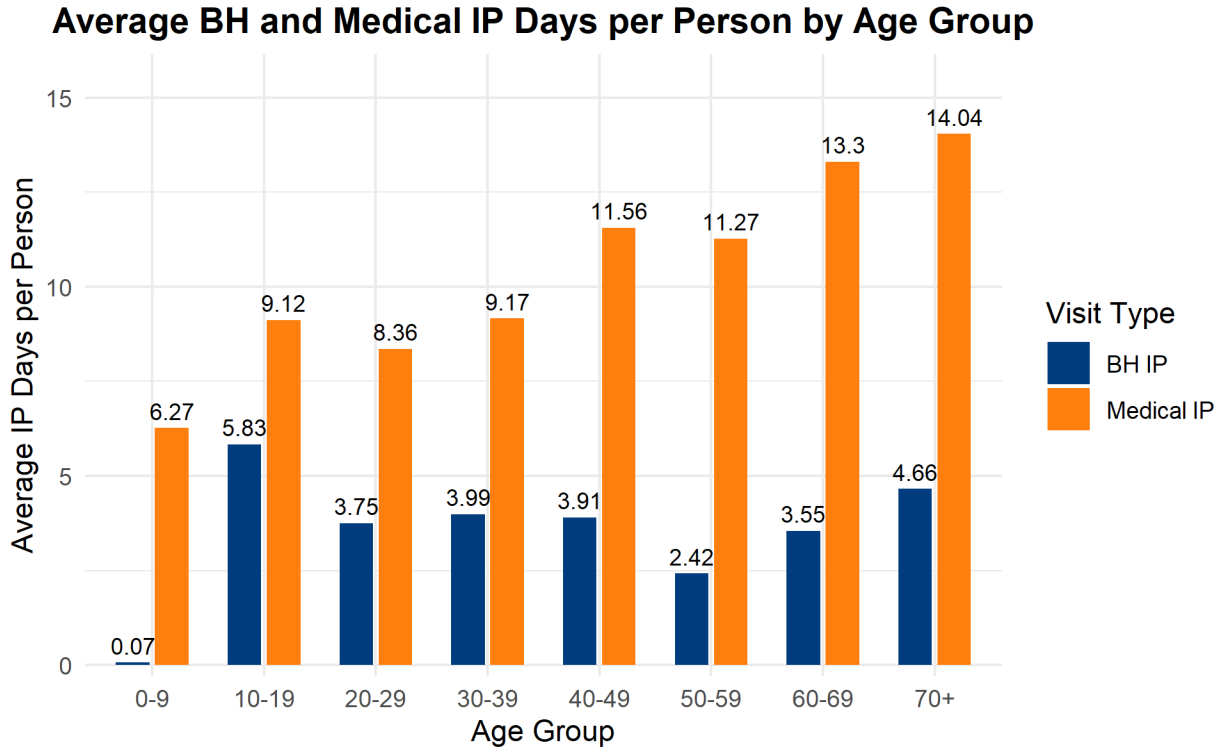


Figure 13: Average number of IP days per Medicaid enrollee stratified by age group and stay type.

Medical inpatient utilization increased overall with age, particularly beginning in middle adulthood. Average medical inpatient days rose from 6.27 days among ages 0–9 to 11.56 among ages 40–49, and were highest among adults age 70 and older at 14.04 days per person. Adults ages 60–69 also had high medical inpatient utilization at 13.30 days per person.

Behavioral health inpatient utilization followed a different age pattern. Adolescents ages 10–19 had the highest average at 5.83 days per person, while utilization remained elevated across adulthood, including 3.75–3.99 days among ages 20–49. After declining to 2.42 days among ages 50–59, behavioral health inpatient days increased again among adults ages 60–69 and 70 and older, reaching 4.66 days among the oldest age group.

7.4. Utilization Among Individuals with Behavioral Health Diagnoses

The following analyses examine medical and behavioral health utilization across the primary behavioral health diagnosis groups defined earlier in this report. Trends from 2022 through 2025 show average utilization per enrollee over time, while 2025 age-stratified comparisons help account for differences in age distribution across behavioral health populations.

For the age-stratified comparisons, each behavioral health diagnosis group is compared with enrollees in the same age bracket who had no behavioral health diagnosis. Ratios above 1 indicate higher average utilization than the same-age no-BH-diagnosis comparison group, while ratios below 1 indicate lower utilization.

7.4.1. Medical Emergency Department Visits

The figure and table below show average medical ED visits per enrollee by primary behavioral health diagnosis group from 2022 through 2025. The figure highlights changes over time, while the accompanying table provides the annual values and uses shading to make differences across groups easier to identify.

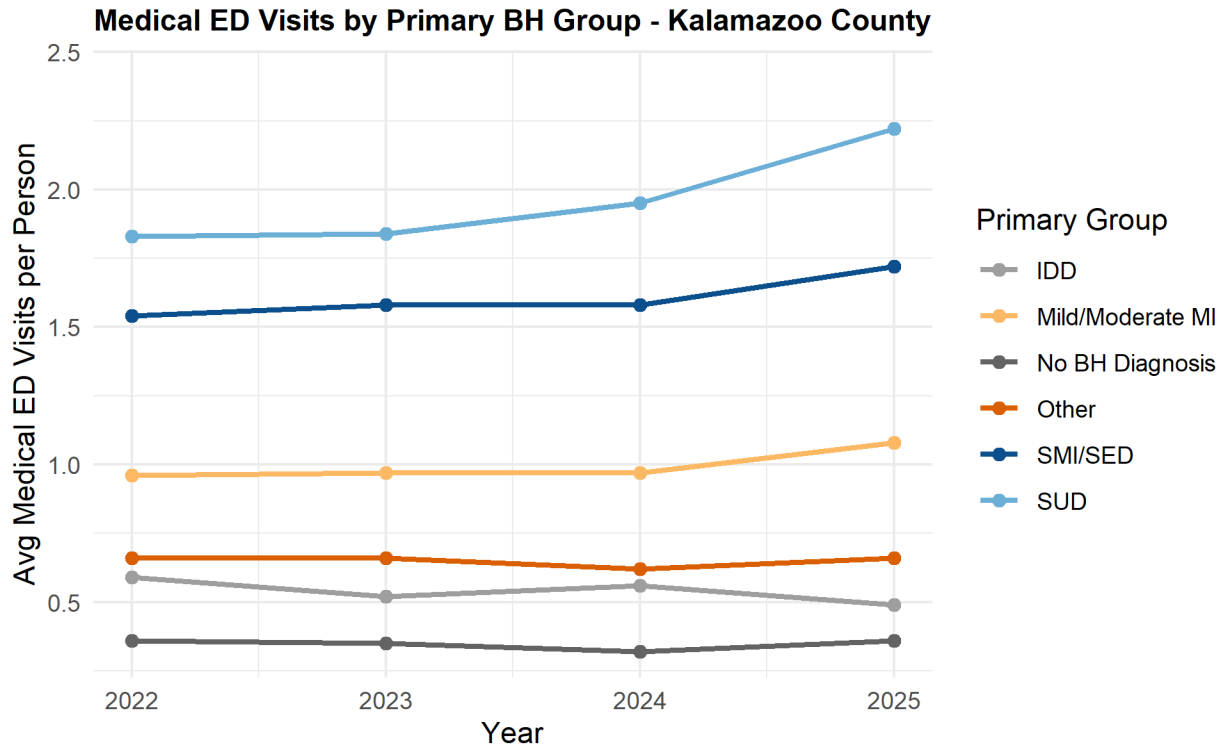


Figure 14: Average medical ED visits per person by primary BH group, 2022-2025.

Table 22. Average Medical ED Visits by Primary BH Group and Year - Kalamazoo County

Average visits per person, 2022-2025

Primary BH Group	2022	2023	2024	2025
IDD	0.59	0.52	0.56	0.49
Mild/Moderate MI	0.96	0.97	0.97	1.08
No BH Diagnosis	0.36	0.35	0.32	0.36
Other	0.66	0.66	0.62	0.66
SMI/SED	1.54	1.58	1.58	1.72
SUD	1.83	1.84	1.95	2.22

Medical ED utilization was consistently higher among enrollees with behavioral health diagnoses than among those with no behavioral health diagnosis. In 2025, individuals with SUD had the highest average medical ED utilization at 2.22 visits per person, followed by SMI/SED at 1.72 and Mild/Moderate MI at 1.08. Enrollees with no behavioral health diagnosis averaged 0.36 medical ED visits per person. Utilization patterns were relatively stable from 2022 through 2025, although SMI/SED and SUD remained persistently elevated.

The following table presents age-stratified risk ratios for having at least one medical ED visit in 2025, comparing each behavioral health diagnosis group with enrollees in the same age bracket who had no behavioral health diagnosis.

Table 23. Risk Ratios for Medical ED Visits - Kalamazoo County

Risk of 1+ medical ED visits compared with individuals with no BH diagnosis, by age bracket (2025)

Age Bracket	IDD	Mild/Moderate MI	Other	SMI/SED	SUD
0-9	0.95	1.10	1.40	1.37	N/A
10-19	1.57	2.03	1.73	2.57	3.26
20-29	1.10	1.85	2.33	2.13	2.86
30-39	1.17	1.84	2.19	2.11	2.49
40-49	1.24	1.84	2.58	1.97	2.50
50-59	0.80	1.91	3.00	1.82	2.36
60-69	1.50	2.03	2.54	2.16	3.01
70+	1.26	2.20	1.77	2.21	2.89

Risk ratio compares the proportion with at least one utilization event with the same-age No BH Diagnosis group. "N/A" indicates the reference group's risk was 0, so a risk ratio could not be calculated.

The elevated medical ED utilization observed among behavioral health populations remained evident when comparing the likelihood of any ED use within the same age groups. SUD showed some of the highest relative risks across most age brackets. Among adolescents ages 10–19, individuals with SUD were 3.26 times as likely to have at least one medical ED visit as same-age enrollees without a behavioral health diagnosis, while those with SMI/SED were 2.57 times as likely.

Elevated risk persisted throughout adulthood. SUD remained among the highest-risk groups, reaching 3.01 among ages 60–69 and 2.89 among adults age 70 and older. The Other diagnosis group also showed notably elevated risk in several age brackets, including 3.00 among ages 50–59, while Mild/Moderate MI and SMI/SED were consistently elevated across most adult age groups. These age-stratified comparisons indicate that higher medical ED utilization among behavioral health populations is not explained by age alone.

Medical ED utilization among individuals with SUD should be interpreted cautiously because ED services with a primary substance use diagnosis are not fully represented in the available data due to 42 CFR Part 2 restrictions.

7.4.2. Behavioral Health Emergency Department Visits

The figure and table below show average behavioral health ED visits per enrollee by primary behavioral health diagnosis group from 2022 through 2025. The figure highlights changes over time, while the accompanying table provides the annual values and uses shading to make differences across groups easier to identify.

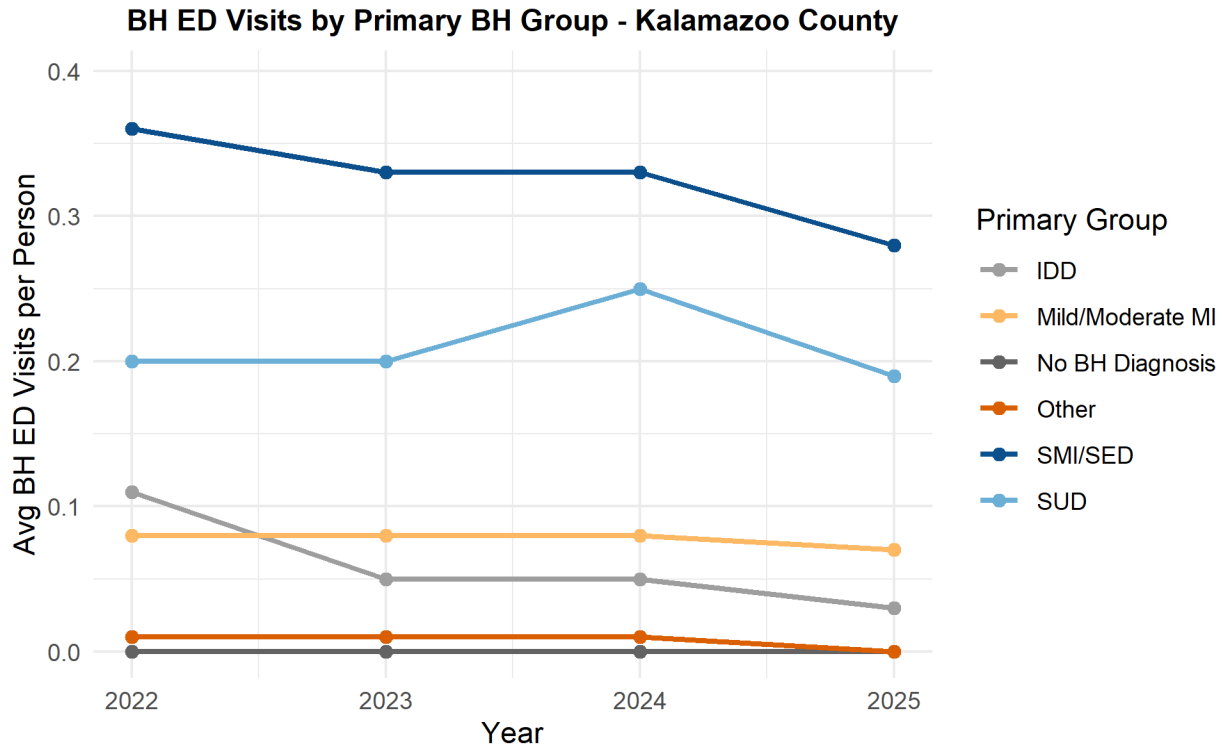


Figure 15: Average BH ED visits per person by primary BH group, 2022-2025.

Table 24. Average BH ED Visits by Primary BH Group and Year - Kalamazoo County

Average visits per person, 2022-2025

Primary BH Group	2022	2023	2024	2025
IDD	0.11	0.05	0.05	0.03
Mild/Moderate MI	0.08	0.08	0.08	0.07
No BH Diagnosis	0.00	0.00	0.00	0.00
Other	0.01	0.01	0.01	0.00
SMI/SED	0.36	0.33	0.33	0.28
SUD	0.20	0.20	0.25	0.19

Behavioral health ED utilization was concentrated primarily among individuals with SMI/SED and SUD. In 2025, the SMI/SED group had the highest average behavioral health ED utilization at 0.28 visits per enrollee, followed by SUD at 0.19. Utilization was substantially lower among the remaining behavioral health groups and was near zero among individuals without a behavioral health diagnosis.

SMI/SED remained the highest-utilization group throughout the study period, although its average declined from 0.36 visits per enrollee in 2022 to 0.28 in 2025. SUD utilization was also consistently elevated, increasing to 0.25 in 2024 before declining to 0.19 in 2025.

The following table further breaks down 2025 average utilization by age bracket to examine whether differences across primary behavioral health groups are consistent across age groups.

Table 25. Average BH ED Visits by Age Bracket and Primary BH Group - Kalamazoo County

Average visits per person, by age bracket (2025)

Age Bracket	IDD	Mild/Moderate MI	No BH Diagnosis	Other	SMI/SED	SUD
0-9	0.00	0.01	0.00	0.00	0.08	
10-19	0.04	0.07	0.00	0.02	0.32	0.08
20-29	0.10	0.07	0.00	0.00	0.32	0.15
30-39	0.01	0.09	0.00	0.06	0.45	0.23
40-49	0.07	0.09	0.00	0.00	0.27	0.20
50-59	0.00	0.07	0.00	0.04	0.17	0.19
60-69	0.04	0.03	0.00	0.00	0.12	0.15
70+	0.00	0.01	0.00	0.00	0.13	0.00

Age-specific patterns show that behavioral health ED utilization among individuals with SMI/SED was elevated across most age groups, with the highest average observed among adults ages 30–39 at 0.45 visits per person. Utilization was also elevated among adolescents and younger adults, at 0.32 visits per person among both ages 10–19 and 20–29.

SUD-related behavioral health ED utilization was concentrated primarily among working-age adults, reaching its highest average among ages 30–39 at 0.23 visits per person. Utilization remained elevated through ages 60–69 before dropping to zero among adults age 70 and older.

Overall, these findings suggest that crisis-oriented behavioral health ED utilization is particularly concentrated among populations with more severe or complex behavioral health needs, especially SMI/SED and SUD.

7.4.3. Medical Inpatient Utilization

The figure and table below show average medical inpatient days per enrollee by primary behavioral health diagnosis group from 2022 through 2025. The figure highlights changes over time, while the accompanying table provides the annual values and uses shading to make differences across groups easier to identify.

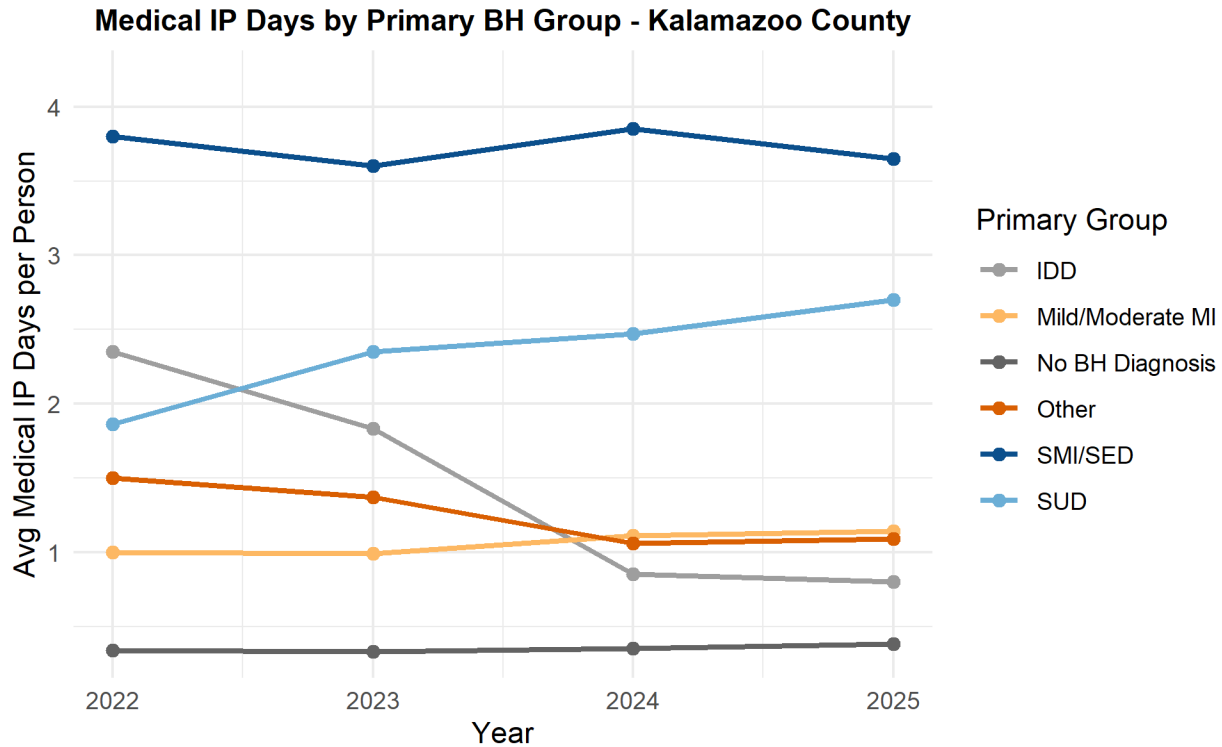


Figure 16: Average medical inpatient days per person by primary BH group, 2022-2025.

Table 26. Average Medical IP Days by Primary BH Group and Year - Kalamazoo County

Average days per person, 2022-2025

Primary BH Group	2022	2023	2024	2025
IDD	2.35	1.83	0.85	0.80
Mild/Moderate MI	1.00	0.99	1.11	1.14
No BH Diagnosis	0.34	0.33	0.35	0.38
Other	1.50	1.37	1.06	1.09
SMI/SED	3.80	3.60	3.85	3.65
SUD	1.86	2.35	2.47	2.70

Medical inpatient utilization was consistently higher among enrollees with behavioral health diagnoses than among those without a behavioral health diagnosis. In 2025, individuals with SMI/SED had the highest average medical inpatient utilization at 3.65 days per enrollee, followed by SUD at 2.70 days. Individuals without a behavioral health diagnosis averaged only 0.38 medical inpatient days.

SMI/SED remained the highest-utilization group throughout the study period, ranging from 3.60 to 3.85 days per enrollee before ending at 3.65 in 2025. SUD showed a clearer upward trend, increasing from 1.86 days in 2022 to 2.70 in 2025. In contrast, IDD declined substantially from 2.35 days in 2022 to 0.80 in 2025.

The following table presents age-stratified risk ratios for having any medical inpatient utilization in 2025, comparing each behavioral health diagnosis group with enrollees in the same age bracket who had no behavioral health diagnosis.

Table 27. Risk Ratios for Medical Inpatient Utilization - Kalamazoo County

Compared to individuals with no BH diagnosis, by age bracket (2025)

Age Bracket	IDD	Mild/Moderate MI	Other	SMI/SED	SUD
0-9	0.10	0.15	0.27	0.42	N/A
10-19	4.21	3.19	2.14	10.83	26.89
20-29	1.03	2.39	2.73	3.83	4.03
30-39	1.47	2.43	3.25	4.68	4.12
40-49	2.41	3.40	6.36	6.07	4.87
50-59	1.35	2.79	4.30	3.37	4.85
60-69	1.83	2.51	4.57	3.21	4.03
70+	1.34	2.65	2.51	2.83	3.43

Risk ratio compares the proportion with at least one utilization event with the same-age No BH Diagnosis group. "N/A" indicates the reference group's risk was 0, so a risk ratio could not be calculated.

The higher medical inpatient utilization observed among behavioral health populations was also evident when comparing the likelihood of any inpatient use within the same age groups. Among adolescents ages 10–19, SUD showed a particularly large relative risk at 26.89 compared with same-age enrollees without a behavioral health diagnosis, while SMI/SED was also markedly elevated at 10.83. IDD, Mild/Moderate MI, and the Other group were also associated with elevated inpatient risk in this age bracket.

Elevated risk persisted throughout adulthood across several behavioral health groups. SUD and SMI/SED remained consistently elevated, while the Other group also showed substantial relative risks across middle and later adulthood, including 6.36 among ages 40–49. Mild/Moderate MI was also elevated across all adult age brackets. These age-stratified

comparisons indicate that higher medical inpatient utilization among behavioral health populations is not explained by age alone.

The very large adolescent risk ratios should be interpreted alongside the underlying hospitalization rates and subgroup sizes, since low baseline utilization in the comparison group can produce large relative differences.

7.4.4. Behavioral Health Inpatient Utilization

The figure and table below show average behavioral health inpatient days per enrollee by primary behavioral health diagnosis group from 2022 through 2025. The figure highlights changes over time, while the accompanying table provides the annual values and uses shading to make differences across groups easier to identify.

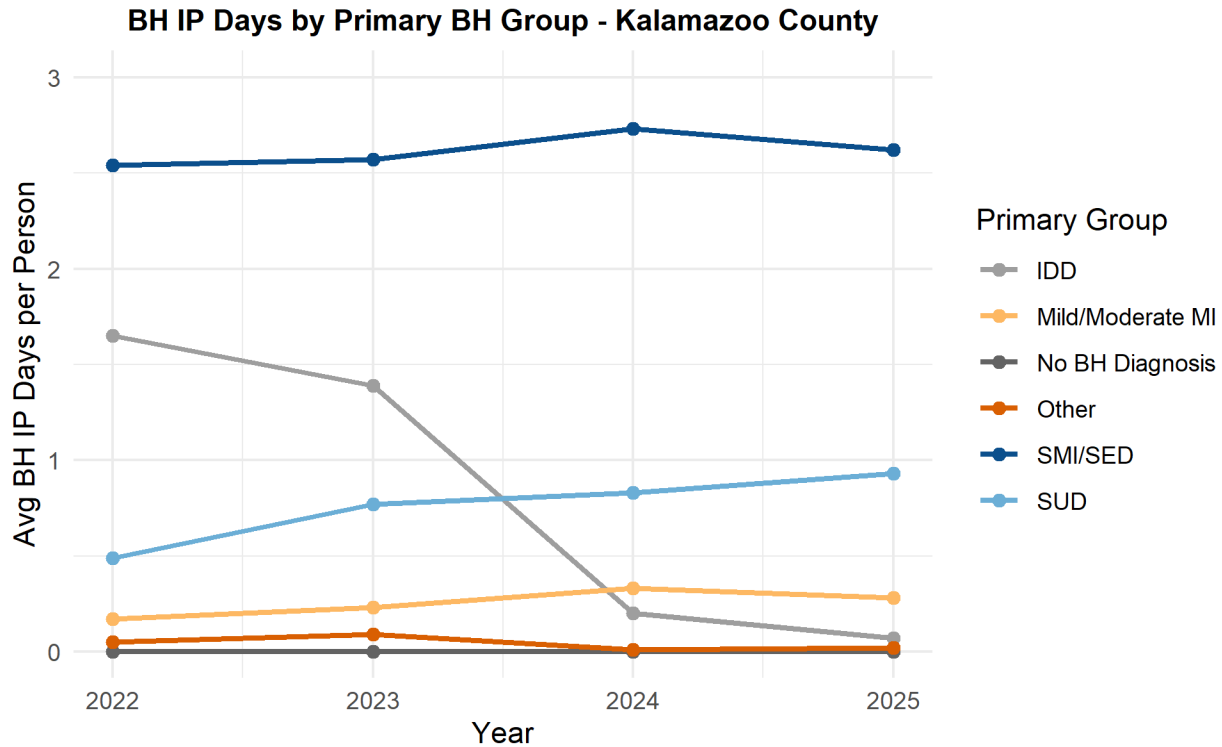


Figure 17: Average BH inpatient days per person by primary BH group, 2022-2025.

Table 28. Average BH IP Days by Primary BH Group and Year - Kalamazoo County

Average days per person, 2022-2025

Primary BH Group	2022	2023	2024	2025
IDD	1.65	1.39	0.20	0.07
Mild/Moderate MI	0.17	0.23	0.33	0.28
No BH Diagnosis	0.00	0.00	0.00	0.00
Other	0.05	0.09	0.01	0.02
SMI/SED	2.54	2.57	2.73	2.62
SUD	0.49	0.77	0.83	0.93

Behavioral health inpatient utilization was most heavily concentrated among individuals with SMI/SED throughout the study period. Average behavioral health inpatient days in this group remained consistently high, increasing from 2.54 days per enrollee in 2022 to a peak of 2.73 in 2024 before declining slightly to 2.62 in 2025.

SUD had the second-highest utilization in 2025 at 0.93 days per enrollee and showed a steady increase from 0.49 in 2022. In contrast, IDD showed a substantial decline, from 1.65 behavioral health inpatient days per enrollee in 2022 to 0.07 in 2025. Utilization remained much lower among the Mild/Moderate MI and Other groups and was near zero among individuals without a behavioral health diagnosis.

The following table breaks the 2025 average down further by age bracket, to show whether the relationship between primary BH group and BH inpatient utilization holds consistently across age groups.

Table 29. Average BH IP Days by Age Bracket and Primary BH Group - Kalamazoo County

Average days per person, by age bracket (2025)

Age Bracket	IDD	Mild/Moderate MI	No BH Diagnosis	Other	SMI/SED	SUD
0-9	0.00	0.01	0.00	0.00	0.35	
10-19	0.11	0.25	0.00	0.00	1.76	0.31
20-29	0.11	0.43	0.00	0.00	2.83	1.04
30-39	0.21	0.21	0.00	0.22	2.90	0.82
40-49	0.00	0.17	0.00	0.00	2.33	0.65
50-59	0.00	0.16	0.00	0.00	1.40	1.56
60-69	0.00	0.50	0.00	0.13	3.70	0.84
70+	0.00	0.98	0.00	0.08	9.01	0.00

SMI/SED had the highest average behavioral health inpatient utilization across nearly every age bracket. Utilization was elevated beginning in adolescence and remained high throughout adulthood, reaching 9.01 days per person among adults age 70 and older in 2025. SMI/SED utilization was also notably high among ages 20–39 and 60–69.

SUD-related behavioral health inpatient utilization was concentrated primarily among working-age adults, with the highest average observed among ages 50–59 at 1.56 days per person. In that age group, SUD slightly exceeded SMI/SED utilization.

Overall, the persistence of elevated behavioral health inpatient utilization among individuals with SMI/SED across the lifespan identifies this population as an important focus for crisis prevention, transitions of care, and ongoing community-based behavioral health supports. The especially high average among adults age 70 and older should be interpreted alongside the size of that subgroup, as small numbers can produce unstable averages.

7.5. Medical Emergency Department and Hospital Utilization by Type of Behavioral Health Diagnosis

The analyses above compare utilization across the broader primary behavioral health diagnosis groups used throughout this report. The following figure provides a more detailed view by examining the most common specific behavioral health diagnosis categories.

Average medical ED visits and medical inpatient days are shown together to illustrate how patterns of acute medical utilization differ across behavioral health diagnoses. Diagnosis categories appearing farther to the right have higher average medical ED utilization, while those appearing higher on the figure have higher average medical inpatient utilization.

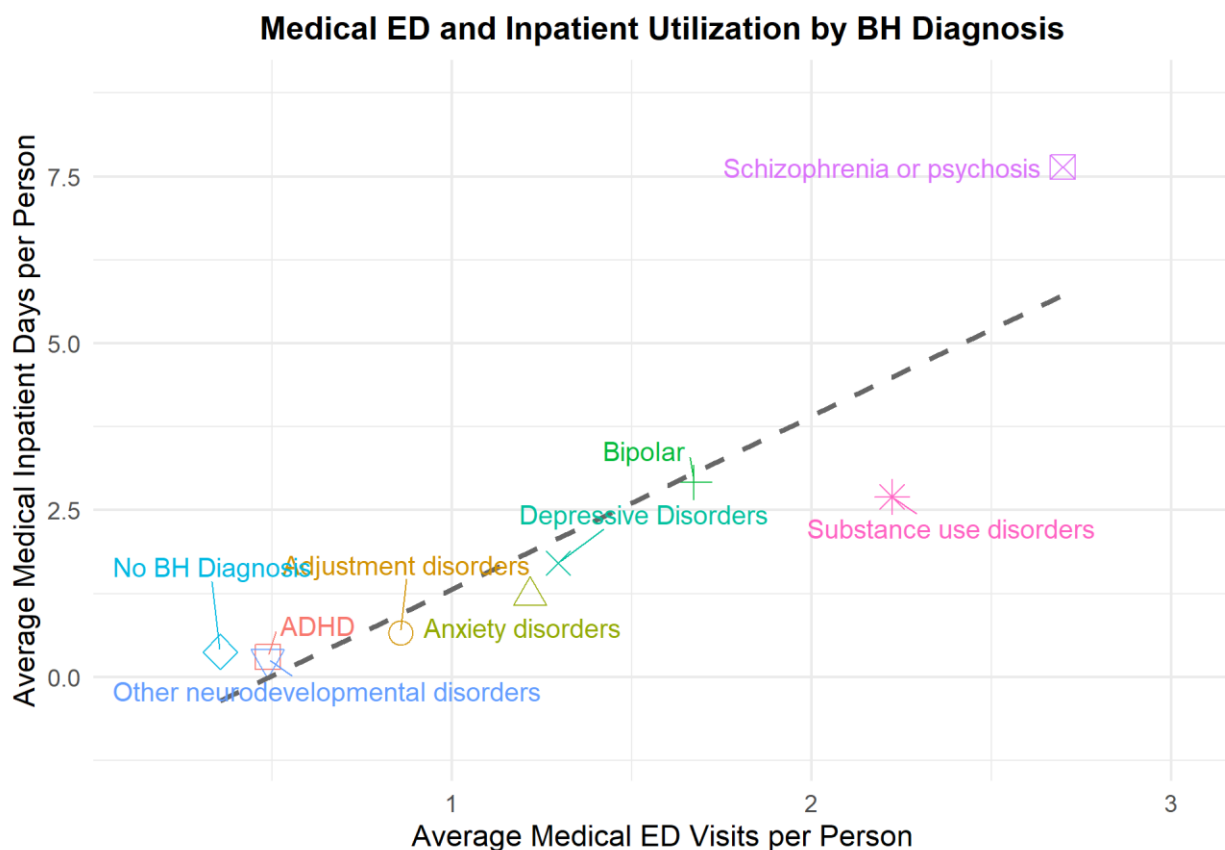


Figure 18: Average medical ED visits and inpatient days per Medicaid enrollee among the most common behavioral health diagnosis categories.

Acute medical utilization differed substantially across specific behavioral health diagnosis categories. Schizophrenia or psychosis stood out with by far the highest average medical inpatient utilization, at approximately 7.6 days per person, and also had the highest medical ED utilization at approximately 2.7 visits per person. Substance use disorders also showed high ED utilization at about 2.2 visits per person, while bipolar disorder was elevated on both measures.

The figure also shows that higher medical ED utilization does not always correspond directly with higher inpatient utilization. Substance use disorders had relatively high ED utilization but substantially fewer inpatient days than schizophrenia or psychosis. Depressive disorders and bipolar disorder also showed comparatively high inpatient utilization relative to their ED use. These differences suggest that specific behavioral health conditions may be associated with different patterns of acute medical need and may require different approaches to care coordination and prevention.

Medical ED and inpatient utilization among individuals with substance use disorders may be underrepresented because services with a primary substance use diagnosis are not fully available in the data.

Together, these analyses demonstrate that healthcare utilization varies substantially across behavioral health populations. Differences are evident in both emergency department and inpatient use and persist across multiple years and age groups. The consistently elevated utilization observed among populations with SMI/SED, SUD, and several specific serious behavioral health diagnoses reinforces the importance of integrated medical and behavioral health care, care coordination, and strategies aimed at reducing avoidable acute-care use.

8. Multimorbidity and Hospitalization Risk

8.1. Overview and Methodology

Individuals with multiple chronic and behavioral health conditions often have more complex healthcare needs, making care coordination, resource planning, and prevention efforts more challenging (Skou et al., 2022). Understanding which conditions commonly occur together can help identify groups of individuals with similar healthcare needs and support more targeted interventions.

To better understand these patterns, this report uses **latent class analysis (LCA)**. LCA is a statistical method used to identify unobserved groups within a population based on patterns across multiple observed characteristics (Sinha et al., 2021). Rather than examining one diagnosis at a time, LCA considers an individual's broader pattern of chronic and behavioral health conditions and groups people with similar profiles together. Unlike approaches that require disease combinations to be defined in advance, LCA identifies these patterns directly from the data. LCA has been used in healthcare research to identify patterns of multimorbidity and examine differences in healthcare utilization across the resulting groups (Whitson et al., 2016).

The analysis was conducted once at the regional level using all SWMBH Medicaid enrollees who were ever diagnosed with at least one condition of interest between 2022 and 2025. Based on the overall patterns of co-occurring conditions, six distinct multimorbidity classes were identified:

- **Low Diagnosis Complexity** - Few diagnosed chronic or behavioral health conditions, with no condition strongly elevated relative to the other classes.
- **Metabolic Health Complexity** - Predominantly characterized by metabolic syndrome, with modest elevations in related chronic conditions such as cardiac disease, chronic kidney disease, prediabetes, and tobacco use.
- **Anxiety and Depressive Disorders** - Primarily characterized by elevated anxiety and depressive disorders, with some additional behavioral health conditions but comparatively lower chronic physical health burden.
- **High Chronic Complexity** - Multiple co-occurring chronic physical health conditions, including metabolic, cardiovascular, gastrointestinal, respiratory, kidney, liver, vascular, and chronic pain-related conditions.
- **Neurodevelopmental Disorders & IDD** - Predominantly characterized by ADHD, other neurodevelopmental conditions, impulse control or conduct disorders, and intellectual/developmental disabilities.
- **Complex Behavioral Health** - Multiple co-occurring behavioral health conditions, including anxiety, depression, PTSD, bipolar disorder, substance use disorders, schizophrenia or psychosis, personality disorders, and related conditions.

Every enrollee in the ever-diagnosed 2022–2025 population was assigned to the single class that best matched their overall pattern of diagnoses. Because class assignment was

based on diagnoses accumulated over the full four-year period, the classes represent longer-term health profiles rather than an individual's health status during 2025 alone.

Once each enrollee was assigned to a multimorbidity class, the classes were examined to better understand how common each health profile was within the population and whether different profiles were associated with differences in healthcare utilization. Rather than focusing on individual diagnoses, the following analyses compare groups of individuals with similar overall patterns of chronic and behavioral health conditions.

8.2. Multimorbidity Class Diagnosis Profiles

The figure below illustrates the diagnosis patterns that distinguish the six multimorbidity classes. Each cell represents the estimated probability that an enrollee assigned to a class had a particular chronic or behavioral health condition. Darker shading and higher percentages indicate that the condition was more characteristic of that class. These probabilities describe the profile of each class and should not be interpreted as the percentage of the full Medicaid population with the condition.

The multimorbidity classes and diagnosis profiles shown here were developed using the full SWMBH regional population. The same regional class definitions were then applied in each county report, allowing class distributions and outcomes to be compared consistently across the region. The figure is therefore identical across the regional and county reports, while the class distribution and utilization results that follow are specific to Kalamazoo County.

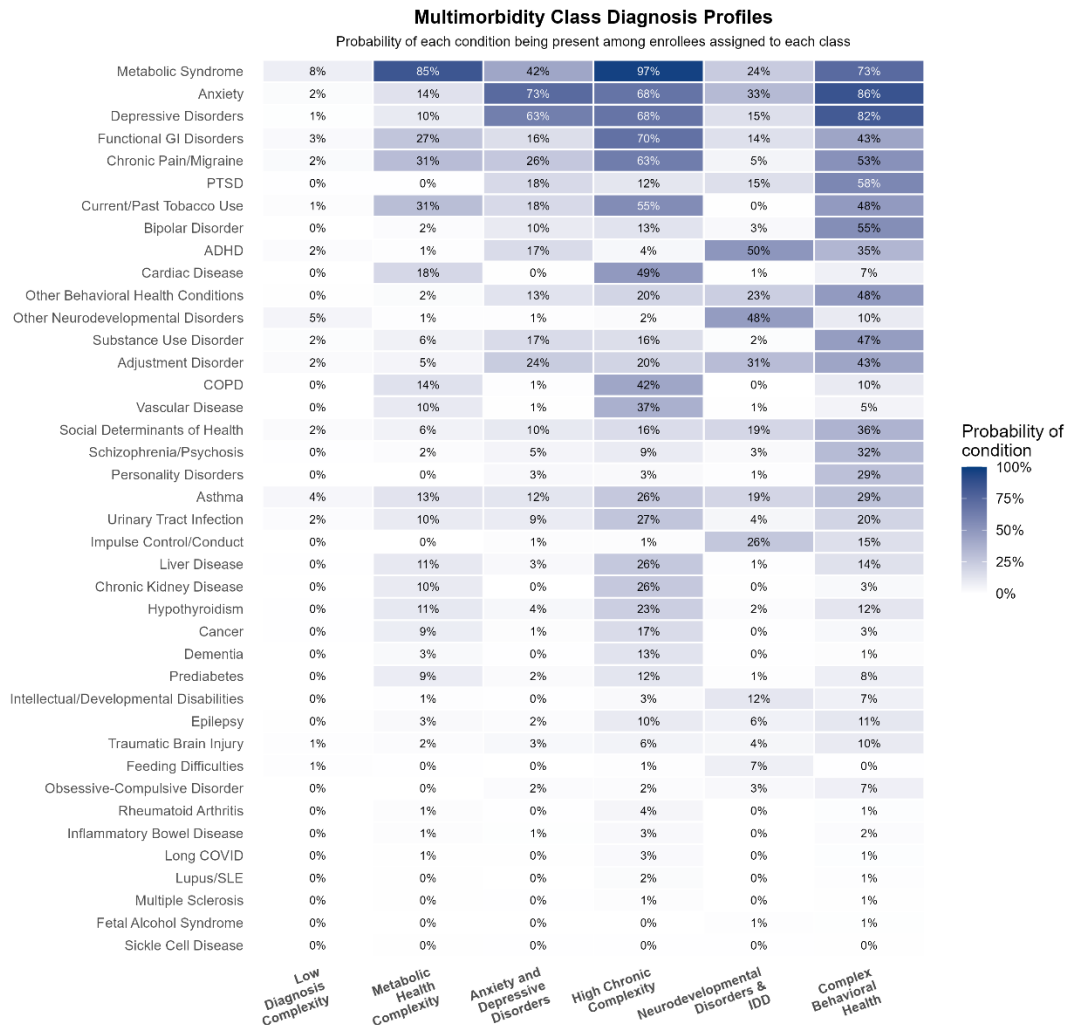


Figure 19: Estimated probability of each condition being present within each regionally defined multimorbidity class.

The six classes reflect distinct patterns of physical and behavioral health complexity. Low Diagnosis Complexity is characterized by relatively low probabilities across nearly all conditions, while Metabolic Health Complexity is dominated by metabolic syndrome and related chronic conditions. Anxiety and Depressive Disorders is distinguished primarily by anxiety and depression with comparatively lower physical health burden. High Chronic Complexity shows broad elevation across multiple physical health conditions, particularly metabolic, cardiac, gastrointestinal, respiratory, kidney, liver, and pain-related diagnoses. Neurodevelopmental Disorders & IDD is characterized by ADHD, other neurodevelopmental conditions, impulse control/conduct disorders, and IDD, while Complex Behavioral Health shows the broadest concentration of co-occurring behavioral health diagnoses, including anxiety, depression, PTSD, bipolar disorder, SUD, schizophrenia/psychosis, and personality disorder.

8.3. Class Distribution and Utilization

The following table summarizes the distribution of multimorbidity classes within the ever-diagnosed Medicaid population and compares emergency department utilization and inpatient utilization across classes. Together, these measures illustrate how overall health complexity is associated with healthcare utilization.

Table 30: Multimorbidity Class Distribution and Utilization - Kalamazoo County				
Multimorbidity Class	N	% of Population	ED per 1,000	IP per 1,000
Low Diagnosis Complexity	58,038	56.7%	240.5	316.4
Metabolic Health Complexity	11,267	11.0%	728.5	1,171.9
Anxiety and Depressive Disorders	17,252	16.8%	639.5	569.1
High Chronic Complexity	5,422	5.3%	2,121.8	4,435.3
Neurodevelopmental Disorders & IDD	5,731	5.6%	500.4	925.0
Complex Behavioral Health	4,711	4.6%	3,014.5	4,580.1

Ever-diagnosed population, 2022-2025. Utilization rates are annualized averages across each person's active years.

Most individuals in the ever-diagnosed population were classified as Low Diagnosis Complexity (56.7%), while the more complex multimorbidity classes represented substantially smaller portions of the population. Despite their smaller size, Complex Behavioral Health and High Chronic Complexity had markedly higher acute-care utilization than the other multimorbidity groups. Together, these two classes represented 9.9% of the ever-diagnosed population but had the highest ED and inpatient utilization rates.

Complex Behavioral Health had the highest ED utilization at 3,014.5 visits per 1,000 person-years and the highest inpatient utilization at 4,580.1 per 1,000 person-years. High Chronic Complexity was similarly elevated, with 2,121.8 ED visits and 4,435.3 inpatient events per 1,000 person-years. In contrast, Neurodevelopmental Disorders & IDD had substantially lower acute-care utilization despite representing another clinically complex population.

The following figure provides a visual summary of the distribution of multimorbidity classes within the Medicaid population.

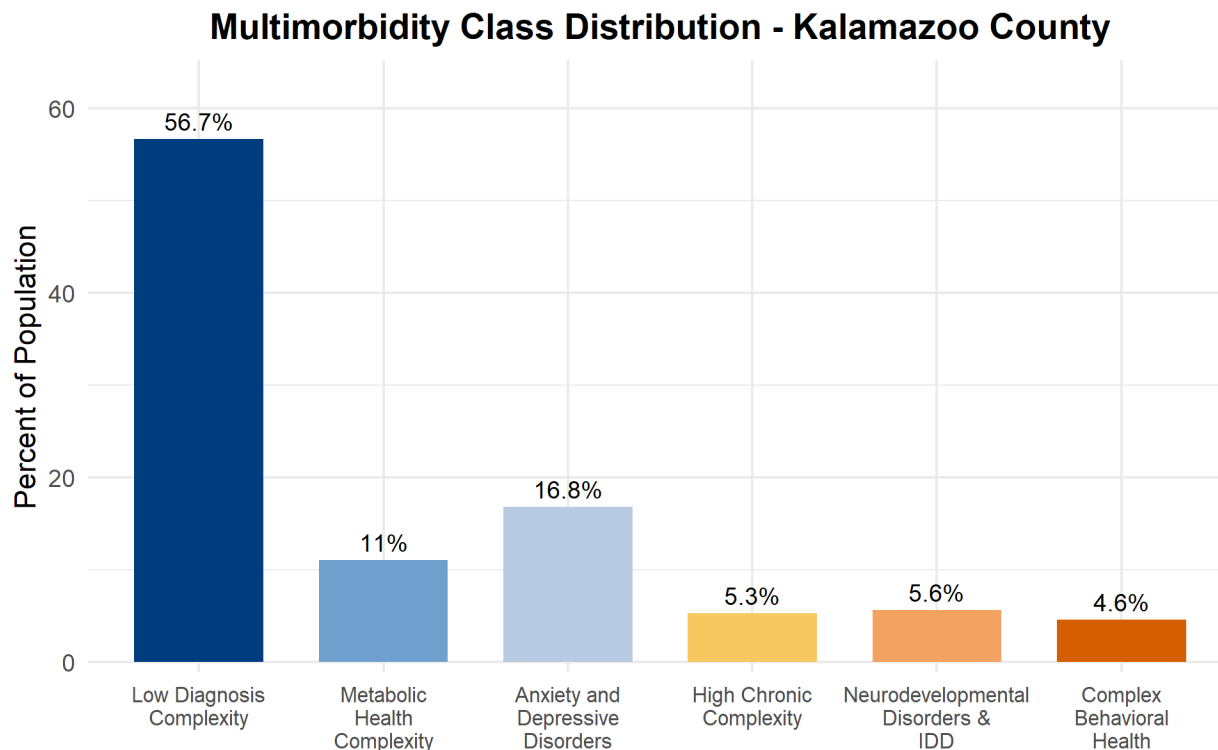


Figure 20: *Percent of the ever-diagnosed population in each multimorbidity class.*

Most individuals in the ever-diagnosed population were classified as Low Diagnosis Complexity (56.7%), followed by Anxiety and Depressive Disorders (16.8%) and Metabolic Health Complexity (11.0%). The more complex classes represented smaller portions of the population, including Neurodevelopmental Disorders & IDD at 5.6%, High Chronic Complexity at 5.3%, and Complex Behavioral Health at 4.6%.

Despite their smaller size, the Complex Behavioral Health and High Chronic Complexity classes may represent particularly important populations for intensive care coordination, transitions-of-care interventions, and strategies addressing co-occurring behavioral and physical health needs because of their high acute-care utilization.

Comparing emergency department and inpatient utilization across multimorbidity classes helps identify which health profiles are associated with the greatest use of acute healthcare services. The following figure presents annualized utilization rates for each class.

ED and IP Utilization by Multimorbidity Class - Kalamazoo County

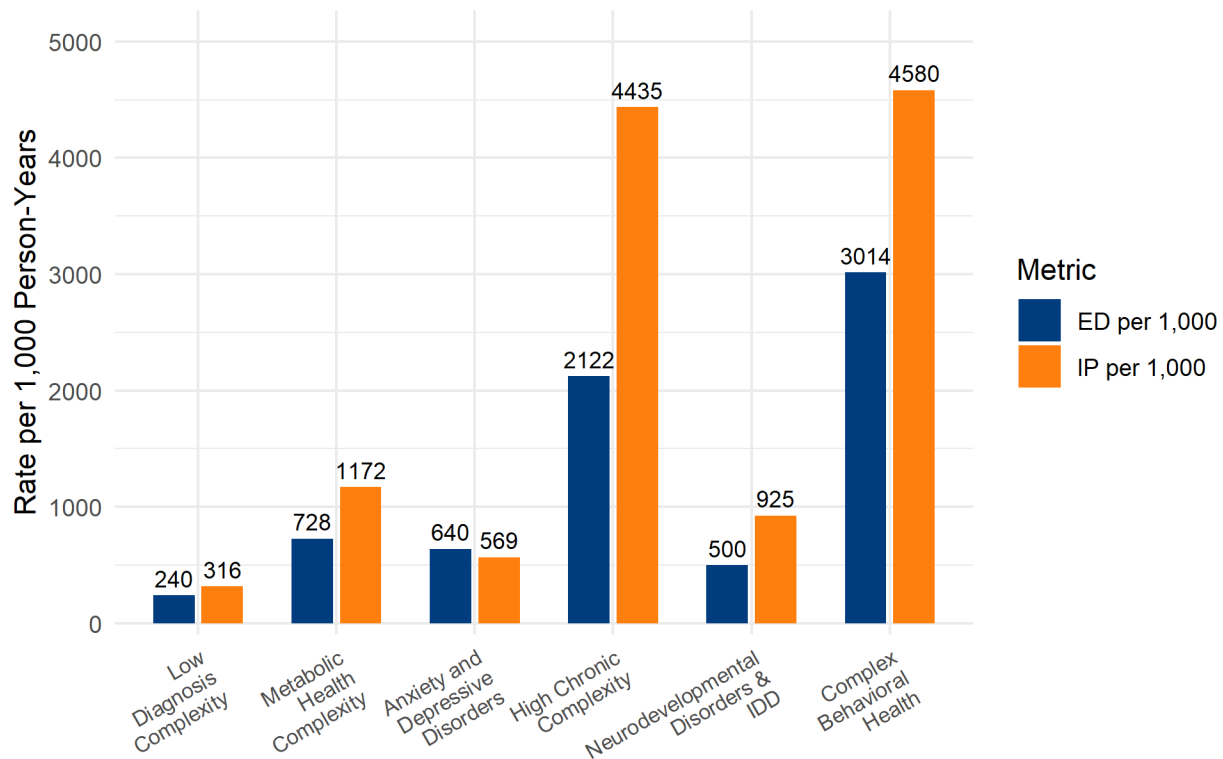


Figure 21: Average ED and IP utilization rates per 1,000 person-years, by multimorbidity class.

Acute-care utilization varied substantially across multimorbidity classes. Complex Behavioral Health had the highest ED utilization at 3,014 visits per 1,000 person-years and the highest inpatient utilization at 4,580 per 1,000 person-years. High Chronic Complexity was similarly associated with very high acute-care use, with 2,122 ED visits and 4,435 inpatient events per 1,000 person-years.

The remaining classes had substantially lower acute-care utilization. Metabolic Health Complexity had 728 ED visits and 1,172 inpatient events per 1,000 person-years, while Neurodevelopmental Disorders & IDD had 500 and 925, respectively. Anxiety and Depressive Disorders showed comparatively higher ED than inpatient utilization, at 640 ED visits and 569 inpatient events per 1,000 person-years.

Overall, the findings identify Complex Behavioral Health and High Chronic Complexity as particularly high-utilization populations, while also showing that different multimorbidity profiles are associated with distinct patterns of ED and inpatient use.

9. Healthcare Quality and Medication Monitoring

9.1. Disease Management Metrics

Monitoring adherence to evidence-based clinical guidelines helps identify opportunities to improve healthcare quality and prevent avoidable complications. This section summarizes selected adult disease management measures reported through the Relias Population Performance platform. These measures evaluate whether eligible Medicaid enrollees received recommended monitoring or treatment for selected conditions.

Measure direction varies across the analyses in this section. For disease management measures, higher percentages generally indicate better adherence to recommended care. Medication utilization rates are descriptive and do not have an inherently favorable direction. For pharmacy quality indicators, lower triggering rates are generally preferable because higher rates indicate that a greater proportion of individuals met criteria for a situation warranting clinical review. Specific interpretation guidance is provided with each analysis. Individuals dually eligible for Medicare and Medicaid are excluded because complete Medicare claims were not available for this analysis.

Table 31. Adult Disease Management Metric Completion - Kalamazoo County

Percent completed, 2025

Metric ID	Quality Metric	SWMBH	Kalamazoo
343	Presence of at least 84 days of continuous treatment with an Antidepressant medication	62.7%	58.6%
515	Adherence to Mood Stabilizer medications for individuals with bipolar disorder	55.6%	53.7%

Kalamazoo County performed below the SWMBH regional rate on both adult disease management measures. Continuous antidepressant treatment was completed for 58.6% of eligible individuals compared with 62.7% regionally, while adherence to mood stabilizer medications among individuals with bipolar disorder was 53.7% compared with 55.6% for SWMBH overall.

Because higher completion rates are preferable for both measures, these results suggest potential opportunities to improve medication continuity and adherence among adults receiving treatment for depression and bipolar disorder. Continued monitoring may help determine whether these gaps persist over time.

9.2. Behavioral Pharmacy Analysis

Medication use and medication management are important components of behavioral healthcare quality. The following analyses summarize behavioral health medication utilization, pharmacy quality indicators, and associations between pharmacy quality indicators and hospitalization among adults and children.

9.2.1. Adults

9.2.1.1. Adult General Behavioral Pharmacy Use Data

The following table summarizes behavioral health medication utilization among adults in 2025 and compares Kalamazoo County with the overall SWMBH region. Medication utilization rates are descriptive and should not be interpreted as measures in which a higher or lower percentage necessarily represents better performance. Differences may reflect variation in diagnoses, clinical need, prescribing practices, or other population characteristics.

Table 32. Adult Behavioral Health Medication Utilization - Kalamazoo County

Percent utilizing, 2025

Medication Class	SWMBH	Kalamazoo
Opioids	4.2%	4.3%
Insomnia Agents	3.0%	2.9%
ADHD: Stimulants	2.8%	2.7%
Antipsychotics	5.5%	5.7%
Antidepressants	14.5%	14.5%
Antidepressants: SSRIs	8.7%	8.7%
Mood Stabilizers	2.7%	2.9%
Benzodiazepines	3.4%	3.1%
ADHD Medication	3.3%	3.3%
Antidepressants: TCAs	1.2%	1.1%

Antidepressants were the most commonly utilized behavioral health medication class among adults in Kalamazoo County, with 14.5% receiving an antidepressant and 8.7% receiving an SSRI. Antipsychotics were used by 5.7% of adults, while ADHD medications were used by 3.3% and stimulants by 2.7%. Opioids, insomnia agents, mood stabilizers, benzodiazepines, and TCAs each had utilization rates below 5%.

Compared with the SWMBH region overall, medication utilization in Kalamazoo County was generally very similar across most classes. Antipsychotic and mood stabilizer use were slightly higher, while benzodiazepine, stimulant, insomnia-agent, and TCA use were slightly lower. Antidepressant, SSRI, and overall ADHD medication utilization were essentially the same as the regional rates.

9.2.1.2. Adult Quality Indicator Triggering Rates

Pharmacy quality indicators identify medication-related situations that may warrant additional clinical review. For these measures, lower triggering rates are generally preferable because a higher percentage indicates that more individuals met the criteria for a potential medication-management concern. Triggering an indicator does not, however, confirm inappropriate care for any individual.

Table 33. Adult Pharmacy Quality Indicator Triggering Rates - Kalamazoo County

Percent triggered, 2025

Metric ID	Quality Metric	SWMBH	Kalamazoo
214	Failure to Refill Antipsychotic Medication	11.2%	13.0%
217	Use of four or more psychotropic medications for 60 or more days	3.5%	4.0%
231	Use of Opioids and Benzodiazepines for 30 or More Days	35.3%	23.1%
283	Multiple prescribers of the same class of psychotropic medications for 45 or more days	3.9%	3.8%

Among adults in Kalamazoo County, the most common pharmacy quality indicator was concurrent use of opioids and benzodiazepines for 30 or more days, which triggered for 23.1% of the population evaluated for that measure. Failure to refill antipsychotic medication triggered for 13.0% of adults, while 4.0% triggered the indicator for use of four or more psychotropic medications for 60 or more days and 3.8% triggered the indicator for multiple prescribers of the same class of psychotropic medications for 45 or more days. Lower triggering rates are generally preferable for these measures because they indicate fewer individuals met criteria for a situation warranting additional clinical review.

Compared with the SWMBH region, Kalamazoo County had a substantially lower and therefore more favorable triggering rate for concurrent opioid and benzodiazepine use (23.1% vs. 35.3%) and a very similar rate for multiple prescribers of the same psychotropic medication class (3.8% vs. 3.9%). In contrast, Kalamazoo County had higher and potentially less favorable triggering rates for failure to refill antipsychotic medication (13.0% vs. 11.2%) and use of four or more psychotropic medications (4.0% vs. 3.5%). These indicators may help identify areas for additional clinical review, although triggering an indicator should not be interpreted on its own as evidence of inappropriate prescribing or care.

9.2.1.3. Adult Hospitalization Rates by Quality Indicator

The following table compares hospitalization rates among adults with and without each pharmacy quality indicator. Rates are expressed per 100 individuals, and relative risks compare each quality indicator group with adults who triggered no pharmacy quality indicators.

Table 34. Adult Hospitalization Rates by Pharmacy Quality Indicator - Kalamazoo County

Hospitalizations per 100, with risk ratio vs. no QIs triggered (2025)

Metric ID	Quality Indicator	N	% of Population	Total / 100	RR - Total	BH / 100	RR - BH	Non-BH / 100	RR - Non-BH
1	No QIs Triggered	31,232	95.9%	9.1	Ref.	1.0	Ref.	8.1	Ref.
2	1+ QIs Triggered	1,337	4.1%	48.8	5.34 ↑	7.6	7.33 ↑	41.1	5.08 ↑
515	Adherence to Mood Stabilizer medications for individuals with bipolar disorder	113	0.3%	24.8	2.71 ↑	16.8	16.19 ↑	8.0	0.99
231	Use of opioids and benzodiazepines for 30 or more days	60	0.2%	18.3	2.00 ↑	1.7	1.64 ↑	16.7	2.06 ↑
343	Presence of at least 84 days of continuous treatment with an Antidepressant medication	535	1.6%	12.0	1.31 ↑	3.2	3.08 ↑	8.8	1.09
214	Failure to refill antipsychotic medication within 30 days of the prescription ending	214	0.7%	32.2	3.52 ↑	15.9	15.33 ↑	16.4	2.03 ↑
217	Use of four or more psychotropic medications for 60 or more days	192	0.6%	22.4	2.45 ↑	6.8	6.55 ↑	15.6	1.93 ↑
283	Multiple prescribers of the same class of psychotropic medications for 45 or more days	233	0.7%	31.8	3.48 ↑	7.3	7.04 ↑	24.5	3.03 ↑

Shading with an arrow identifies meaningfully elevated (red ↑, RR > 1.20) or lower (green ↓, RR < 0.83) risk ratios. "Ref." indicates the no-QI reference group.

Adults who triggered at least one pharmacy quality indicator experienced substantially higher hospitalization rates than those who triggered none. Individuals with one or more indicators had 48.8 hospitalizations per 100 people, compared with 9.1 per 100 among adults with no indicators, corresponding to 5.34 times the overall hospitalization risk. Elevated risk was observed for both behavioral health and non-behavioral health hospitalizations.

Several individual indicators were also associated with markedly elevated hospitalization risk. The mood stabilizer adherence indicator had the strongest association with behavioral health hospitalization, with 16.19 times the risk observed among adults with no quality indicators. This likely reflects the underlying severity and complexity of bipolar disorder

among individuals prescribed these medications, rather than an effect of adherence itself. Failure to refill antipsychotic medication was similarly elevated at 15.33 times the behavioral health hospitalization risk. Use of four or more psychotropic medications and multiple prescribers of the same psychotropic medication class were also associated with substantially higher behavioral health hospitalization risk.

Concurrent opioid and benzodiazepine use showed a different pattern. This group had a more modest increase in behavioral health hospitalization risk but approximately twice the non-behavioral health hospitalization risk of the reference population.

These findings do not establish that the medication-related indicators caused hospitalization. The indicators may instead identify individuals with greater clinical complexity, medication-management challenges, or care-coordination needs who are also at elevated risk for acute-care utilization.

9.2.2. Children and Adolescents

The same pharmacy analyses were performed for children and adolescents. Because medication recommendations and quality indicators differ between pediatric and adult populations, separate results are presented below.

9.2.2.1. Child General Behavioral Pharmacy Use Data

The following table summarizes behavioral health medication utilization among children and adolescents. As with the adult analysis, medication utilization rates are descriptive and do not have an inherently favorable higher or lower direction.

Table 35. Pediatric Behavioral Health Medication Utilization - Kalamazoo County

Percent utilizing, 2025

Medication Class	SWMBH	Kalamazoo
Opioids	0.4%	0.4%
Insomnia Agents	0.5%	0.3%
ADHD: Stimulants	5.4%	4.7%
Antipsychotics	1.6%	1.3%
Antidepressants	3.1%	2.8%
Antidepressants: SSRIs	2.6%	2.4%
Mood Stabilizers	0.6%	0.8%
Benzodiazepines	0.3%	0.3%
ADHD Medication	6.1%	5.3%
Antidepressants: TCAs	0.2%	0.2%

ADHD medications were the most commonly utilized behavioral health medication class among children and adolescents in Kalamazoo County, with 5.3% receiving an ADHD medication and 4.7% receiving a stimulant. Antidepressants were used by 2.8% of the pediatric population, including 2.4% receiving an SSRI, while antipsychotics were used by 1.3%.

Compared with the SWMBH region overall, Kalamazoo County had somewhat lower utilization of ADHD medications (5.3% vs. 6.1%), stimulants (4.7% vs. 5.4%), antipsychotics (1.3% vs. 1.6%), antidepressants (2.8% vs. 3.1%), and SSRIs (2.4% vs. 2.6%). Mood stabilizer use was slightly higher in Kalamazoo County (0.8% vs. 0.6%), while opioid, benzodiazepine, and TCA utilization was the same as the regional rate.

9.2.2.2. Child Quality Indicator Triggering Rates

Pediatric pharmacy quality indicators identify medication-related situations that may warrant additional clinical review. Lower triggering rates are generally preferable for each of the indicators presented below; however, triggering an indicator does not by itself indicate inappropriate prescribing or care.

Table 36. Pediatric Pharmacy Quality Indicator Triggering Rates - Kalamazoo County

Percent triggered, 2025

Metric ID	Quality Metric	SWMBH	Kalamazoo
214	Failure to Refill Antipsychotic Medication	10.0%	12.6%
283	Multiple prescribers of the same class of psychotropic medications for 45 or more days	1.6%	1.8%
301	Use of Antipsychotic Medication for Member Under the Age of 18 Diagnosed with ADHD	49.8%	40.6%

Pediatric pharmacy quality indicator triggering rates varied substantially by measure. The most common indicator in Kalamazoo County was antipsychotic use among children diagnosed with ADHD, which triggered for 40.6% of the eligible population. Failure to refill antipsychotic medication triggered for 12.6%, while multiple prescribers of the same psychotropic medication class triggered for 1.8%. Lower triggering rates are generally preferable for these measures because they indicate fewer children met criteria for a situation warranting additional clinical review.

Compared with the SWMBH region, Kalamazoo County had a substantially lower and therefore more favorable triggering rate for antipsychotic use among children diagnosed with ADHD (40.6% vs. 49.8%). In contrast, failure to refill antipsychotic medication was higher in Kalamazoo County (12.6% vs. 10.0%), and multiple prescribers of the same psychotropic medication class was slightly higher (1.8% vs. 1.6%). These indicators identify situations that may warrant review and should not be interpreted as evidence of inappropriate prescribing or care without additional clinical context.

9.2.2.3. Child Hospitalization Rates by Quality Indicator

The following table compares hospitalization rates across pediatric pharmacy quality indicator groups using the same methodology described for adults.

Table 37. Pediatric Hospitalization Rates by Pharmacy Quality Indicator - Kalamazoo County

Hospitalizations per 100, with risk ratio vs. no QIs triggered (2025)

Metric ID	Quality Indicator	N	% of Population	Total / 100	RR - Total	BH / 100	RR - BH	Non-BH / 100	RR - Non-BH
1	No QIs Triggered	20,493	99.1%	3.8	Ref.	0.1	Ref.	3.7	Ref.
2	1+ QIs Triggered	178	0.9%	13.5	3.52 ↑	5.6	49.90 ↑	7.9	2.12 ↑
283	Multiple prescribers of the same class of psychotropic medications for 45 or more days	26	0.1%	15.4	4.01 ↑	7.7	68.61 ↑	7.7	2.07 ↑
214	Failure to refill antipsychotic medication within 30 days of the prescription ending (any diagnosis)	34	0.2%	14.7	3.83 ↑	5.9	52.57 ↑	8.8	2.36 ↑
301	Use of Antipsychotic Medication for Member Under the Age of 18 Diagnosed with ADHD	105	0.5%	12.4	3.23 ↑	6.7	59.70 ↑	5.7	1.53 ↑

Shading with an arrow identifies meaningfully elevated (red ↑, RR > 1.20) or lower (green ↓, RR < 0.83) risk ratios. "Ref." indicates the no-QI reference group.

Children and adolescents who triggered at least one pharmacy quality indicator had substantially higher hospitalization rates than those who triggered none. The overall hospitalization rate was 13.5 per 100 among children with one or more indicators compared with 3.8 per 100 among those with none, corresponding to 3.52 times the overall hospitalization risk. Elevated risk was observed for both behavioral health and non-behavioral health hospitalization.

All three pediatric indicators were associated with higher overall hospitalization risk. Multiple prescribers of the same psychotropic medication class had the highest overall hospitalization rate at 15.4 per 100, followed by failure to refill antipsychotic medication at 14.7 per 100 and antipsychotic use among children diagnosed with ADHD at 12.4 per 100. All three indicators were also associated with markedly elevated behavioral health hospitalization risk, with risk ratios ranging from 52.57 to 68.61.

These very large behavioral health risk ratios should be interpreted alongside the low baseline behavioral health hospitalization rate among children with no indicators and the relatively small number of children triggering some measures. Low reference-group rates can produce very large relative differences even when absolute hospitalization rates remain modest. Across both adults and children, pharmacy quality indicators identified relatively

small populations with substantially elevated hospitalization risk. These associations do not establish that medication-related concerns caused hospitalization, but the indicators may help identify individuals with greater clinical complexity, medication-management challenges, or care-coordination needs.

Together, these quality measures provide additional context regarding medication management, adherence to recommended care, and populations that may benefit from further clinical review. They complement the diagnosis, utilization, and multimorbidity presented earlier in the report.

10. Conclusion

This Population Health Analysis brings together demographic characteristics, behavioral and chronic health conditions, healthcare utilization, multimorbidity, and healthcare quality to provide a broad view of the health needs of Medicaid enrollees in Kalamazoo County. Examining these areas together demonstrates that behavioral, physical, and social health needs frequently overlap and that the populations with the greatest complexity often experience substantially different patterns of healthcare utilization.

Changes observed in 2025 provide important context for future population health planning. Medicaid enrollment declined from 76,181 enrollees in 2024 to 68,218 in 2025, while the percentage receiving at least one Medicaid service increased from 76.9% to 80.4%. Documented behavioral health prevalence also increased, and the increase remained present when the same enrollees were compared between 2024 and 2025. These findings suggest that the change in diagnosis prevalence was not driven solely by turnover in Medicaid enrollment. Greater healthcare contact may have created additional opportunities for conditions to be identified, while the remaining Medicaid population may also have included a greater concentration of individuals with ongoing healthcare needs. The available data cannot determine the relative contribution of these factors.

Several findings identify populations that may warrant particular attention. Kalamazoo County had higher documented behavioral health prevalence than the remainder of the SWMBH region and a substantially higher percentage of unhoused individuals among PIHP/CMH-served enrollees with living arrangement information. Behavioral health diagnoses were also strongly intertwined with physical health burden and acute-care utilization. Individuals with SMI/SED and SUD experienced particularly high medical and behavioral health utilization, while the multimorbidity analysis identified Complex Behavioral Health and High Chronic Complexity as small populations with disproportionately high ED and inpatient use. Documented social and economic needs were also strongly associated with hospitalization, further emphasizing the importance of considering social conditions alongside medical and behavioral health needs.

Healthcare quality findings provide additional opportunities for monitoring and targeted review. Kalamazoo County was below the SWMBH regional rate on both adult disease-management measures examined, while pharmacy quality indicators identified adult and pediatric populations with substantially elevated hospitalization risk. These findings do not demonstrate that medication-management concerns caused hospitalization; rather, the indicators may help identify individuals with greater clinical complexity, medication-management challenges, or care-coordination needs who could benefit from additional review.

Overall, the findings support an integrated population health approach that considers behavioral health, chronic physical conditions, social needs, and healthcare utilization together. They provide a foundation for identifying priority populations, strengthening care coordination and transitions of care, monitoring potential disparities and housing-related needs, and evaluating whether observed trends persist over time. Findings should be interpreted alongside local knowledge of service availability, access to care, population characteristics, and documentation practices. Statistical associations and differences can identify areas for further attention but do not, by themselves, explain why those patterns occurred.

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