



CY 2025 Population Health Report

Berrien

Southwest Michigan Behavioral Health

Prepared by:

Madeline Peterson, Data Analyst

Moira Kean, Data Analytics and Strategy Lead

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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 Berrien 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 Berrien 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.

- **Berrien County's Medicaid population became smaller in 2025, while the proportion using healthcare services increased.** Enrollment declined from 52,251 in 2024 to 46,972 in 2025, while the percentage receiving at least one Medicaid service increased from 74.3% to 76.9%. The percentage receiving PIHP/CMH-funded services also continued to rise, reaching 10.1% in 2025. These patterns may reflect a smaller Medicaid population with greater and more complex healthcare needs.
- **Berrien County had lower documented behavioral health prevalence than the remainder of the SWMBH region.** Overall, 29.9% of Berrien enrollees had a behavioral health diagnosis compared with 33.4% in the rest of the region. Anxiety, depressive disorders, trauma-related disorders, bipolar disorder, SUD, and several other conditions were also significantly lower. However, lower documented diagnosis prevalence should not be assumed to represent lower underlying need without considering access, utilization, screening, and documentation.
- **Berrien County also had slightly lower overall chronic condition prevalence than the remainder of the region, but several local concerns stood out.** Any chronic condition was documented for 36.9% of Berrien enrollees compared with 38.3% elsewhere in the region. Tobacco use and chronic kidney disease were significantly higher in Berrien, while several other conditions were lower. The matched population showed no overall increase in chronic-condition prevalence from 2024 to 2025, despite an increase in the full population.
- **Behavioral and physical health complexity were strongly linked with acute-care utilization.** Adults and children with behavioral health diagnoses generally had substantially more chronic conditions than those without a behavioral health diagnosis, while inpatient days rose steadily as the number of chronic conditions increased. Documented Social Determinants of Health concerns were also associated with more than three times the adjusted odds of hospitalization, highlighting the importance of social as well as medical needs when identifying higher-risk populations.
- **SMI/SED and SUD were the behavioral health populations with the most consistently elevated acute-care utilization.** SUD had the highest average medical ED utilization in 2025, while SMI/SED had the highest average medical inpatient utilization and behavioral health inpatient utilization. These differences persisted across many age groups, indicating that age alone does not explain the higher utilization observed among these populations.
- **A small portion of the population accounted for particularly high acute-care use.** The Complex Behavioral Health and High Chronic Complexity multimorbidity classes represented relatively small shares of the ever-diagnosed population but had the highest ED and inpatient utilization. This suggests that specific combinations of

behavioral and physical health complexity may be useful for identifying populations for more intensive care coordination and transitions-of-care support.

- **Pharmacy quality indicators identified small populations with substantially higher hospitalization risk.** Adults triggering at least one indicator had 5.62 times the hospitalization risk of adults triggering none, while children and adolescents had 6.27 times the risk. Berrien also had a higher adult triggering rate for concurrent opioid and benzodiazepine use than the region and a higher pediatric rate of antipsychotic use among children diagnosed with ADHD. These indicators do not establish inappropriate care or causation, but they may help identify populations for further clinical review.

3. Who is in the Study

The total Berrien County Medicaid population in 2025 included 46,972 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, 76.9% had at least one Medicaid service during 2025, and 10.1% received at least one PIHP- or CMH-funded service. Enrollees were covered for an average of 9.8 months during the report period.

As shown in Table 1, total Medicaid enrollment declined from 52,251 in 2024 to 46,972 in 2025. At the same time, the percentage of enrollees receiving at least one Medicaid service increased from 74.3% to 76.9%. The percentage receiving PIHP/CMH-funded services also continued to increase, rising from 8.6% in 2022 to 10.1% 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 – Berrien County			
Year	Total Enrollees	1+ Medicaid Service	1+ CMH/PIHP Service
2022	53,514	77.7%	8.6%
2023	56,176	76.3%	9.0%
2024	52,251	74.3%	9.4%
2025	46,972	76.9%	10.1%

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 Berrien 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 Berrien County Enrollees by Zip Code

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

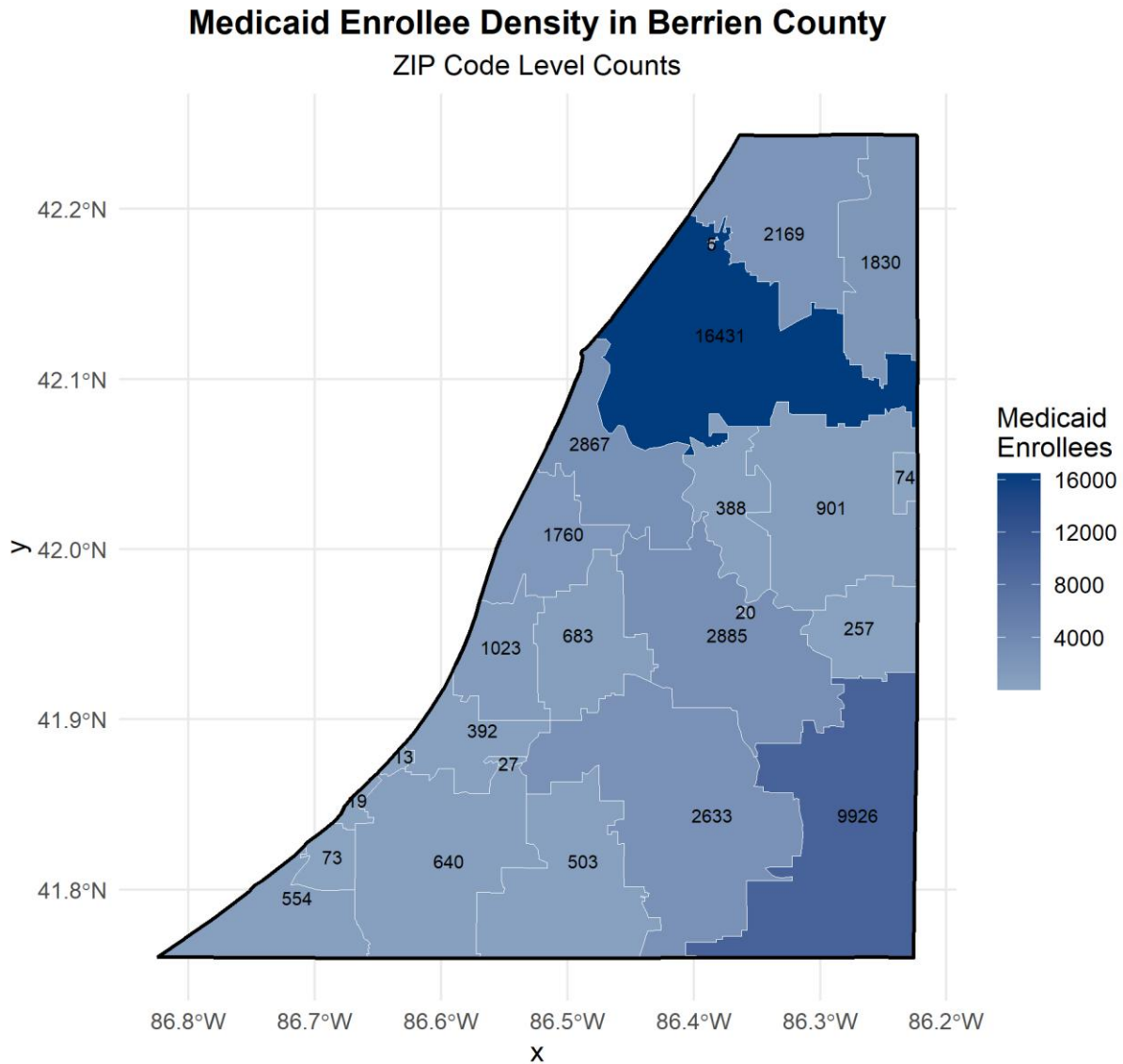


Figure 1: Count of CY 2025 Medicaid enrollees by zip code of address.

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 Berrien County, the average age at the end of 2025 was 30.1 years. Overall, 36% of enrollees were younger than 18 years, 56.5% were between 18 and 64 years, and 7.6% were 65 years or older. The population was 46.6% male and 53.4% female.

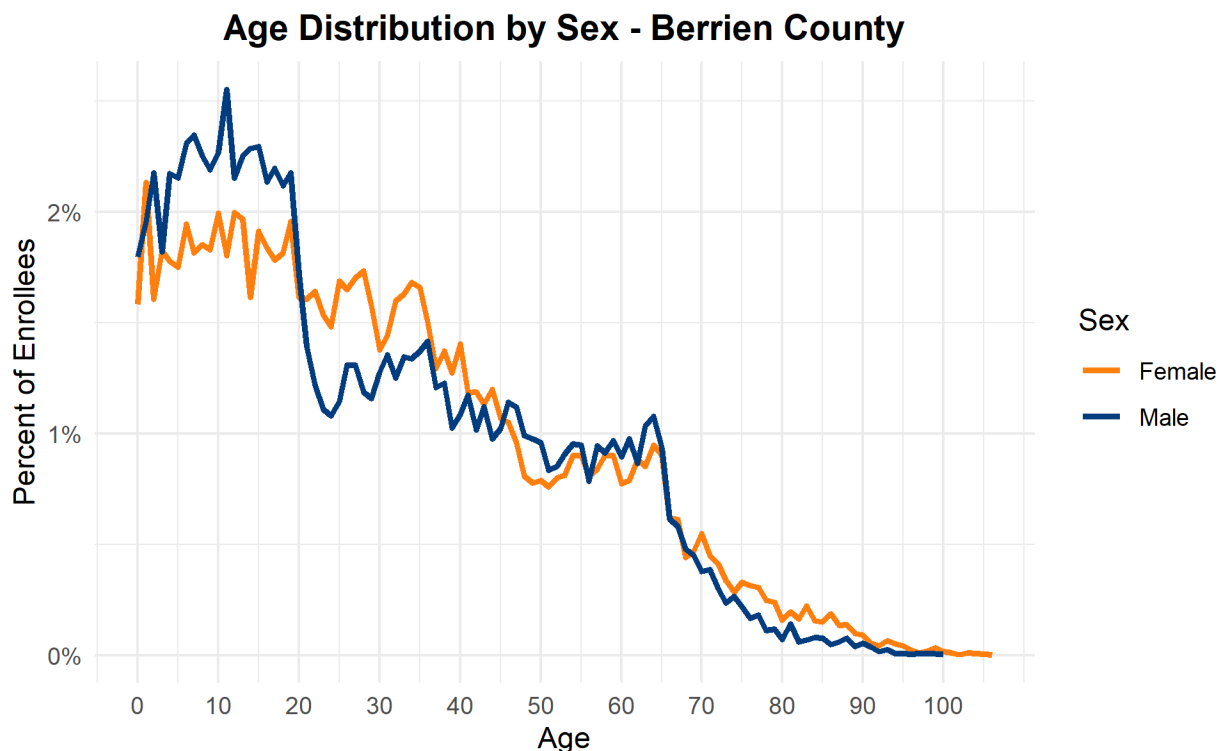


Figure 2: Percent of enrollees at each single year of age, by sex.

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. After early adulthood, the age distributions for male and female enrollees become more similar. 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 Berrien 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 Berrien County. Overall, 52.2% identified as White, 30.5% identified as Black or African American, 8.1% identified as Other Race, 7.3% identified as Hispanic or Latino, 1.1% identified as American Indian or Alaska Native, 0.5% identified as Asian, 0.2% identified as Native Hawaiian or Other Pacific Islander.

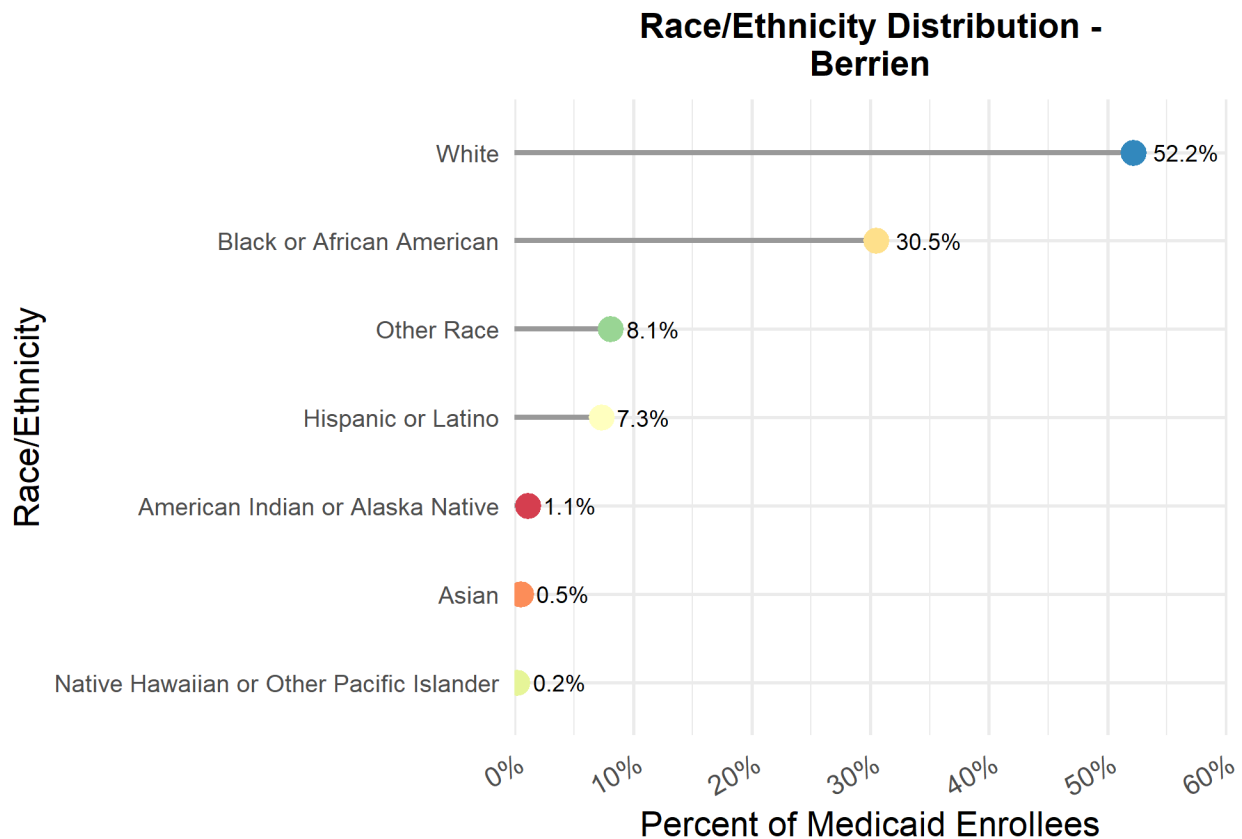


Figure 3: Percentage of Medicaid enrollees by race and ethnicity.

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 Berrien County with the remainder of the SWMBH region. Living arrangements in Berrien County differed from the rest of the SWMBH region. Among PIHP/CMH-served Medicaid enrollees with recorded living arrangement information, 84.8% were living independently compared with 81.7% in the rest of the region. Berrien also had a significantly lower percentage of individuals identified as unhoused (3.2% vs. 7.1%). The percentage living dependently was similar to the remainder of the region (11.8% vs. 11.1%). Overall, these findings suggest that the PIHP/CMH-served population in Berrien County was more likely to be living independently and less likely to be identified as unhoused than comparable enrollees elsewhere in the region.

**Table 3. Living Arrangement –
Berrien vs. Rest of Region**

Percent in each living arrangement category (2025)

Condition	Berrien (N=5,845)	Rest of Region (N=27,802)
Dependent	11.8%	11.1%
Independent	84.8% ↑	81.7%
Unhoused	3.2% ↓	7.1%
Unknown	0.2%	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.

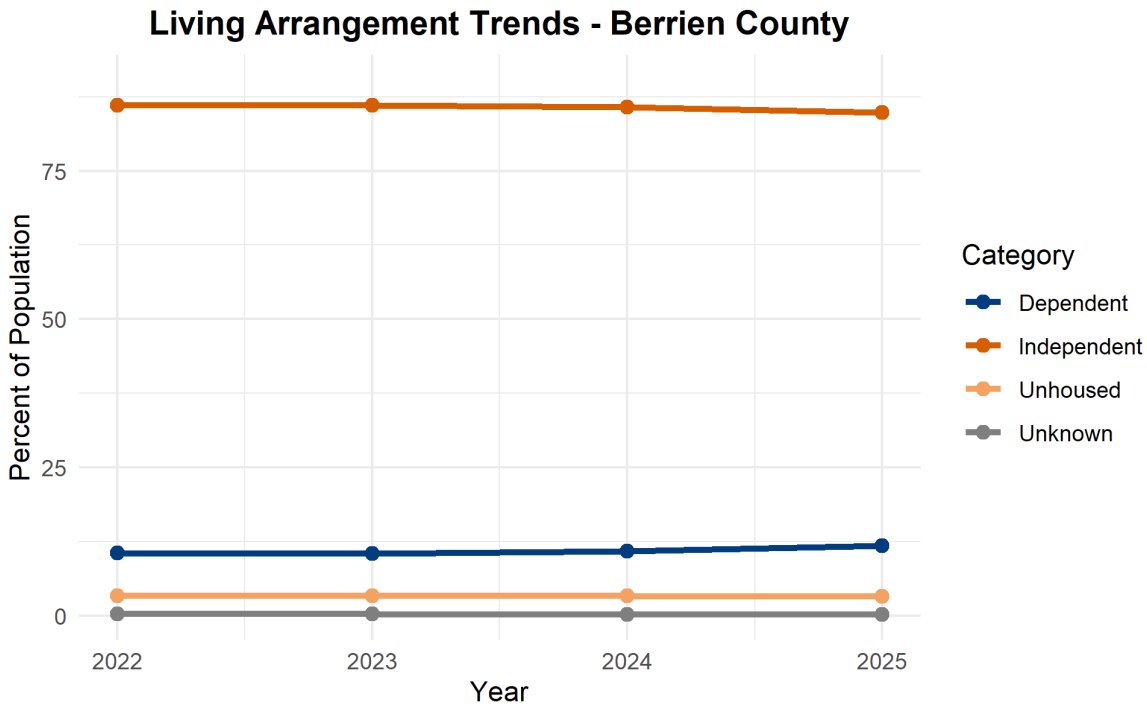


Figure 4: Percent of population in each living arrangement category, 2022-2025.

Table 4. Living Arrangement Trends

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

Living Arrangement	2022	2023	2024	2025
Independent	86.0%	86.0%	85.7%	84.8%
Dependent	10.5%	10.4%	10.8%	11.8%
Unhoused	3.3%	3.3%	3.3%	3.2%
Unknown	0.3%	0.3%	0.2%	0.2%

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 86.0% to 84.8%, while dependent living increased from 10.5% to 11.8%. 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, 12.1% of the Berrien 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: 8.9% of adults aged 18 to 64 and 94.4% 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 - Berrien County			
Age Group	Total Enrollees	Enrolled in Medicare	Percent Medicare
<18	16,899	0	0.0%
18-64	26,516	2,347	8.9%
65+	3,557	3,358	94.4%
All Ages	46,972	5,705	12.1%

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 Berrien 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 disorders 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 disorders.
- **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, 29.9% of the Berrien County Medicaid population had a recorded behavioral health diagnosis in 2025. Among enrollees with a behavioral health diagnosis, 57.8% were primarily classified as Mild/Moderate MI, 16.7% as SMI/SED, 12.1% as Other, 7.4% as SUD, and 5.9% as IDD.

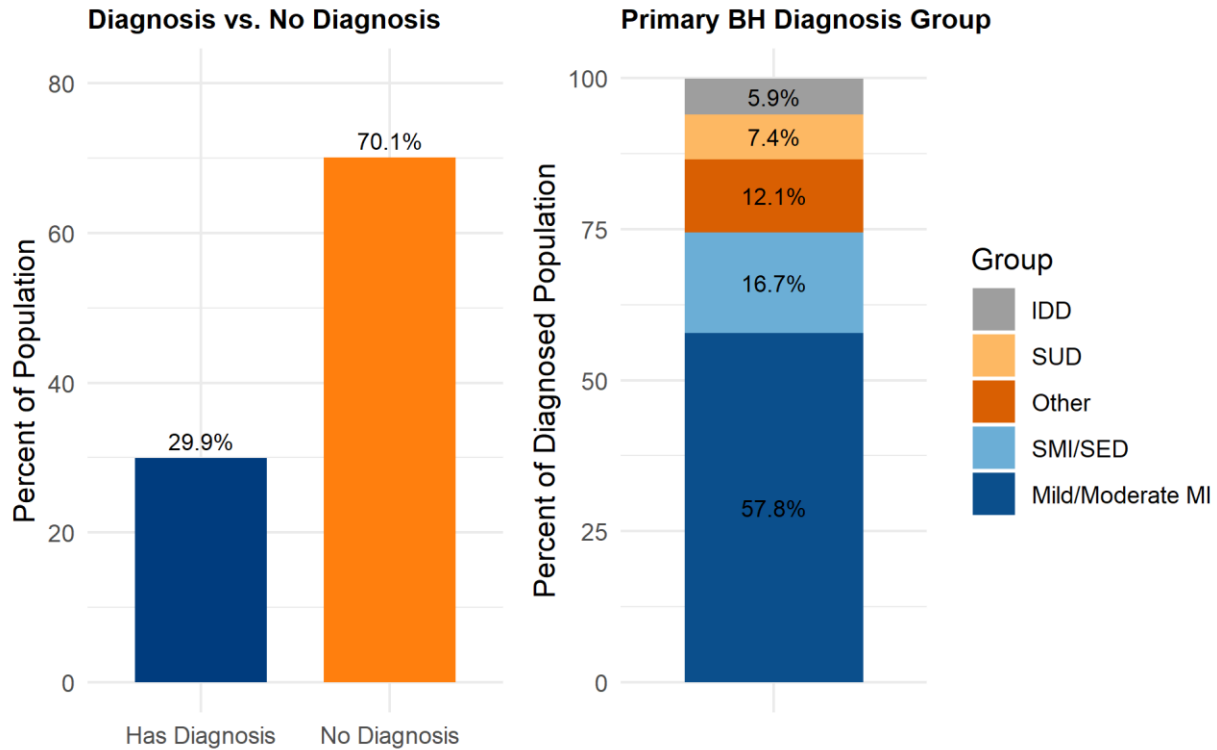


Figure 5: Left: percentage with and without a recorded BH diagnosis. Right: breakdown of primary BH diagnosis group among those with a diagnosis.

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 - Berrien County

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

Condition	IDD (N=833)	Mild/Moderate MI (N=8,127)	Other (N=1,696)	SMI/SED (N=2,350)	SUD (N=1,044)
Anxiety	17.3%	60.0%	8.5%	47.4%	25.4%
Depressive	5.9%	43.5%	9.1%	44.4%	21.2%
SUD	0.7%	7.2%	0.6%	18.2%	100.0%
Bipolar	1.4%	6.3%	0.9%	25.9%	8.2%
Schizophrenia/Psychosis	3.0%	2.6%	1.4%	33.2%	5.1%
Personality Disorder	1.0%	2.6%	0.2%	12.7%	1.7%
OCD	2.6%	1.7%	0.6%	3.4%	0.3%
Adjustment Disorder	5.6%	24.6%	3.7%	10.8%	7.3%
Dementia	0.6%	1.0%	19.1%	1.9%	0.7%
Impulse Control/Conduct	8.8%	3.8%	2.7%	11.3%	1.1%
Autism Spectrum	79.2%	2.4%	8.5%	3.4%	0.3%
IDD	34.8%	1.7%	1.9%	8.0%	0.5%
Trauma-Related (PTSD)	2.2%	8.7%	1.0%	26.9%	8.4%
ADHD	21.0%	29.5%	7.3%	16.2%	6.1%

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 (79.2%), while 34.8% had an IDD diagnosis and 21.0% had ADHD. The Mild/Moderate MI group showed substantial overlap with ADHD (29.5%), adjustment disorder (24.6%), and trauma-related diagnoses (8.7%). Among those classified as SMI/SED, anxiety (47.4%) and depressive disorders (44.4%) were common, along with schizophrenia/psychosis (33.2%), trauma-related diagnoses (26.9%), and bipolar disorder (25.9%). The Other group was distinguished by a higher prevalence of dementia (19.1%), while individuals in the SUD group also showed overlap with trauma-related diagnoses (8.4%) and bipolar disorder (8.2%).

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 have multiple co-occurring behavioral health conditions contributing to their overall needs.

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.

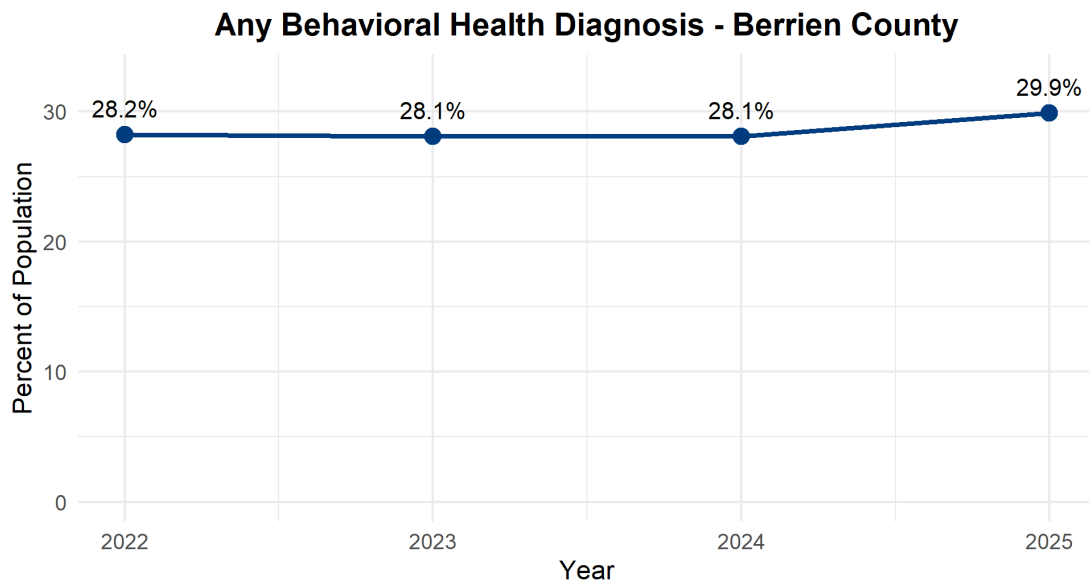


Figure 6: *Percent of population with any behavioral health diagnosis, 2022-2025.*

Behavioral health diagnosis prevalence remained relatively stable from 2022 through 2024 before increasing from 28.1% in 2024 to 29.9% 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.

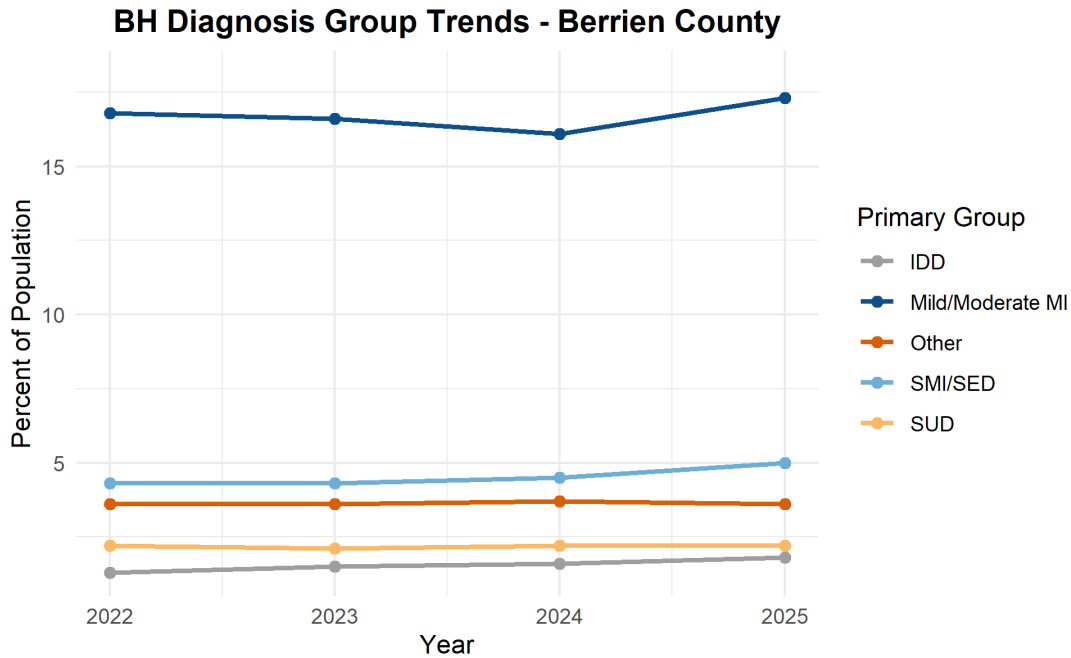


Figure 7: Percent of population with each primary BH diagnosis group, 2022-2025.

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%	1.5%	1.6%	1.8%
Mild/Moderate MI	16.8%	16.6%	16.1%	17.3%
Other	3.6%	3.6%	3.7%	3.6%
SMI/SED	4.3%	4.3%	4.5%	5.0%
SUD	2.2%	2.1%	2.2%	2.2%

Trends varied across primary behavioral health groups. Mild/Moderate MI remained the largest group and accounted for much of the increase observed in 2025, rising from 16.1% of the Medicaid population in 2024 to 17.3% in 2025. In contrast, SMI/SED and IDD showed smaller but more consistent increases across the four-year period, reaching 5.0% and 1.8%, respectively, in 2025. SUD and Other diagnoses remained comparatively stable.

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 = 40,488). 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 - Berrien County (N matched = 40,488)			
Condition	2024 %	2025 %	Change
Any BH Diagnosis	31.2%	31.2%	0
Anxiety	13.9%	14.4%	+0.5 ↑
Depressive	11.3%	11.0%	-0.3 ↓
ADHD	6.5%	7.1%	+0.6 ↑
Adjustment Disorder	5.3%	5.4%	+0.1 ↑
SUD	4.8%	4.4%	-0.4 ↓
Trauma-Related (PTSD)	2.9%	3.1%	+0.2 ↑
Bipolar	2.8%	2.7%	-0.1 ↓
Autism Spectrum	2.3%	2.5%	+0.2 ↑
Schizophrenia/Psychosis	2.5%	2.4%	-0.1 ↓
Impulse Control/Conduct	1.5%	1.6%	+0.1 ↑
IDD	1.6%	1.5%	-0.1 ↓
Personality Disorder	1.4%	1.2%	-0.2 ↓
Dementia	0.9%	0.9%	0
OCD	0.5%	0.6%	+0.1 ↑

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

Overall behavioral health diagnosis prevalence remained unchanged within the matched Berrien County population, at 31.2% in both 2024 and 2025. However, several individual diagnosis categories changed significantly. ADHD showed the largest increase (+0.6 percentage points), followed by anxiety (+0.5) and Autism Spectrum diagnoses (+0.2). In contrast, documented SUD prevalence decreased by 0.4 percentage points and personality disorder decreased by 0.2 percentage points. Overall, the matched analysis suggests stable behavioral health prevalence among continuously enrolled members, with some shifts in the types of conditions identified over time.

5.3. Behavioral Health Diagnosis Rates by County

Behavioral health diagnosis prevalence in Berrien 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 Berrien County's 2025 diagnosis rates with the rest of the SWMBH region. Statistically significant differences between Berrien 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 - Berrien vs. Rest of Region

Percent with diagnosis (2025)

Condition	Berrien (N=46,972)	Rest of Region (N=199,454)
Any BH Diagnosis	29.9% ↓	33.4%
Anxiety	13.9% ↓	16.3%
Depressive	10.7% ↓	12.9%
ADHD	6.7%	6.8%
Adjustment Disorder	5.2% ↓	5.6%
SUD	4.4% ↓	4.9%
Trauma-Related (PTSD)	3.1% ↓	5.2%
Bipolar	2.6% ↓	3.7%
Schizophrenia/Psychosis	2.3%	2.5%
Autism Spectrum	2.3%	2.2%
Impulse Control/Conduct	1.5% ↓	1.7%
IDD	1.4%	1.4%
Personality Disorder	1.2% ↓	1.3%
Dementia	1.0%	0.9%
OCD	0.5%	0.6%

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.

Berrien County had a significantly lower overall behavioral health diagnosis rate than the remainder of the SWMBH region (29.9% vs. 33.4%). Several individual conditions were also significantly less prevalent in Berrien, including anxiety (13.9% vs. 16.3%), depressive disorders (10.7% vs. 12.9%), adjustment disorder (5.2% vs. 5.6%), SUD (4.4% vs. 4.9%), trauma-related disorders (3.1% vs. 5.2%), bipolar disorder (2.6% vs. 3.7%), impulse control/conduct disorders (1.5% vs. 1.7%), and personality disorder (1.2% vs. 1.3%).

In contrast, ADHD, schizophrenia/psychosis, autism spectrum disorder, IDD, dementia, and OCD were similar to the remainder of the region. Overall, Berrien County's behavioral health profile was characterized by lower documented prevalence across several of the region's more common behavioral health conditions.

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, 24.3% of enrollees younger than 18 had at least one behavioral health diagnosis, compared with 33% of adults ages 18–64, and 33.7% 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 - Berrien County

Percent with diagnosis (2025)

Condition	<18 (N=16,899)	18-64 (N=26,516)	65+ (N=3,557)
Any BH Diagnosis	24.3%	33.0%	33.7%
Anxiety	5.2%	19.3%	14.8%
Depressive	2.8%	14.9%	16.4%
SUD	0.3%	7.3%	2.5%
Bipolar	0.2%	4.2%	2.3%
Schizophrenia/Psychosis	0.1%	3.4%	4.9%
Personality Disorder	0.1%	1.8%	1.3%
OCD	0.3%	0.7%	0.5%
Adjustment Disorder	5.1%	5.5%	3.0%
Dementia	0.0%	0.3%	10.9%
Impulse Control/Conduct	2.7%	0.9%	0.5%
Autism Spectrum	4.4%	1.2%	0.3%
IDD	0.6%	1.8%	2.1%
Trauma-Related (PTSD)	1.4%	4.5%	1.5%
ADHD	9.0%	6.0%	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 (9.0%), followed by anxiety (5.2%) and adjustment disorder (5.1%). Adults ages 18–64 had the highest rates of anxiety (19.3%), depressive disorders (14.9%), SUD (7.3%), and trauma-related diagnoses (4.5%). Among adults ages 65 and older, depressive disorders (16.4%) and anxiety (14.8%) remained common, while dementia increased sharply to 10.9%. Schizophrenia/psychosis was also more prevalent among adults age 65 and older (4.9%) than among the younger age groups.

5.4.2. Behavioral Health Conditions by Sex

Behavioral health diagnosis patterns differed by both age and sex. Overall, 30.9% of females and 28.7% of males had at least one behavioral health diagnosis in 2025. Among adults, females had substantially higher rates of anxiety (22.9% vs. 13.6%) and depression (18.1% vs. 11.1%), while adult males had higher rates of SUD (8.8% vs. 5.0%) and schizophrenia/psychosis (4.8% vs. 2.7%). Among children, males had a higher overall behavioral health diagnosis rate than females (28.0% vs. 20.4%), driven in part by higher rates of ADHD (11.7% vs. 6.1%), autism spectrum disorder (6.2% vs. 2.5%), and impulse control/conduct disorders (3.6% vs. 1.8%).

Table 11. Behavioral Health Conditions by Age Group and Sex – Berrien County

Percent with diagnosis (2025)

Condition	Adult Female (N=16,786)	Adult Male (N=13,287)	Child Female (N=8,285)	Child Male (N=8,614)
Any BH Diagnosis	36.2%	29.2%	20.4%	28.0%
Anxiety	22.9%	13.6%	6.4%	4.1%
Depressive	18.1%	11.1%	3.7%	2.1%
SUD	5.0%	8.8%	0.2%	0.4%
Bipolar	4.7%	3.2%	0.3%	0.2%
Schizophrenia/Psychosis	2.7%	4.8%	0.0%	0.1%
Personality Disorder	1.9%	1.5%	0.1%	0.0%
OCD	0.8%	0.6%	0.3%	0.2%
Adjustment Disorder	5.8%	4.4%	5.0%	5.3%
Dementia	1.8%	1.2%	0.0%	0.0%
Impulse Control/Conduct	0.5%	1.3%	1.8%	3.6%
Autism Spectrum	0.6%	1.8%	2.5%	6.2%
IDD	1.5%	2.3%	0.4%	0.8%
Trauma-Related (PTSD)	5.1%	2.9%	1.5%	1.2%
ADHD	6.0%	4.7%	6.1%	11.7%

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.

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

Percent with diagnosis (2025)

Condition	Dual (N=5,705)	No (N=41,267)
Any BH Diagnosis	39.9%	28.5%
Anxiety	18.7%	13.3%
Depressive	17.4%	9.7%
SUD	4.6%	4.4%
Bipolar	4.4%	2.4%
Schizophrenia/Psychosis	8.2%	1.5%
Personality Disorder	2.5%	1.0%
OCD	1.1%	0.5%
Adjustment Disorder	3.8%	5.4%
Dementia	7.2%	0.1%
Impulse Control/Conduct	1.8%	1.5%
Autism Spectrum	1.8%	2.4%
IDD	5.6%	0.8%
Trauma-Related (PTSD)	3.0%	3.1%
ADHD	2.4%	7.3%

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

Dual-eligible enrollees had a higher overall behavioral health diagnosis rate than non-dual enrollees (39.9% vs. 28.5%), with higher documented rates across several conditions. Differences were particularly notable for schizophrenia/psychosis (8.2% vs. 1.5%), depressive disorders (17.4% vs. 9.7%), IDD (5.6% vs. 0.8%), dementia (7.2% vs. 0.1%), and bipolar disorder (4.4% vs. 2.4%). In contrast, ADHD was more common among non-dual enrollees (7.3% vs. 2.4%). Because dual-eligible enrollees are generally older than the non-

dual population, some of these differences likely reflect differences in age distribution and should not be interpreted as effects of dual eligibility itself.

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 - Berrien

Percent with diagnosis, by race/ethnicity (2025)

Condition	AI/AN (N=537)	Asian (N=232)	Black (N=14,347)	Hispanic (N=3,448)	NH/PI (N=101)	Other (N=3,787)	White (N=24,519)
Any BH Diagnosis	36.5%	10.8% ↓	23.7% ↓	20.1% ↓	13.9%	22.4% ↓	36.2% ↑
Anxiety	22.0% ↑	3.4% ↓	7.5% ↓	8.1% ↓	3.0%	9.5% ↓	19.2% ↑
Depressive	15.1%	2.2% ↓	6.7% ↓	5.6% ↓	3.0%	7.2% ↓	14.2% ↑
SUD	6.5%	2.6%	3.9%	1.7% ↓	0.0%	2.4% ↓	5.4% ↑
Bipolar	3.4%	1.7%	1.4% ↓	0.9% ↓	2.0%	1.5% ↓	3.8% ↑
Schizophrenia/Psychosis	2.4%	0.0%	2.9% ↑	0.6% ↓	2.0%	1.4% ↓	2.4%
Personality Disorder	1.5%	0.9%	0.8% ↓	0.3% ↓	0.0%	0.7%	1.6% ↑
OCD	0.7%	0.0%	0.2% ↓	0.3%	0.0%	0.4%	0.8% ↑
Adjustment Disorder	7.6%	1.7%	4.9%	5.1%	2.0%	3.8% ↓	5.6% ↑
Dementia	0.9%	0.4%	0.7% ↓	0.2% ↓	1.0%	1.6% ↑	1.2% ↑
Impulse Control/Conduct	1.3%	0.0%	1.6%	0.8%	0.0%	1.1%	1.6%
Autism Spectrum	0.7%	3.0%	2.2%	0.9% ↓	1.0%	2.0%	2.6% ↑
IDD	0.6%	0.4%	1.5%	0.4% ↓	1.0%	0.8%	1.6% ↑
Trauma-Related (PTSD)	5.2%	1.3%	1.9% ↓	1.5% ↓	2.0%	2.2%	4.2% ↑
ADHD	9.3%	1.7%	3.6% ↓	3.3% ↓	3.0%	5.1% ↓	9.2% ↑

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.

Behavioral health diagnosis prevalence varied substantially across racial and ethnic groups in Berrien County. White enrollees had a significantly higher overall behavioral health diagnosis rate at 36.2%, while Asian (10.8%), Black (23.7%), Hispanic or Latino (20.1%), and Other Race (22.4%) enrollees had significantly lower overall rates. American Indian or Alaska Native enrollees had an overall diagnosis rate of 36.5%, but this was not significantly different from the remainder of the population.

Condition-specific differences were also evident. American Indian or Alaska Native enrollees had a significantly higher rate of anxiety (22.0%). White enrollees had significantly higher rates across many conditions, including anxiety, depressive disorders, SUD, bipolar disorder, personality disorder, OCD, adjustment disorder, dementia, autism spectrum disorder, IDD, trauma-related disorders, and ADHD. Black enrollees had lower overall behavioral health diagnosis prevalence but a significantly higher rate of schizophrenia/psychosis (2.9%). Asian, Hispanic, and Other Race enrollees generally showed lower documented rates across several of the more common 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, healthcare utilization, screening, diagnostic practices, cultural factors, and documentation. Results for groups with smaller population sizes, particularly Native Hawaiian or Other Pacific Islander and Asian enrollees, should also be interpreted cautiously.

Together, these findings show that behavioral health diagnosis patterns vary across demographic groups, geographic areas, and diagnosis categories within the Berrien 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 Berrien 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 Berrien 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 Berrien County with the remainder of the SWMBH region. Overall, 36.9% of enrollees had at least one of the chronic conditions included in this analysis. The most commonly identified conditions were Metabolic Risk Factors (24.3%), Chronic Pain/Migraine (9.2%), Tobacco Use (7.8%). Statistical significance was assessed using chi-square tests with Bonferroni correction.

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

Percent with condition (2025)

Condition	Berrien (N=46,972)	Rest of Region (N=199,454)
Any Chronic Condition	36.9% ↓	38.3%
Metabolic Risk Factors	24.3%	23.9%
Chronic Pain/Migraine	9.2%	9.7%
GI Functional Disorder	7.1% ↓	8.5%
Tobacco Use	7.8% ↑	7.1%
Asthma	6.2%	6.2%
Social Determinants of Health	3.3% ↓	4.4%
Cardiac Disease	3.7%	3.9%
COPD	3.1% ↓	3.6%
Hypothyroidism	2.4% ↓	2.8%
Urinary Tract Infection	2.2% ↓	2.9%
Vascular Disease	2.3%	2.3%
Liver Disease	2.0%	2.2%
Chronic Kidney Disease	2.4% ↑	2.1%

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

Condition	Berrien (N=46,972)	Rest of Region (N=199,454)
Cancer	1.9%	1.7%
Epilepsy	1.8%	1.7%
Prediabetes	1.4%	1.6%
Traumatic Brain Injury	0.7% ↓	1.0%
Feeding Difficulty	0.5%	0.6%
Inflammatory Bowel Disease	0.4%	0.4%
Rheumatoid Arthritis	0.3%	0.3%
Lupus/SLE	0.2%	0.1%
Multiple Sclerosis	0.2%	0.2%
Sickle Cell Disease	0.2% ↑	0.1%
Long COVID	0.0%	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.

Several individual conditions were significantly less prevalent in Berrien County, including GI functional disorders (7.1% vs. 8.5%), documented Social Determinants of Health concerns (3.3% vs. 4.4%), COPD (3.1% vs. 3.6%), hypothyroidism (2.4% vs. 2.8%), urinary tract infection (2.2% vs. 2.9%), and traumatic brain injury (0.7% vs. 1.0%). In contrast, tobacco use (7.8% vs. 7.1%) and chronic kidney disease (2.4% vs. 2.1%) were significantly higher in Berrien County. Metabolic risk factors, the most common chronic condition group, were similar to the remainder of the region (24.3% vs. 23.9%).

These differences may reflect variation in underlying population health, risk factors, healthcare access, diagnostic practices, or documentation. Although Berrien County had lower overall documented chronic condition prevalence, the elevated rates of tobacco use and chronic kidney disease identify specific areas that may warrant continued monitoring or 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.

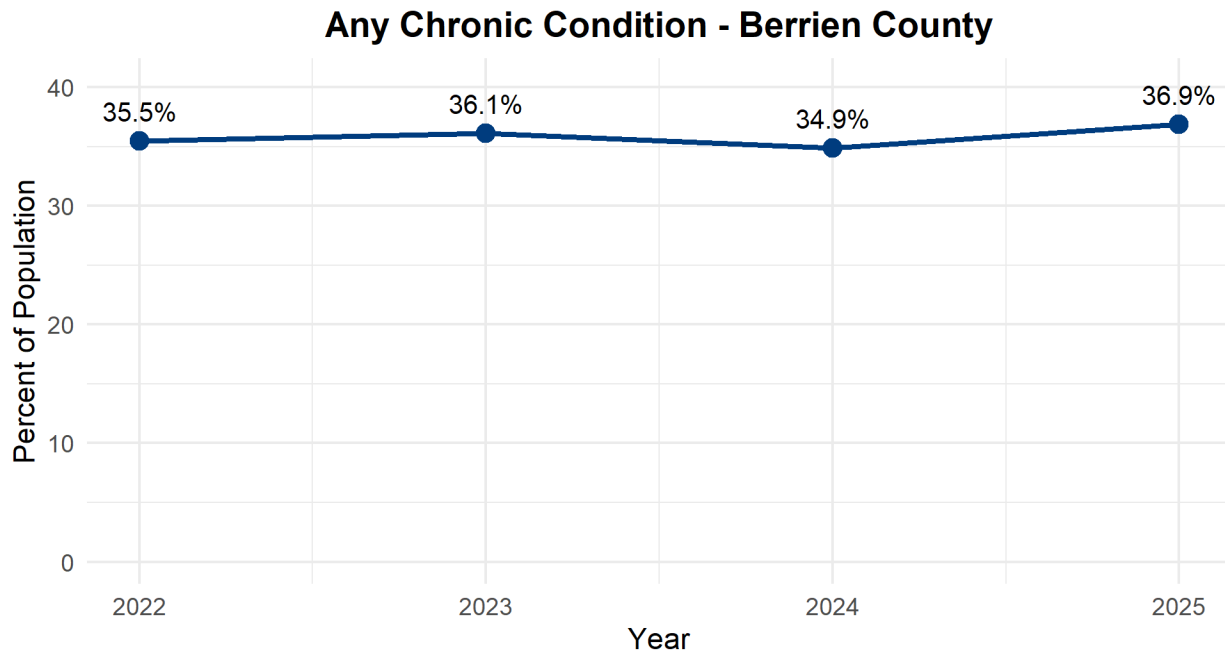


Figure 8: *Percent of population with any chronic condition studied, 2022-2025.*

Chronic condition prevalence in Berrien County remained fairly stable from 2022 through 2024, ranging from 34.9% to 36.1%, before increasing to 36.9% in 2025. Although the 2025 rate was the highest observed during the four-year period, the overall change across years was modest. Because the percentage of enrollees receiving at least one Medicaid service also increased in 2025, greater healthcare contact may have contributed to increased identification and documentation of chronic 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) - Berrien County (N matched = 40,488)

Condition	2024 %	2025 %	Change
Any Chronic Condition	38.1%	38.1%	0
Metabolic Risk Factors	24.7%	25.5%	+0.8 ↑
Chronic Pain/Migraine	9.4%	9.7%	+0.3 ↑
Tobacco Use	8.2%	8.2%	0
GI Functional Disorder	7.7%	7.4%	-0.3 ↓
Asthma	6.7%	6.6%	-0.1 ↓
Cardiac Disease	3.7%	3.8%	+0.1 ↑
COPD	3.2%	3.2%	0
Social Determinants of Health	2.9%	3.1%	+0.2 ↑
Hypothyroidism	2.7%	2.6%	-0.1 ↓
Chronic Kidney Disease	2.3%	2.5%	+0.2 ↑
Vascular Disease	2.4%	2.4%	0
Urinary Tract Infection	2.9%	2.3%	-0.6 ↓
Cancer	1.6%	2.0%	+0.4 ↑
Liver Disease	2.1%	2.0%	-0.1 ↓
Epilepsy	1.8%	1.9%	+0.1 ↑
Prediabetes	1.2%	1.5%	+0.3 ↑
Traumatic Brain Injury	0.7%	0.7%	0
Feeding Difficulty	0.5%	0.5%	0
Inflammatory Bowel Disease	0.4%	0.4%	0
Rheumatoid Arthritis	0.4%	0.3%	-0.1 ↓
Sickle Cell Disease	0.2%	0.2%	0
Lupus/SLE	0.2%	0.2%	0
Multiple Sclerosis	0.2%	0.2%	0
Long COVID	0.1%	0.0%	-0.1 ↓

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

Overall chronic condition prevalence remained unchanged within the matched Berrien County population, at 38.1% in both 2024 and 2025. Several individual conditions changed significantly, including increases in Metabolic Risk Factors (+0.8 percentage points), cancer (+0.4), and prediabetes (+0.3), while urinary tract infection decreased by 0.6 percentage points and Long COVID decreased by 0.1 percentage points. Overall, the matched analysis suggests stable chronic condition prevalence among continuously enrolled members, with some shifts in the types of conditions documented over time.

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 Berrien County, 63.6% of adults age 65 and older had at least one chronic condition, compared with 45.1% of adults ages 18–64 years, and 18.5% of children younger than 18.

Table 16. Chronic Conditions by Age Group – Berrien County

Percent with condition (2025)

Condition	<18 (N=16,899)	18-64 (N=26,516)	65+ (N=3,557)
Any Chronic Condition	18.5%	45.1%	63.6%
Cardiac Disease	0.1%	3.8%	19.5%
Vascular Disease	0.1%	2.3%	13.2%
Metabolic Risk Factors	6.4%	31.4%	56.0%
GI Functional Disorder	2.1%	9.0%	16.1%
Chronic Pain/Migraine	1.8%	13.1%	15.7%
Social Determinants of Health	2.3%	4.0%	2.6%
Asthma	6.3%	6.3%	5.0%
COPD	0.1%	3.3%	15.8%
Cancer	0.2%	2.1%	8.6%
Epilepsy	0.7%	2.2%	3.6%
Hypothyroidism	0.2%	3.0%	8.5%
Long COVID	0.0%	0.0%	0.0%
Tobacco Use	0.1%	11.6%	16.1%

Table 16. Chronic Conditions by Age Group – Berrien County

Percent with condition (2025)

Condition	<18 (N=16,899)	18-64 (N=26,516)	65+ (N=3,557)
Prediabetes	0.2%	2.0%	2.9%
Sickle Cell Disease	0.2%	0.2%	0.1%
Traumatic Brain Injury	0.7%	0.7%	1.3%
Urinary Tract Infection	0.7%	2.6%	6.2%
Feeding Difficulty	1.3%	0.0%	0.3%
Inflammatory Bowel Disease	0.0%	0.6%	0.6%
Liver Disease	0.1%	2.9%	3.5%
Rheumatoid Arthritis	0.0%	0.4%	1.5%
Lupus/SLE	0.0%	0.3%	0.3%
Multiple Sclerosis	0.0%	0.2%	0.6%
Chronic Kidney Disease	0.1%	2.1%	15.3%

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

Metabolic Risk Factors showed one of the strongest age-related patterns, increasing from 6.4% among children to 31.4% among adults ages 18–64 and 56.0% among adults age 65 and older. Several other conditions also increased markedly with age. Cardiac disease, vascular disease, GI functional disorders, COPD, chronic kidney disease, cancer, hypothyroidism, and urinary tract infection were all substantially more common among adults age 65 and older. In contrast, asthma showed little variation between children and working-age adults, while documented Social Determinants of Health concerns did not follow the same increasing pattern with age. 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 – Berrien County*Percent with condition (2025)*

Condition	Dual 18-64 (N=2,347)	Dual 65+ (N=3,358)	No <18 (N=16,899)	No 18-64 (N=24,169)	No 65+ (N=199)
Any Chronic Condition	58.4% ↑	64.4% ↑	18.5% ↓	43.8% ↑	50.3% ↑
Cardiac Disease	9.3% ↑	19.9% ↑	0.1% ↓	3.3% ↓	12.1% ↑
Vascular Disease	6.9% ↑	13.8% ↑	0.1% ↓	1.9% ↓	3.0%
Metabolic Risk Factors	47.2% ↑	56.8% ↑	6.4% ↓	29.9% ↑	42.7% ↑
GI Functional Disorder	15.1% ↑	16.7% ↑	2.1% ↓	8.4% ↑	6.5%
Chronic Pain/Migraine	20.7% ↑	16.2% ↑	1.8% ↓	12.4% ↑	7.0%
Social Determinants of Health	3.6%	2.7%	2.3% ↓	4.0% ↑	2.0%
Asthma	7.8%	5.0%	6.3%	6.2%	5.0%
COPD	8.9% ↑	16.4% ↑	0.1% ↓	2.7% ↓	6.5%
Cancer	4.1% ↑	8.7% ↑	0.2% ↓	2.0%	6.0% ↑
Epilepsy	5.7% ↑	3.8% ↑	0.7% ↓	1.8%	0.0%
Hypothyroidism	5.6% ↑	8.8% ↑	0.2% ↓	2.8% ↑	3.5%
Long COVID	0.1%	0.0%	0.0%	0.0%	0.0%
Tobacco Use	15.6% ↑	16.7% ↑	0.1% ↓	11.2% ↑	6.5%
Prediabetes	3.5% ↑	2.7% ↑	0.2% ↓	1.9% ↑	5.5% ↑
Sickle Cell Disease	0.3%	0.1%	0.2%	0.2%	0.0%
Traumatic Brain Injury	0.9%	1.3% ↑	0.7%	0.7%	1.0%
Urinary Tract Infection	3.8% ↑	6.4% ↑	0.7% ↓	2.5% ↑	2.5%
Feeding Difficulty	0.0%	0.3%	1.3% ↑	0.0% ↓	0.0%
Inflammatory Bowel Disease	1.0% ↑	0.6%	0.0% ↓	0.6% ↑	0.0%
Liver Disease	4.1% ↑	3.6% ↑	0.1% ↓	2.8% ↑	1.5%
Rheumatoid Arthritis	0.9% ↑	1.4% ↑	0.0% ↓	0.3%	2.0%
Lupus/SLE	0.5% ↑	0.3%	0.0% ↓	0.2%	0.0%
Multiple Sclerosis	0.7% ↑	0.7% ↑	0.0% ↓	0.2%	0.5%
Chronic Kidney Disease	6.8% ↑	15.7% ↑	0.1% ↓	1.6% ↓	9.5% ↑

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.

Among adults ages 18–64, dual-eligible enrollees had substantially greater chronic disease burden than non-dual adults in the same age group. Any chronic condition was documented for 58.4% of dual-eligible adults ages 18–64 compared with 43.8% of non-dual adults. Metabolic risk factors were also considerably more common among dual-eligible adults (47.2% vs. 29.9%). 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, and hypothyroidism.

Differences were also present among adults age 65 and older. Any chronic condition was documented for 64.4% of dual-eligible older adults compared with 50.3% of non-dual older adults, while metabolic risk factors were present in 56.8% and 42.7%, respectively. Dual-eligible older adults also had higher rates of cardiac disease, vascular disease, COPD, cancer, urinary tract infection, and chronic kidney disease.

Overall, dual-eligible adults in Berrien County demonstrated greater chronic health complexity than non-dual adults within the same age groups, particularly across cardiovascular, metabolic, respiratory, and kidney-related conditions.

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.

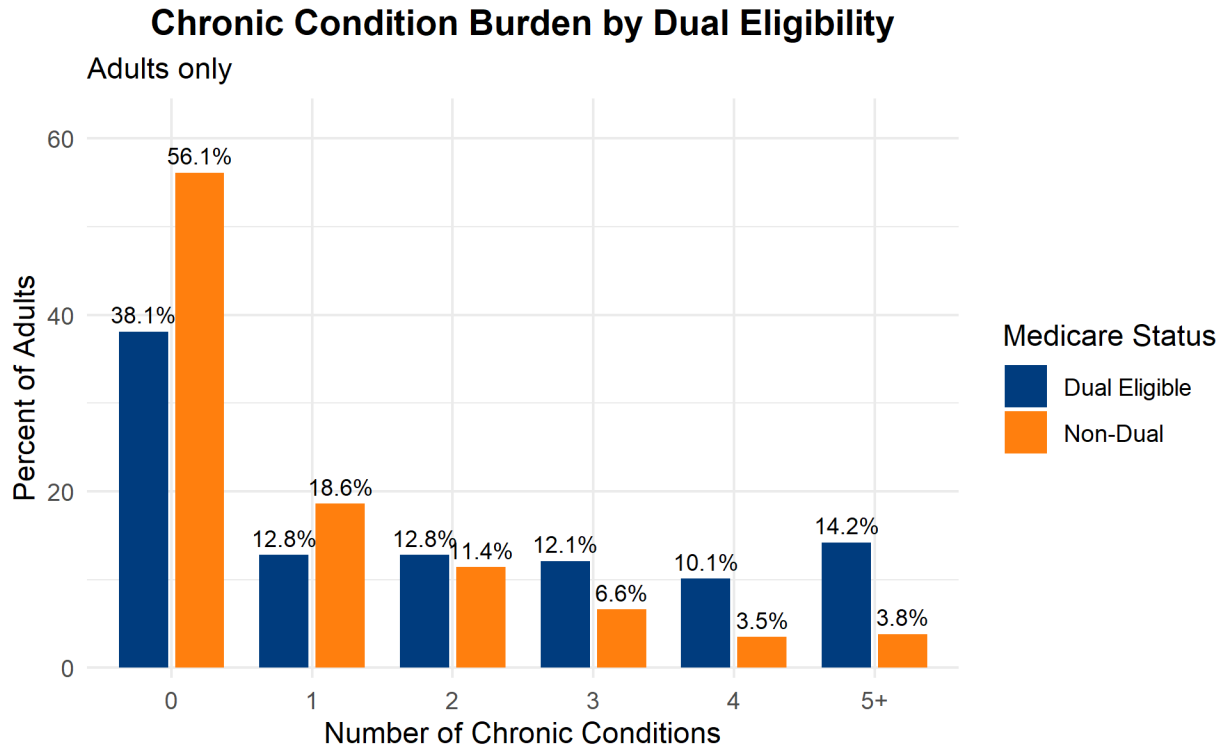


Figure 9: Percent of adult enrollees by number of chronic conditions, by Medicare dual eligibility status.

Dual-eligible adults had a greater chronic condition burden than non-dual adults. More than half of non-dual adults had none of the chronic conditions included in this analysis (56.1%), compared with 38.1% of dual-eligible adults. Differences became more pronounced at higher levels of complexity: 14.2% of dual-eligible adults had five or more chronic conditions, compared with 3.8% of non-dual adults. Dual-eligible adults were also more likely to have three or four chronic conditions.

Overall, the distribution shows a greater concentration of multiple co-occurring chronic conditions among dual-eligible adults in Berrien County. This pattern may indicate a greater need for care coordination and management of complex medical needs within this population.

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=20,123)	IDD (N=340)	Mild/Moderate MI (N=6,121)	Other (N=447)	SMI/SED (N=2,013)	SUD (N=1,029)
Any Chronic Condition	33.9% ↓	58.5% ↑	77.0% ↑	79.4% ↑	71.9% ↑	65.7% ↑
Cardiac Disease	3.9% ↓	2.1%	9.1% ↑	27.1% ↑	7.4%	9.0% ↑
Vascular Disease	2.2% ↓	4.4%	5.9% ↑	22.8% ↑	5.7% ↑	5.1%
Metabolic Risk Factors	24.3% ↓	38.2%	56.3% ↑	67.3% ↑	54.3% ↑	44.2% ↑
GI Functional Disorder	4.8% ↓	15.6%	20.9% ↑	27.3% ↑	18.9% ↑	15.9% ↑
Chronic Pain/Migraine	7.6% ↓	7.1%	29.0% ↑	14.1%	22.7% ↑	17.6% ↑
Social Determinants of Health	1.9% ↓	2.6%	7.4% ↑	3.1%	9.0% ↑	11.4% ↑
Asthma	3.8% ↓	6.2%	12.4% ↑	6.5%	10.7% ↑	5.7%
COPD	2.9% ↓	1.2%	8.8% ↑	11.4% ↑	8.5% ↑	8.6% ↑
Cancer	2.2% ↓	2.4%	4.8% ↑	7.6% ↑	3.0%	2.7%
Epilepsy	1.0% ↓	20.3% ↑	3.8% ↑	7.4% ↑	5.6% ↑	4.7% ↑
Hypothyroidism	1.9% ↓	7.6% ↑	7.5% ↑	14.5% ↑	7.6% ↑	2.1%
Long COVID	0.0%	0.3%	0.1%	0.0%	0.0%	0.0%
Tobacco Use	7.3% ↓	1.2% ↓	22.3% ↑	14.3%	21.5% ↑	29.2% ↑
Prediabetes	1.5% ↓	1.5%	3.7% ↑	3.1%	3.3%	3.1%
Sickle Cell Disease	0.2%	0.0%	0.3%	0.2%	0.2%	0.2%
Traumatic Brain Injury	0.3% ↓	0.6%	1.5% ↑	3.4% ↑	2.0% ↑	2.2% ↑
Urinary Tract Infection	1.8% ↓	3.2%	5.6% ↑	13.9% ↑	4.9% ↑	3.1%
Feeding Difficulty	0.0%	0.0%	0.1%	0.4%	0.2%	0.1%
Inflammatory Bowel Disease	0.4% ↓	0.3%	1.2% ↑	0.7%	0.7%	1.1%
Liver Disease	1.7% ↓	1.8%	5.6% ↑	4.0%	4.0%	9.3% ↑
Rheumatoid Arthritis	0.3% ↓	0.3%	1.0% ↑	0.9%	0.8%	0.7%
Lupus/SLE	0.1% ↓	0.0%	0.6% ↑	0.2%	0.6%	0.2%
Multiple Sclerosis	0.1% ↓	0.0%	0.6% ↑	0.7%	0.2%	0.2%
Chronic Kidney Disease	2.7% ↓	2.6%	5.5% ↑	20.8% ↑	3.9%	3.1%

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.

Among adults, chronic condition prevalence was substantially higher across all behavioral health diagnosis groups than among adults without a behavioral health diagnosis. Any chronic condition was documented for 33.9% of adults with no behavioral health diagnosis, compared with 58.5% to 79.4% across the behavioral health groups.

Adults in the Other diagnosis group had the highest overall chronic condition prevalence at 79.4%, including particularly high rates of metabolic risk factors (67.3%), cardiac disease (27.1%), vascular disease (22.8%), chronic kidney disease (20.8%), and GI functional disorders (27.3%). Adults with Mild/Moderate MI and SMI/SED also showed broad elevations across many chronic physical health conditions compared with adults without a behavioral health diagnosis.

Some group-specific patterns also stood out. IDD was particularly associated with epilepsy, while SUD had the highest tobacco-use rate and elevated liver disease. Overall, the table demonstrates substantial overlap between behavioral and physical health conditions among adults in Berrien County.

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=12,799)	IDD (N=493)	Mild/Moderate MI (N=2,006)	Other (N=1,249)	SMI/SED (N=337)	SUD (N=15)
Any Chronic Condition	13.9% ↓	30.8% ↑	34.5% ↑	29.4% ↑	38.6% ↑	26.7%
Cardiac Disease	0.1%	0.4%	0.2%	0.1%	0.0%	0.0%
Vascular Disease	0.1%	0.0%	0.2%	0.1%	0.0%	0.0%
Metabolic Risk Factors	4.7% ↓	10.5% ↑	12.2% ↑	10.8% ↑	12.5% ↑	13.3%
GI Functional Disorder	1.5% ↓	5.1% ↑	2.8%	5.8% ↑	3.3%	6.7%
Chronic Pain/Migraine	1.3% ↓	1.8%	5.1% ↑	1.1%	3.6%	0.0%
Social Determinants of Health	1.2% ↓	2.6%	7.4% ↑	3.4%	9.8% ↑	0.0%
Asthma	4.9% ↓	9.9%	11.6% ↑	8.6%	12.2% ↑	6.7%
COPD	0.1%	0.0%	0.1%	0.2%	0.6%	0.0%
Cancer	0.1%	0.2%	0.3%	0.2%	0.3%	0.0%
Epilepsy	0.3% ↓	5.1% ↑	0.7%	3.1% ↑	0.6%	0.0%
Hypothyroidism	0.1% ↓	0.6%	0.3%	0.6%	1.2%	0.0%
Long COVID	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%
Tobacco Use	0.1%	0.0%	0.3%	0.0%	1.8% ↑	6.7%
Prediabetes	0.1% ↓	0.4%	0.5% ↑	0.3%	0.3%	0.0%
Sickle Cell Disease	0.2%	0.2%	0.1%	0.2%	0.0%	0.0%
Traumatic Brain Injury	0.4% ↓	0.2%	1.6% ↑	1.2%	2.1%	0.0%
Urinary Tract Infection	0.6%	0.4%	1.1%	1.4%	1.5%	6.7%
Feeding Difficulty	0.6% ↓	7.9% ↑	0.7%	6.3% ↑	2.7%	0.0%
Inflammatory Bowel Disease	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%
Liver Disease	0.1%	0.0%	0.4%	0.2%	0.6%	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%	0.3%	0.0%
Multiple Sclerosis	0.0% ↓	0.0% ↓	0.0% ↓	0.0% ↓	0.0% ↓	0.0% ↓
Chronic Kidney Disease	0.0%	0.0%	0.2%	0.2%	0.3%	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 13.9%, while prevalence ranged from 29.4% to 38.6% across the larger behavioral health groups. Children in the SMI/SED group had the highest overall chronic condition prevalence and notably higher rates of Social Determinants of Health concerns, asthma, and metabolic risk factors. Children with IDD also had elevated chronic condition prevalence, including higher rates of epilepsy and feeding difficulty.

Children with Mild/Moderate MI also showed higher rates of several chronic conditions, including metabolic risk factors, chronic pain/migraine, Social Determinants of Health concerns, asthma, traumatic brain injury, and prediabetes. Overall, these findings indicate substantial overlap between behavioral and physical health needs among children and adolescents in Berrien County.

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 - Berrien County*Percent with condition (2025)*

Condition	AI/AN (N=537)	Asian (N=232)	Black (N=14,347)	Hispanic (N=3,448)	NH/PI (N=101)	Other (N=3,787)	White (N=24,519)
Any Chronic Condition	38.7%	24.1% ↓	37.5%	25.6% ↓	26.7%	29.4% ↓	39.4% ↑
Cardiac Disease	2.0%	3.0%	3.5%	0.9% ↓	2.0%	3.5%	4.2% ↑
Vascular Disease	2.6%	0.9%	2.4%	0.5% ↓	0.0%	2.1%	2.6% ↑
Metabolic Risk Factors	23.8%	18.5%	25.8% ↑	14.0% ↓	17.8%	17.8% ↓	25.9% ↑
GI Functional Disorder	7.6%	4.3%	5.7% ↓	3.1% ↓	5.0%	5.8%	8.6% ↑
Chronic Pain/Migraine	14.3% ↑	3.9%	7.8% ↓	4.2% ↓	2.0%	5.4% ↓	11.3% ↑
Social Determinants of Health	3.2%	1.3%	3.8% ↑	3.5%	2.0%	3.1%	3.0%
Asthma	6.1%	1.3%	7.9% ↑	4.5% ↓	4.0%	4.1% ↓	5.8%
COPD	2.0%	1.3%	2.6% ↓	0.4% ↓	1.0%	1.8% ↓	4.0% ↑
Cancer	1.7%	1.3%	1.7%	0.6% ↓	0.0%	1.9%	2.3% ↑
Epilepsy	1.5%	1.3%	1.8%	0.6% ↓	1.0%	1.3%	1.9%
Hypothyroidism	2.8%	2.2%	1.3% ↓	1.2% ↓	2.0%	1.9%	3.4% ↑
Long COVID	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%	0.1%
Tobacco Use	8.0%	3.0%	7.4%	2.8% ↓	2.0%	4.5% ↓	9.3% ↑
Prediabetes	0.6%	1.7%	1.7%	0.9%	2.0%	1.0%	1.4%
Sickle Cell Disease	0.0%	0.0%	0.6% ↑	0.1%	0.0%	0.2%	0.0% ↓
Traumatic Brain Injury	1.3%	0.0%	0.7%	0.6%	1.0%	0.7%	0.8%
Urinary Tract Infection	2.0%	0.9%	2.2%	1.7%	1.0%	1.5%	2.4%
Feeding Difficulty	0.0%	1.3%	0.4%	0.6%	1.0%	0.9%	0.5%
Inflammatory Bowel Disease	0.2%	0.0%	0.3%	0.2%	0.0%	0.3%	0.5%
Liver Disease	3.0%	0.9%	1.5% ↓	1.4%	2.0%	1.8%	2.3% ↑
Rheumatoid Arthritis	0.0%	0.4%	0.4%	0.2%	0.0%	0.2%	0.3%
Lupus/SLE	0.0%	0.0%	0.3%	0.0%	0.0%	0.0%	0.2%
Multiple Sclerosis	0.2%	0.0%	0.1%	0.0%	0.0%	0.1%	0.2% ↑
Chronic Kidney Disease	0.9%	0.9%	3.2% ↑	0.6% ↓	3.0%	2.1%	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 in Berrien County. White enrollees had a significantly higher overall chronic condition prevalence at 39.4%, while Asian (24.1%), Hispanic or Latino (25.6%), and Other Race (29.4%) enrollees had significantly lower overall prevalence. American Indian or Alaska Native and Black enrollees had overall chronic condition rates closer to the county average and were not significantly different from the remainder of the population.

Several condition-specific differences were also evident. White enrollees had significantly higher rates of cardiac disease, vascular disease, metabolic risk factors, GI functional disorders, chronic pain/migraine, COPD, cancer, hypothyroidism, tobacco use, liver disease, and multiple sclerosis. Black enrollees showed a different pattern, with significantly higher rates of metabolic risk factors, Social Determinants of Health concerns, asthma, sickle cell disease, and chronic kidney disease, despite lower rates of several other conditions. American Indian or Alaska Native enrollees had a significantly higher rate of chronic pain/migraine.

Hispanic and Other Race enrollees had significantly lower documented prevalence across several chronic conditions, including metabolic risk factors, chronic pain/migraine, COPD, and tobacco use. 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 0.16 inpatient days during 2025, while average inpatient days rose progressively with each additional condition. The increase became particularly pronounced at higher levels of multimorbidity. Average inpatient utilization exceeded 13 days among individuals with eight chronic conditions and continued to rise, reaching approximately 20 inpatient days among those with 12 conditions. Overall, the pattern demonstrates a strong and consistent relationship between greater chronic condition burden and inpatient utilization in Berrien County.

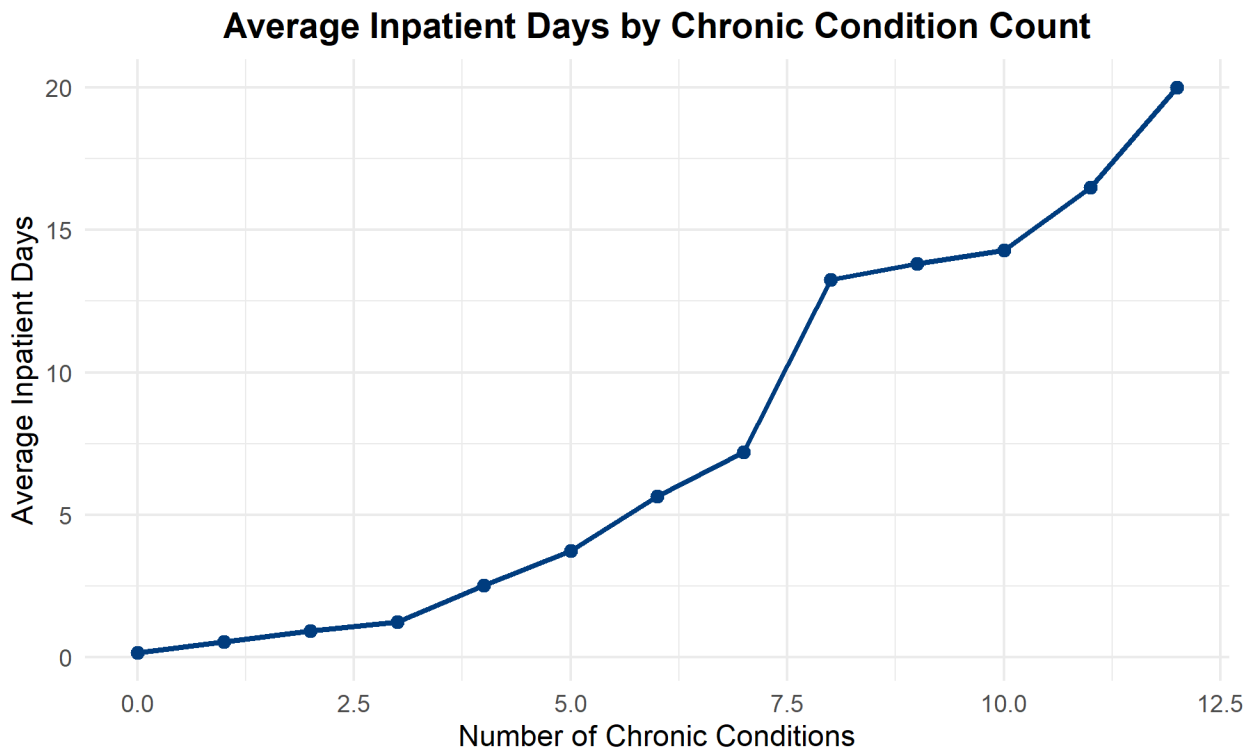


Figure 10: Average number of inpatient days among Medicaid enrollees, by total number of chronic conditions.

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.

Since 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 - Berrien County			
Condition	Odds Ratio	95% CI	p-value
Sickle Cell Disease	17.33	(11.29 - 26.65)	<0.001
Feeding Difficulty	3.89	(2.78 - 5.37)	<0.001
Social Determinants of Health	3.57	(3.11 - 4.08)	<0.001
Urinary Tract Infection	2.70	(2.29 - 3.18)	<0.001
Epilepsy	2.65	(2.21 - 3.17)	<0.001
Cardiac Disease	2.58	(2.25 - 2.95)	<0.001
Traumatic Brain Injury	2.30	(1.70 - 3.08)	<0.001
Liver Disease	2.26	(1.90 - 2.68)	<0.001
Chronic Kidney Disease	1.83	(1.55 - 2.15)	<0.001
Tobacco Use	1.77	(1.59 - 1.97)	<0.001
Vascular Disease	1.73	(1.47 - 2.03)	<0.001
GI Functional Disorder	1.68	(1.50 - 1.88)	<0.001
Cancer	1.65	(1.38 - 1.98)	<0.001
Long COVID	1.62	(0.37 - 5.57)	0.474
Metabolic Risk Factors	1.56	(1.42 - 1.71)	<0.001

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

Condition	Odds Ratio	95% CI	p-value
Lupus/SLE	1.45	(0.78 - 2.57)	0.222
Asthma	1.42	(1.25 - 1.61)	<0.001
COPD	1.42	(1.22 - 1.65)	<0.001
Inflammatory Bowel Disease	1.41	(0.92 - 2.11)	0.106
Multiple Sclerosis	1.38	(0.73 - 2.51)	0.310
Hypothyroidism	1.36	(1.14 - 1.61)	<0.001
Rheumatoid Arthritis	1.00	(0.64 - 1.53)	0.995
Chronic Pain/Migraine	0.83	(0.74 - 0.93)	0.002
Prediabetes	0.66	(0.51 - 0.86)	0.003

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 largest adjusted odds ratio; however, because the condition was identified in only 0.2% of the Berrien County population, this estimate should be interpreted cautiously. Among more prevalent conditions, feeding difficulty and documented Social Determinants of Health concerns were strongly associated with hospitalization, with adjusted odds ratios of 3.89 and 3.57, respectively.

Other conditions with meaningfully elevated hospitalization odds included urinary tract infection, epilepsy, cardiac disease, traumatic brain injury, liver disease, chronic kidney disease, tobacco use, vascular disease, GI functional disorders, cancer, and metabolic risk factors. These findings indicate that hospitalization risk in Berrien County is associated with a broad range of medical and social health needs rather than a single disease category.

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 Berrien 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.

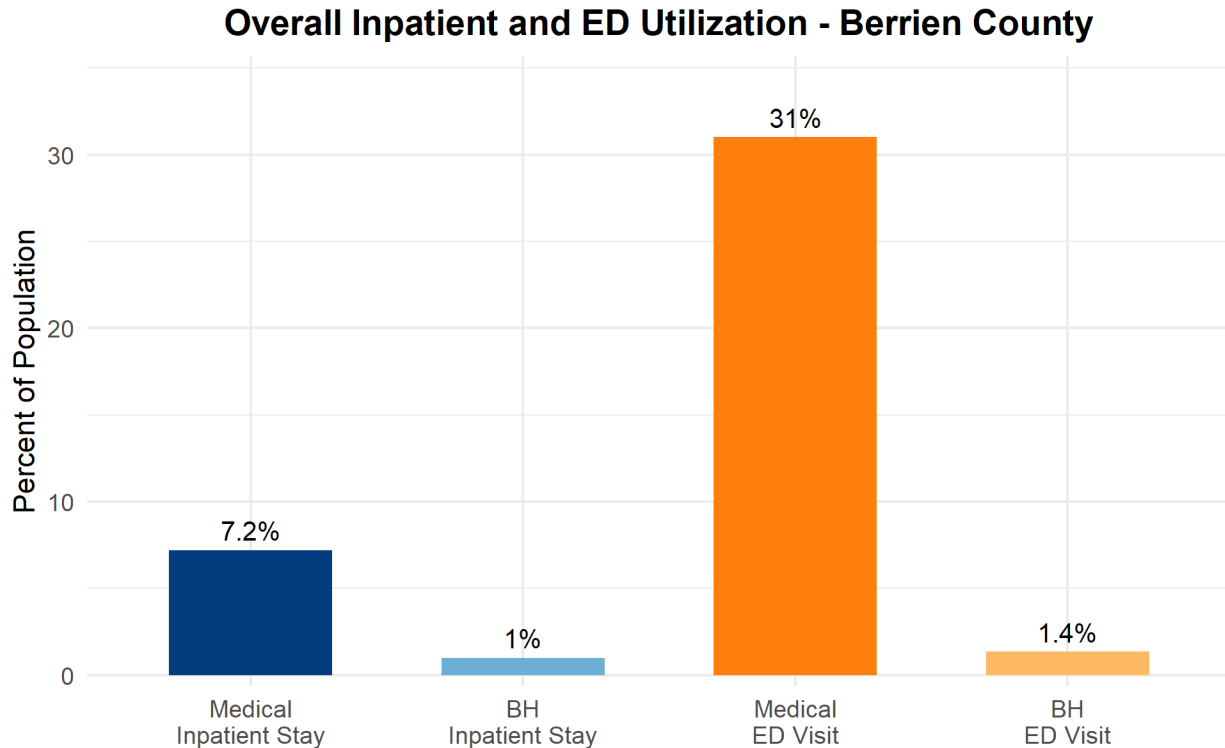


Figure 11: *Percent of Medicaid enrollees with at least one inpatient stay or emergency department visit, by service type, 2025.*

Medical emergency department use was the most common form of acute-care utilization, with 31% of enrollees having at least one medical ED visit during 2025. In comparison, 7.2% had at least one medical inpatient day, 1.4% had a behavioral health ED visit, and 1% had a behavioral health inpatient day. Across the full Medicaid population, enrollees averaged 2.18 medical ED visits and 0.07 behavioral health ED visits, along with 8.75 medical inpatient days and 2.26 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.

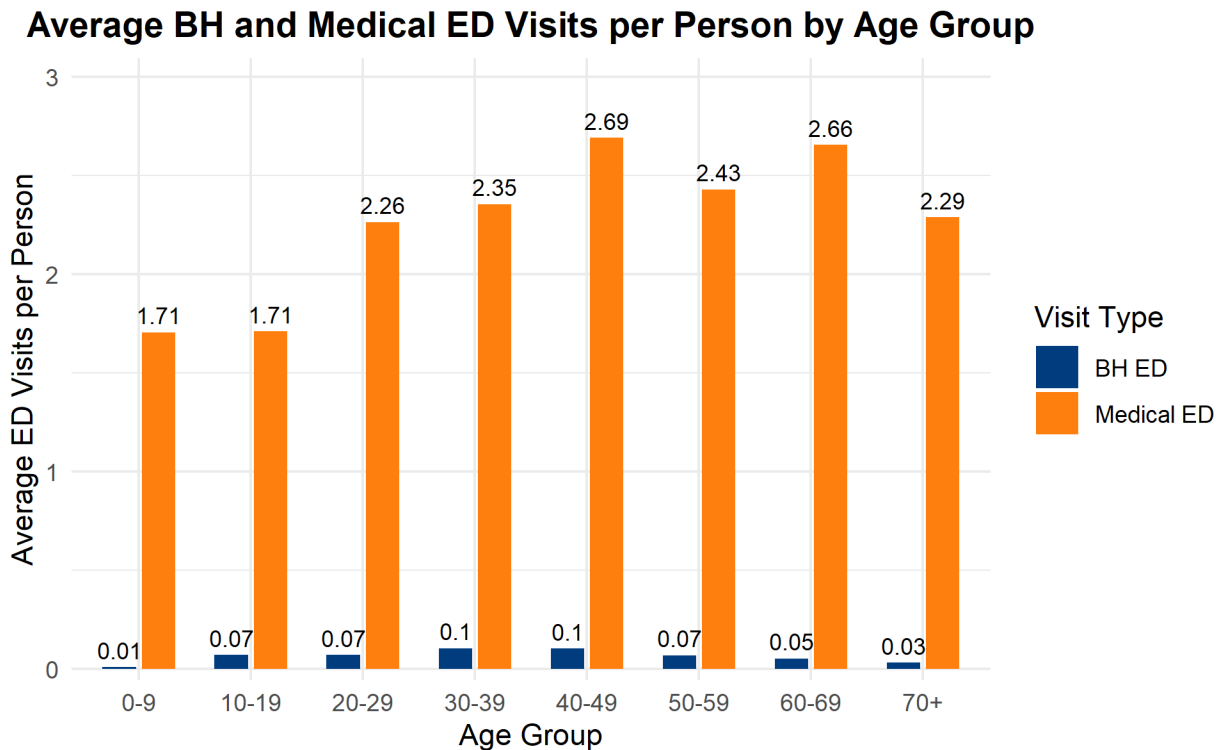


Figure 12: Average number of ED visits per Medicaid enrollee stratified by age group and visit type.

Medical ED utilization generally increased from childhood into adulthood, with the highest average observed among adults ages 40–49 at 2.69 visits per person. Utilization remained relatively high through ages 60–69 before declining somewhat among adults age 70 and older. Behavioral health ED utilization was much lower overall and showed a different age pattern, with the highest average rates among adults ages 30–49 at 0.10 visits per person. Behavioral health ED utilization then declined across the older age groups.

7.3.2. Inpatient Utilization

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

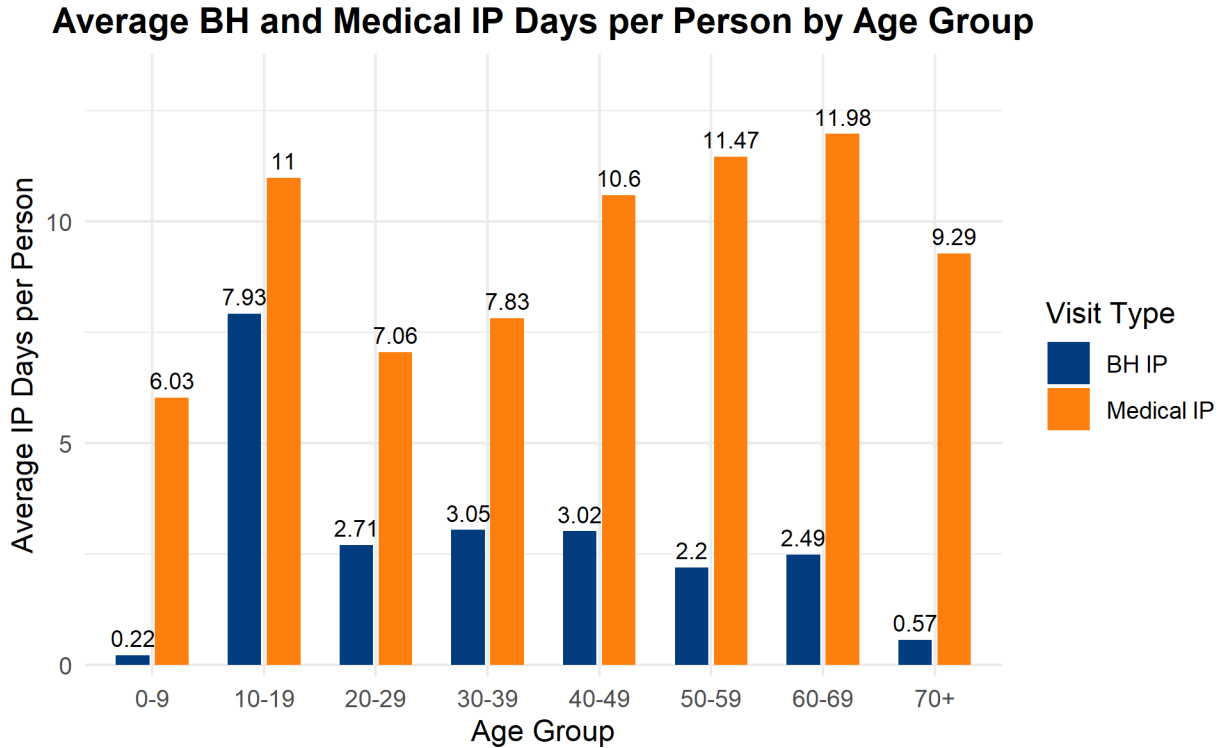


Figure 13: Average number of IP days per Medicaid enrollee stratified by age group and stay type.

Medical inpatient utilization varied across age groups, with relatively high averages among adolescents ages 10–19 and adults ages 40 and older. The highest average number of medical inpatient days was observed among adults ages 60–69 at 11.98 days per person. Behavioral health inpatient utilization followed a different pattern, with the highest average among adolescents ages 10–19 at 7.93 days per person. Behavioral health inpatient days remained elevated among adults ages 20–69 before declining substantially among adults age 70 and older.

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.

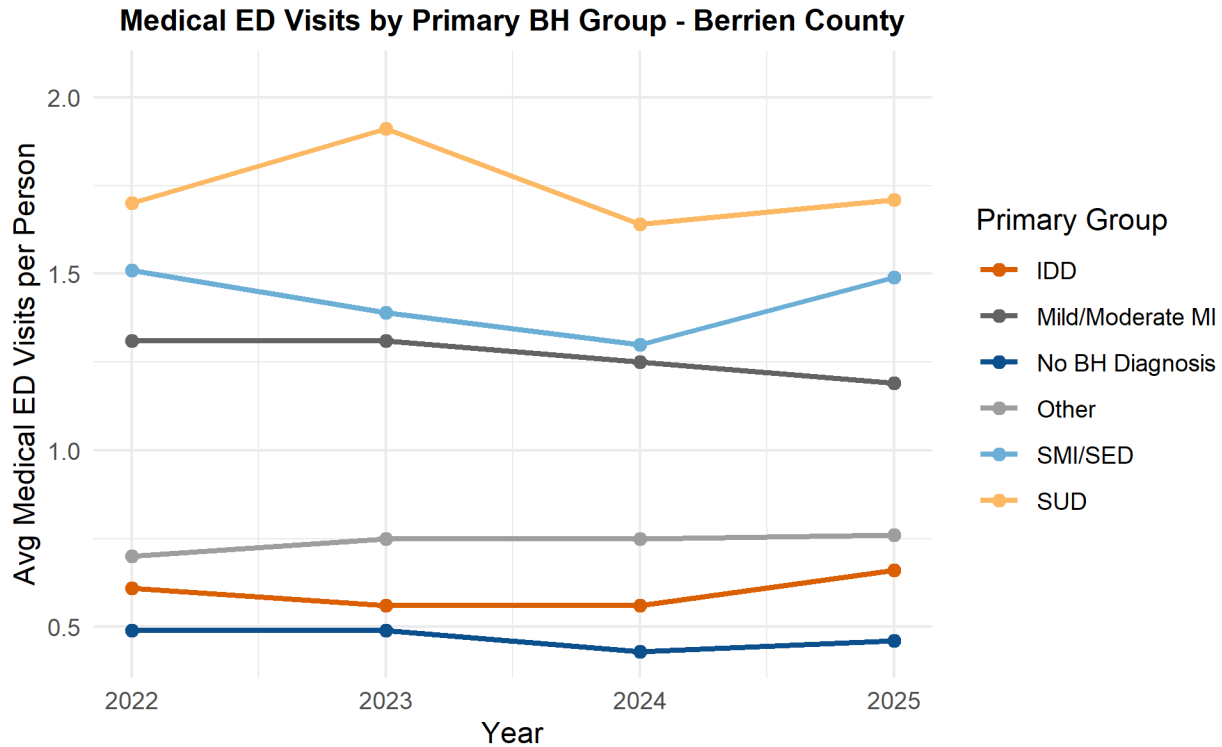


Figure 14: Average medical ED visits per person by primary BH group, 2022-2025.

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

Average visits per person, 2022-2025

Primary BH Group	2022	2023	2024	2025
IDD	0.61	0.56	0.56	0.66
Mild/Moderate MI	1.31	1.31	1.25	1.19
No BH Diagnosis	0.49	0.49	0.43	0.46
Other	0.70	0.75	0.75	0.76
SMI/SED	1.51	1.39	1.30	1.49
SUD	1.70	1.91	1.64	1.71

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 1.71 visits per person, followed by SMI/SED at 1.49 and Mild/Moderate MI at 1.19. Enrollees with no behavioral health diagnosis averaged 0.46 medical ED visits per person. Utilization patterns were relatively stable from 2022 through 2025, with SUD and SMI/SED remaining 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 - Berrien 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	1.30	1.26	1.28	1.41	N/A
10-19	1.61	1.64	1.26	2.36	2.65
20-29	0.94	1.81	0.73	1.79	2.14
30-39	0.96	1.91	0.84	1.91	1.93
40-49	0.86	1.91	1.43	1.86	2.04
50-59	1.46	2.02	2.65	1.81	2.59
60-69	1.31	2.20	2.71	1.94	2.67
70+	1.76	2.95	2.61	2.34	3.30

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 and SMI/SED showed some of the highest relative risks across most age brackets. Among adolescents ages 10–19, individuals with SUD were 2.65 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 2.36 times as likely.

Elevated risk persisted across adulthood, with SUD generally associated with the highest or among the highest relative risks. The difference became especially pronounced among older adults, with SUD risk ratios of 2.59 among ages 50–59, 2.67 among ages 60–69, and 3.30 among adults age 70 and older. Mild/Moderate MI also showed consistently elevated risk across adulthood.

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.

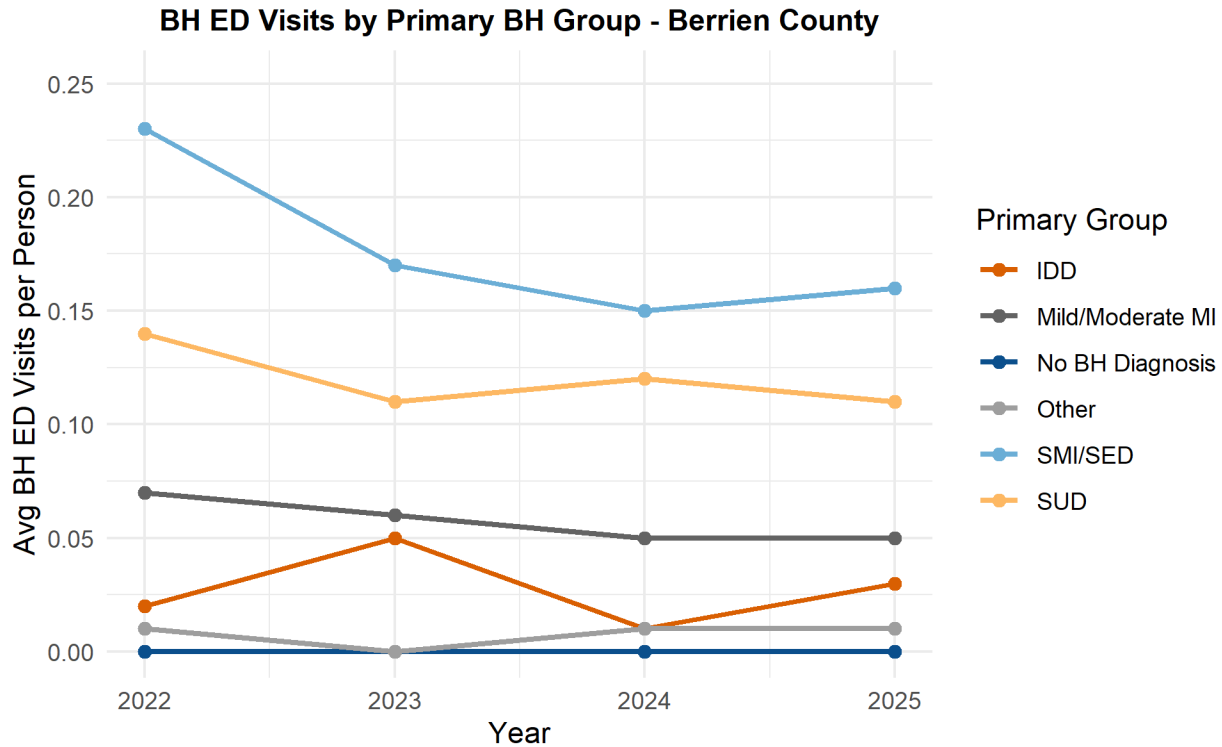


Figure 15: Average BH ED visits per person by primary BH group, 2022-2025.

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

Average visits per person, 2022-2025

Primary BH Group	2022	2023	2024	2025
IDD	0.02	0.05	0.01	0.03
Mild/Moderate MI	0.07	0.06	0.05	0.05
No BH Diagnosis	0.00	0.00	0.00	0.00
Other	0.01	0.00	0.01	0.01
SMI/SED	0.23	0.17	0.15	0.16
SUD	0.14	0.11	0.12	0.11

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 0.16 visits per enrollee, followed by SUD at 0.11. Utilization was substantially lower among the remaining behavioral health groups and was near zero among individuals without a behavioral health diagnosis. Although behavioral health ED utilization declined overall among SMI/SED and SUD from 2022 through 2025, both groups remained consistently elevated relative to the other diagnosis groups.

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 - Berrien County

Average visits per person, by age bracket (2025)

Age Bracket	IDD	Mild/Moderate MI	No BH Diagnosis	Other	SMI/SED	SUD
0-9	0.02	0.01	0.00	0.00	0.12	
10-19	0.04	0.05	0.00	0.01	0.22	0.00
20-29	0.05	0.07	0.00	0.00	0.16	0.07
30-39	0.03	0.08	0.00	0.00	0.18	0.16
40-49	0.00	0.07	0.00	0.00	0.19	0.13
50-59	0.03	0.04	0.00	0.04	0.13	0.09
60-69	0.00	0.03	0.00	0.04	0.10	0.06
70+	0.00	0.03	0.00	0.00	0.08	0.06

Age-specific patterns show that behavioral health ED utilization among individuals with SMI/SED was elevated across multiple age groups, with the highest average observed among adolescents ages 10–19 at 0.22 visits per person. Utilization remained relatively high through middle adulthood before declining in older age groups. SUD-related behavioral health ED utilization was concentrated primarily among working-age adults, particularly ages 30–49.

Overall, these findings suggest that crisis-oriented behavioral health utilization in Berrien County is concentrated among populations with more severe or complex behavioral health needs, particularly individuals with 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.

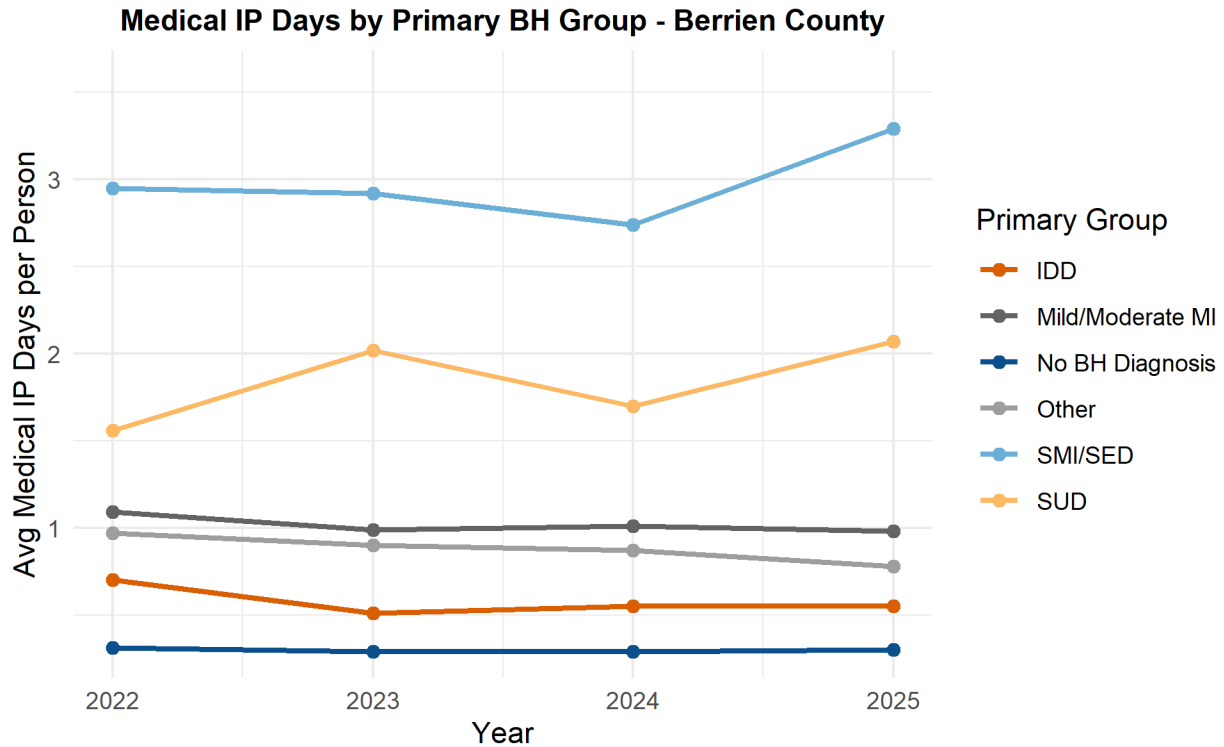


Figure 16: Average medical inpatient days per person by primary BH group, 2022-2025.

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

Average days per person, 2022-2025

Primary BH Group	2022	2023	2024	2025
IDD	0.70	0.51	0.55	0.55
Mild/Moderate MI	1.09	0.99	1.01	0.98
No BH Diagnosis	0.31	0.29	0.29	0.30
Other	0.97	0.90	0.87	0.78
SMI/SED	2.95	2.92	2.74	3.29
SUD	1.56	2.02	1.70	2.07

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 3.29 days per enrollee, followed by SUD at 2.07 days. Individuals without a behavioral health diagnosis averaged only 0.30 medical inpatient days.

SMI/SED remained the highest-utilization group throughout the study period and increased to its highest level in 2025 after a slight decline from 2022 through 2024. SUD also remained persistently elevated, with utilization fluctuating between 1.56 and 2.07 days per enrollee across the four years.

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 - Berrien County

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

Age Bracket	IDD	Mild/Moderate MI	Other	SMI/SED	SUD
0-9	0.32	0.08	0.39	0.90	N/A
10-19	2.19	4.47	1.37	20.64	3.85
20-29	0.42	2.06	0.97	4.04	3.22
30-39	2.33	2.43	0.00	5.54	2.86
40-49	0.96	3.80	4.79	5.76	5.01
50-59	3.20	3.20	5.33	5.06	6.83
60-69	1.50	3.21	5.35	3.55	5.34
70+	2.44	4.28	4.18	3.75	2.74

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 remained evident when comparing the likelihood of any inpatient use within the same age groups. SMI/SED showed elevated hospitalization risk across nearly all age brackets, with a particularly large difference among adolescents ages 10–19. SUD was also associated with elevated risk throughout adulthood, while Mild/Moderate MI showed higher risk across most adult age groups.

Elevated risk persisted into older adulthood for several behavioral health groups, including SMI/SED, SUD, Mild/Moderate MI, and the Other diagnosis group. Overall, these findings indicate that differences in medical inpatient utilization remain evident within age groups and are not explained by age alone.

Very large risk ratios in groups with low baseline hospitalization rates should be interpreted alongside the underlying utilization rates, as relatively small absolute differences 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.

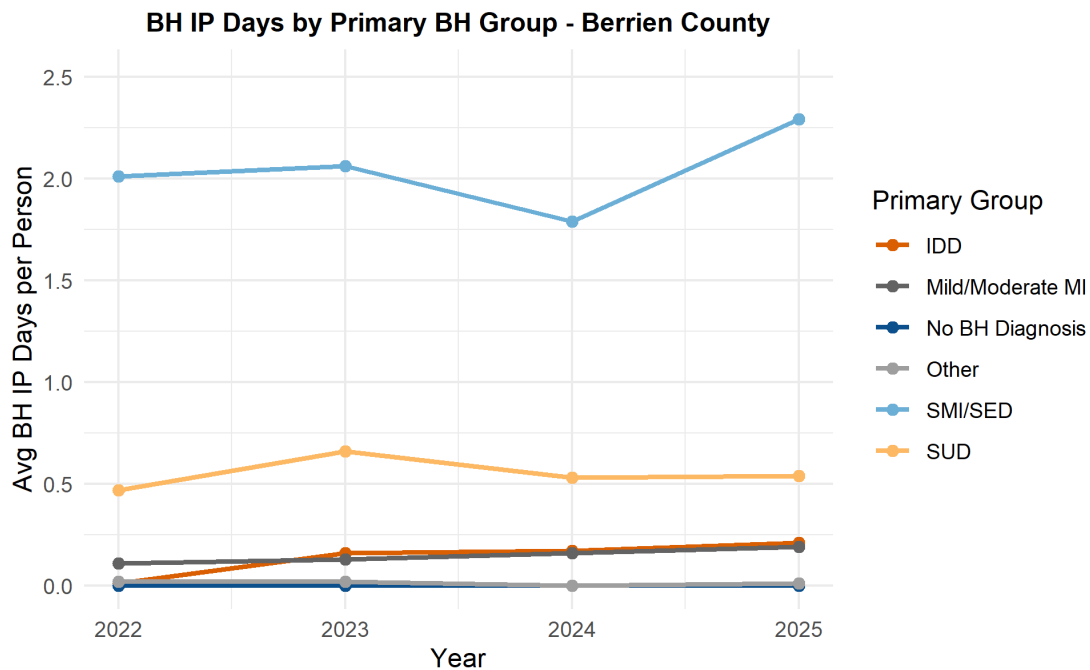


Figure 17: Average BH inpatient days per person by primary BH group, 2022-2025.

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

Average days per person, 2022-2025

Primary BH Group	2022	2023	2024	2025
IDD	0.01	0.16	0.17	0.21
Mild/Moderate MI	0.11	0.13	0.16	0.19
No BH Diagnosis	0.00	0.00	0.00	0.00
Other	0.02	0.02	0.00	0.01
SMI/SED	2.01	2.06	1.79	2.29
SUD	0.47	0.66	0.53	0.54

Behavioral health inpatient utilization was most heavily concentrated among individuals with SMI/SED. Average behavioral health inpatient days in this group increased overall from 2.01 per enrollee in 2022 to 2.29 in 2025, despite a dip in 2024. SUD had the second-highest utilization in 2025 at 0.54 days per enrollee, while utilization remained substantially lower among the other diagnosis groups.

IDD showed a different pattern, with behavioral health inpatient utilization increasing from 0.01 days per enrollee in 2022 to 0.21 in 2025. Mild/Moderate MI also increased modestly over the period, from 0.11 to 0.19 days per enrollee.

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 - Berrien County

Average days per person, by age bracket (2025)

Age Bracket	IDD	Mild/Moderate MI	No BH Diagnosis	Other	SMI/SED	SUD
0-9	0.15	0.01	0.00	0.00	1.25	
10-19	0.46	0.32	0.00	0.02	2.90	0.28
20-29	0.00	0.21	0.00	0.00	3.18	0.15
30-39	0.30	0.21	0.00	0.00	2.05	0.68
40-49	0.00	0.17	0.00	0.00	1.93	0.38
50-59	0.00	0.06	0.00	0.63	1.57	0.95
60-69	0.00	0.12	0.00	0.00	2.83	0.48
70+	0.78	0.06	0.00	0.00	1.20	0.00

SMI/SED had the highest average behavioral health inpatient utilization in every age bracket. Utilization was elevated beginning in childhood and adolescence and remained high throughout adulthood, peaking at 3.18 days per person among adults ages 20–29. Rates were also notably high among ages 10–19 (2.90) and 60–69 (2.83).

SUD-related inpatient utilization was concentrated primarily among working-age adults, with the highest average observed among ages 50–59 at 0.95 days per person. Overall, the persistence of elevated behavioral health inpatient utilization among individuals with SMI/SED across age groups identifies this population as an important focus for crisis prevention, transitions of care, and ongoing community-based behavioral health supports.

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.

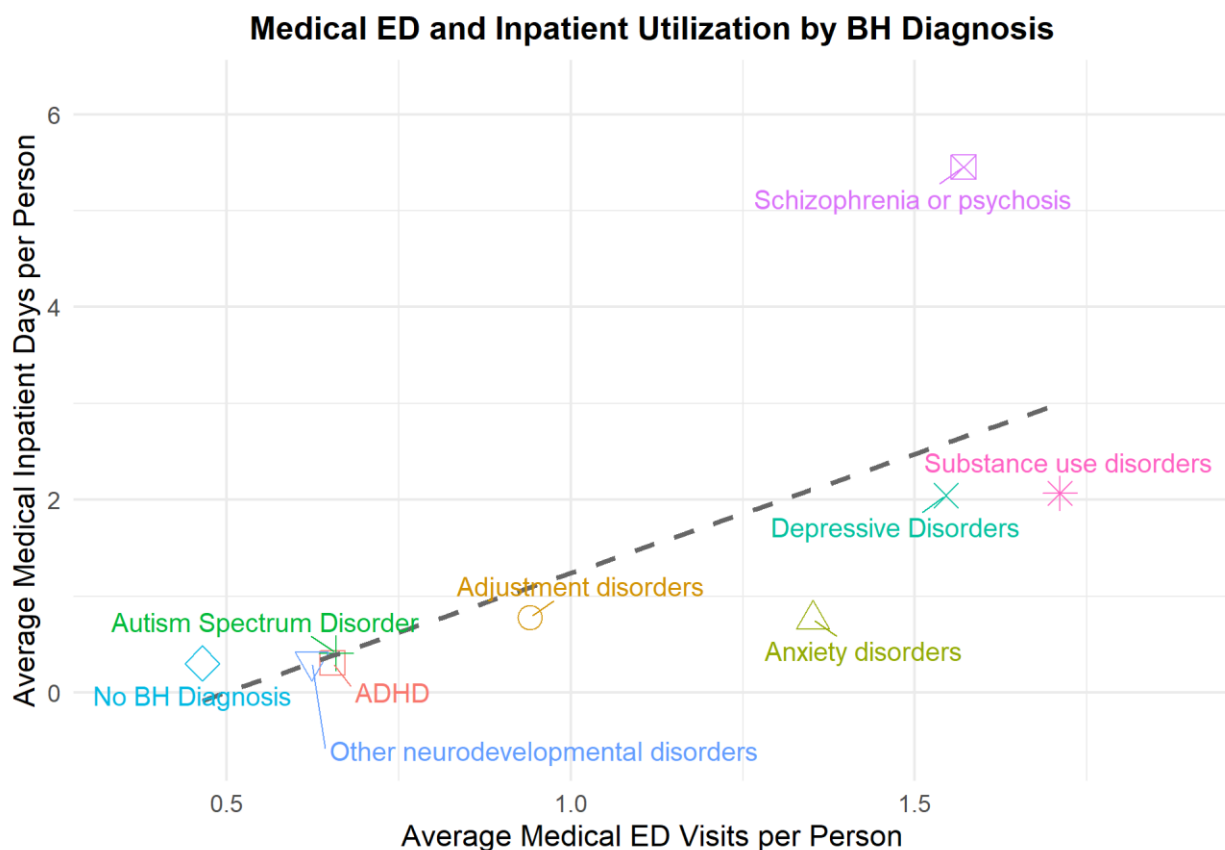


Figure 18: Average medical ED visits and inpatient days per Medicaid enrollee among the most common behavioral health diagnosis categories.

Acute medical utilization differed substantially across specific behavioral health diagnosis categories. Schizophrenia/psychosis stood out with by far the highest average medical inpatient utilization and also relatively high medical ED utilization. Substance use disorders had the highest average medical ED utilization and elevated inpatient utilization, while depressive disorders were also high on both measures. In contrast, anxiety and adjustment disorders had comparatively lower levels of acute medical utilization.

The figure also demonstrates that higher medical ED utilization does not necessarily correspond with higher inpatient utilization. Substance use disorders and schizophrenia/psychosis had similarly high ED utilization, but schizophrenia/psychosis was associated with substantially more inpatient days. Anxiety disorders showed a somewhat different pattern, with relatively high ED utilization but considerably lower inpatient use. These differences suggest that specific behavioral health conditions are associated with different patterns of acute medical utilization.

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 Berrien County.

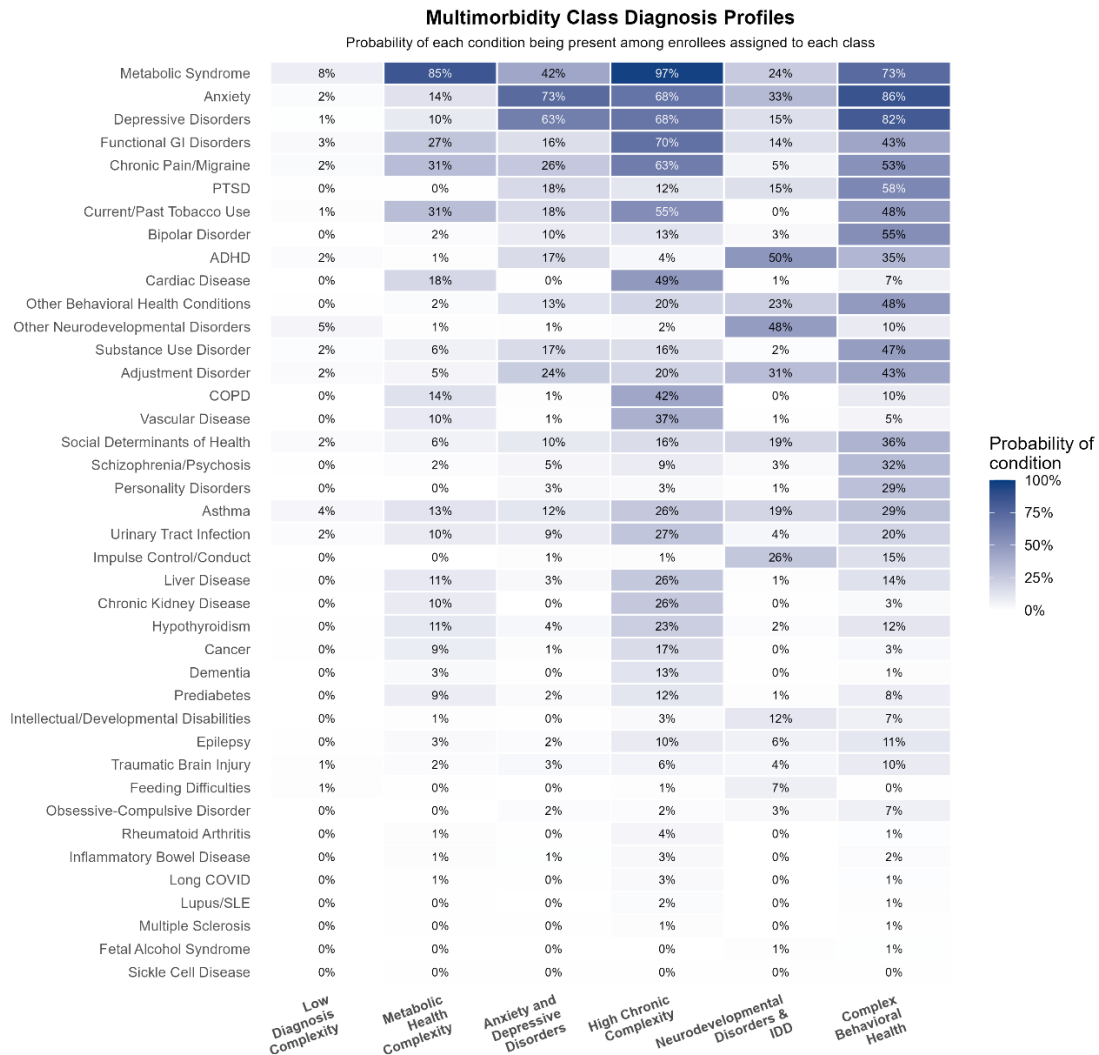


Figure 19: Estimated probability of each condition being present within each regionally defined multimorbidity class.

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 are 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 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 - Berrien County				
Multimorbidity Class	N	% of Population	ED per 1,000	IP per 1,000
Low Diagnosis Complexity	40,468	59.0%	308.8	264.5
Metabolic Health Complexity	9,004	13.1%	869.2	867.4
Anxiety and Depressive Disorders	8,861	12.9%	770.1	442.5
High Chronic Complexity	4,304	6.3%	2,252.5	3,608.2
Neurodevelopmental Disorders & IDD	3,505	5.1%	610.6	544.1
Complex Behavioral Health	2,398	3.5%	2,415.3	2,928.5

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 (59.0%), while the more clinically complex classes represented substantially smaller portions of the population. Despite their smaller size, the Complex Behavioral Health and High Chronic Complexity classes had markedly higher acute-care utilization than the other multimorbidity groups. Together, these two classes represented approximately 10% of the ever-diagnosed population. Complex Behavioral Health had the highest ED utilization at 2,415 visits per 1,000 person-years, while High Chronic Complexity had the highest inpatient utilization at 3,608 per 1,000 person-years.

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

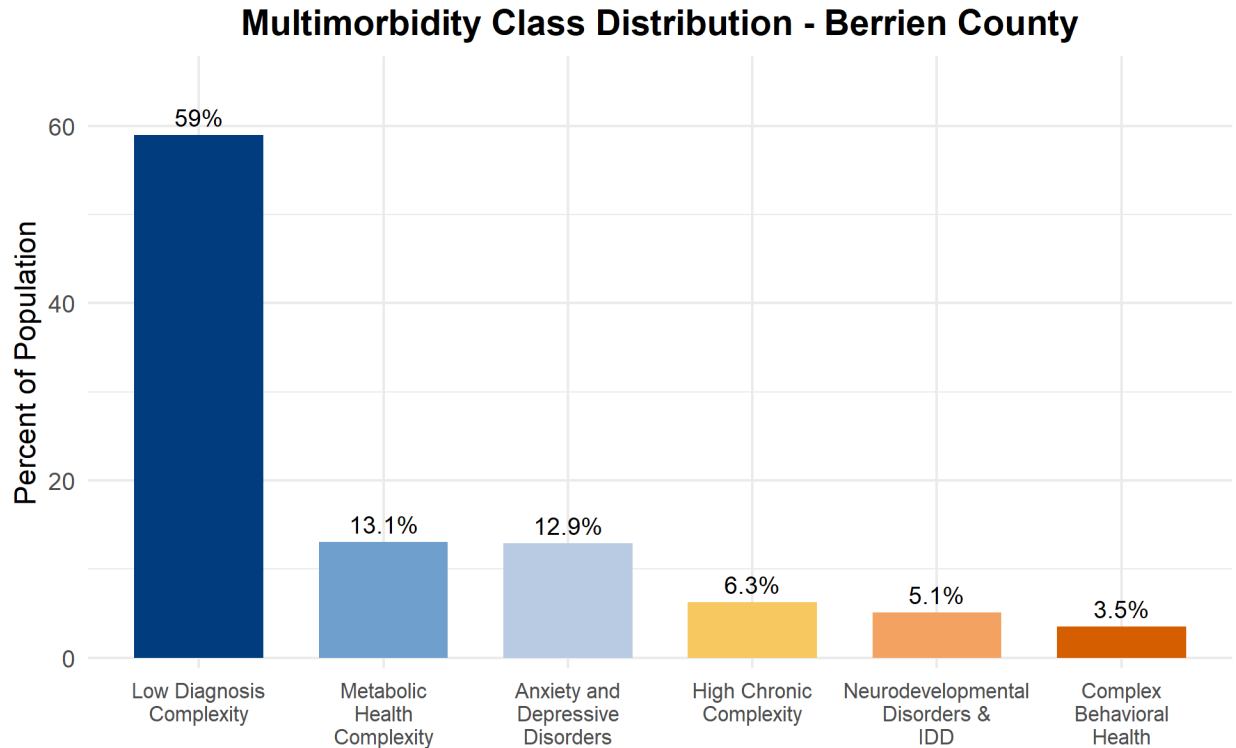


Figure 20: *Percent of the ever-diagnosed population in each multimorbidity class.*

Although the Complex Behavioral Health and High Chronic Complexity classes represented relatively small portions of Berrien County’s ever-diagnosed population, together accounting for 9.8%, their high acute-care utilization may make them particularly important populations for care coordination, transitions-of-care interventions, and strategies addressing co-occurring behavioral and physical health needs.

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 - Berrien County

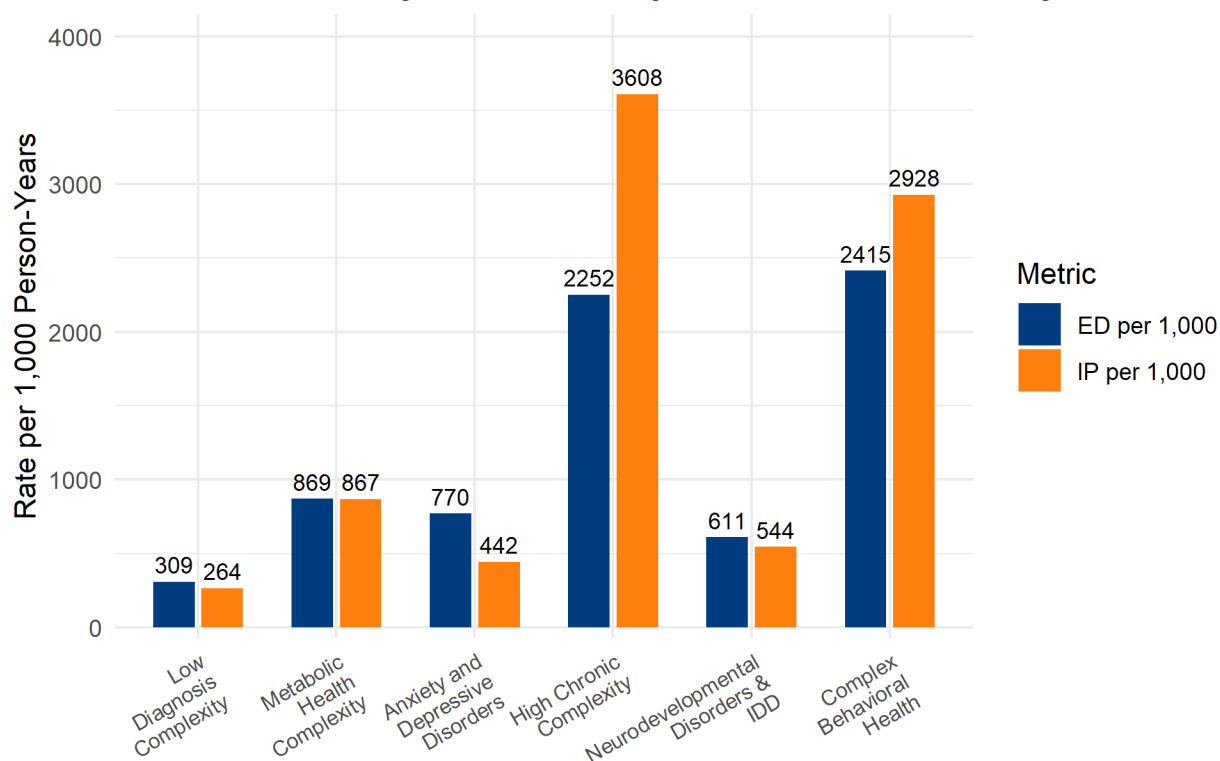


Figure 21: Average ED and IP utilization rates per 1,000 person-years, by multimorbidity class.

Acute-care utilization varied substantially across multimorbidity classes. Complex Behavioral Health had the highest ED utilization at 2,415 visits per 1,000 person-years, while High Chronic Complexity had the highest inpatient utilization at 3,608 per 1,000 person-years. Complex Behavioral Health also had high inpatient utilization at 2,928 per 1,000 person-years, and High Chronic Complexity had similarly elevated ED utilization at 2,252 per 1,000 person-years.

In contrast, Anxiety and Depressive Disorders and Neurodevelopmental Disorders & IDD had considerably lower inpatient utilization, while Low Diagnosis Complexity had the lowest acute-care utilization on both measures. These patterns highlight the particularly high acute-care needs associated with the Complex Behavioral Health and High Chronic Complexity profiles in Berrien County.

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 - Berrien County

Percent completed, 2025

Metric ID	Quality Metric	SWMBH	Berrien
343	Presence of at least 84 days of continuous treatment with an Antidepressant medication	62.7%	65.0%
515	Adherence to Mood Stabilizer medications for individuals with bipolar disorder	55.6%	55.9%

Berrien County performed slightly above the SWMBH regional rate on both disease management measures. Continuous antidepressant treatment was completed for 65.0% of eligible Berrien County enrollees compared with 62.7% regionally. Adherence to mood stabilizer medications among individuals with bipolar disorder was 55.9% in Berrien County compared with 55.6% across the SWMBH region.

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 Berrien 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 - Berrien County

Percent utilizing, 2025

Medication Class	SWMBH	Berrien
Opioids	4.2%	3.5%
Insomnia Agents	3.0%	2.6%
ADHD: Stimulants	2.8%	3.3%
Antipsychotics	5.5%	5.1%
Antidepressants	14.5%	12.8%
Antidepressants: SSRIs	8.7%	7.9%
Mood Stabilizers	2.7%	2.0%
Benzodiazepines	3.4%	3.0%
ADHD Medication	3.3%	3.8%
Antidepressants: TCAs	1.2%	1.1%

Antidepressants were the most commonly utilized behavioral health medication class among adults in Berrien County, with 12.8% receiving an antidepressant and 7.9% receiving an SSRI. Antipsychotics were used by 5.1% of adults, while ADHD medications were used by 3.8% and stimulants by 3.3%. Opioids, benzodiazepines, insomnia agents, mood stabilizers, and TCAs each had utilization rates below 4%.

Compared with the SWMBH region overall, Berrien County had somewhat lower utilization across most medication classes, including antidepressants, SSRIs, antipsychotics, opioids, benzodiazepines, insomnia agents, and mood stabilizers. ADHD medication and stimulant utilization were slightly higher than 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 - Berrien County

Percent triggered, 2025

Metric ID	Quality Metric	SWMBH	Berrien
214	Failure to Refill Antipsychotic Medication	11.2%	11.8%
217	Use of four or more psychotropic medications for 60 or more days	3.5%	4.6%
231	Use of Opioids and Benzodiazepines for 30 or More Days	35.3%	43.8%
283	Multiple prescribers of the same class of psychotropic medications for 45 or more days	3.9%	3.4%

Among adults in Berrien County, the most common pharmacy quality indicator was concurrent use of opioids and benzodiazepines for 30 or more days, which triggered for 43.8% of the population evaluated for that measure. Failure to refill antipsychotic medication triggered for 11.8%, while 4.6% triggered the indicator for use of four or more psychotropic medications for 60 or more days and 3.4% triggered the indicator for multiple prescribers of the same psychotropic medication class for 45 or more days.

Compared with the SWMBH region, Berrien County had higher triggering rates for concurrent opioid and benzodiazepine use, failure to refill antipsychotic medication, and use of four or more psychotropic medications. The multiple-prescriber indicator was somewhat lower than the regional rate. These indicators identify situations that may warrant additional clinical review and should not be interpreted on their own as evidence of inappropriate prescribing.

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 - Berrien 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	22,257	96.4%	8.0	Ref.	1.1	Ref.	6.9	Ref.
2	1+ QIs Triggered	836	3.6%	45.1	5.62 ↑	8.9	8.12 ↑	36.2	5.23 ↑
515	Adherence to Mood Stabilizer medications for individuals with bipolar disorder	57	0.2%	21.1	2.63 ↑	12.3	11.22 ↑	8.8	1.27 ↑
231	Use of opioids and benzodiazepines for 30 or more days	75	0.3%	16.0	1.99 ↑	0.0	0.00 ↓	16.0	2.31 ↑
343	Presence of at least 84 days of continuous treatment with an Antidepressant medication	399	1.7%	15.3	1.91 ↑	4.5	4.10 ↑	10.8	1.56 ↑
214	Failure to refill antipsychotic medication within 30 days of the prescription ending	130	0.6%	33.1	4.12 ↑	10.0	9.12 ↑	23.1	3.33 ↑
217	Use of four or more psychotropic medications for 60 or more days	138	0.6%	16.7	2.08 ↑	9.4	8.57 ↑	7.2	1.04
283	Multiple prescribers of the same class of psychotropic medications for 45 or more days	124	0.5%	42.7	5.32 ↑	22.6	20.62 ↑	20.2	2.92 ↑

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 45.1 hospitalizations per 100 people compared with 8.0 per 100 among adults with no indicators, corresponding to 5.62 times the overall hospitalization risk. Elevated risk was observed for both behavioral health and non-behavioral health hospitalizations.

Several individual indicators were associated with particularly elevated hospitalization risk. Multiple prescribers of the same psychotropic medication class had the highest behavioral health hospitalization risk, at more than 20 times the risk observed among adults with no quality indicators. The mood stabilizer indicator, failure to refill antipsychotic medication,

and use of four or more psychotropic medications were also associated with markedly elevated behavioral health hospitalization risk. Concurrent opioid and benzodiazepine use again showed a different pattern, with no behavioral health hospitalizations observed in that group but more than twice the non-behavioral health hospitalization risk of the reference population.

These findings do not establish that the medication-related indicators caused hospitalization. Rather, the indicators may 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 - Berrien County

Percent utilizing, 2025

Medication Class	SWMBH	Berrien
Opioids	0.4%	0.3%
Insomnia Agents	0.5%	0.4%
ADHD: Stimulants	5.4%	5.3%
Antipsychotics	1.6%	1.6%
Antidepressants	3.1%	2.7%
Antidepressants: SSRIs	2.6%	2.3%
Mood Stabilizers	0.6%	0.4%
Benzodiazepines	0.3%	0.2%
ADHD Medication	6.1%	6.0%
Antidepressants: TCAs	0.2%	0.1%

ADHD medications were the most commonly utilized behavioral health medication class among children and adolescents in Berrien County, with 6.0% receiving an ADHD medication and 5.3% receiving a stimulant. Antidepressants were used by 2.7% of the pediatric population, including 2.3% receiving an SSRI, while antipsychotics were used by 1.6%. Compared with the SWMBH region overall, pediatric medication utilization in Berrien County was generally similar or slightly lower across most medication classes.

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 - Berrien County

Percent triggered, 2025

Metric ID	Quality Metric	SWMBH	Berrien
214	Failure to Refill Antipsychotic Medication	10.0%	8.1%
283	Multiple prescribers of the same class of psychotropic medications for 45 or more days	1.6%	1.1%
301	Use of Antipsychotic Medication for Member Under the Age of 18 Diagnosed with ADHD	49.8%	58.4%

Pediatric quality indicator triggering rates varied substantially by measure. The most common indicator in Berrien County was antipsychotic use among children diagnosed with ADHD, which triggered for 58.4% of the eligible population compared with 49.8% regionally. Failure to refill antipsychotic medication triggered for 8.1%, while multiple prescribers of the same psychotropic medication class triggered for 1.1%; both were lower than the corresponding SWMBH regional rates. As with the adult measures, these indicators identify situations that may warrant review and should not be interpreted as evidence of inappropriate 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 - Berrien 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	13,979	98.9%	3.2	Ref.	0.2	Ref.	2.9	Ref.
2	1+ QIs Triggered	156	1.1%	19.9	6.27 ↑	5.8	24.57 ↑	14.1	4.80 ↑
283	Multiple prescribers of the same class of psychotropic medications for 45 or more days	12	0.1%	33.3	10.48 ↑	8.3	35.16 ↑	25.0	8.50 ↑
214	Failure to refill antipsychotic medication within 30 days of the prescription ending (any diagnosis)	18	0.1%	5.6	1.76 ↑	5.6	23.72 ↑	0.0	0.00 ↓
301	Use of Antipsychotic Medication for Member Under the Age of 18 Diagnosed with ADHD	121	0.9%	20.7	6.52 ↑	5.8	24.57 ↑	14.9	5.07 ↑

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 19.9 per 100 among children with one or more indicators compared with 3.2 per 100 among those with none, corresponding to 6.27 times the hospitalization risk. Elevated risk was observed for both behavioral health and non-behavioral health hospitalization.

Multiple prescribers of the same psychotropic medication class was associated with the highest overall hospitalization rate at 33.3 per 100. Antipsychotic use among children diagnosed with ADHD was also associated with elevated hospitalization risk, with 20.7 hospitalizations per 100. All three pediatric indicators showed substantially higher behavioral health hospitalization risk than the no-indicator group. These large risk ratios should be interpreted alongside the underlying hospitalization rates and small numbers of children triggering some indicators, as low baseline rates and small groups can produce large relative differences.

Across both adults and children, pharmacy quality indicators identified relatively small populations with substantially higher hospitalization rates. Among adults, individuals triggering at least one indicator experienced more than five times the overall

hospitalization risk of those triggering none; among children and adolescents, hospitalization risk was more than six times as high. Although these associations do not establish that medication-related concerns caused hospitalization, 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 information on demographics, behavioral and chronic health conditions, healthcare utilization, multimorbidity, and healthcare quality to provide a broad view of the health needs of Medicaid enrollees in Berrien County. Examining these topics together provides a more complete understanding of local population health than considering individual diagnoses or services in isolation.

Several findings distinguish Berrien County from the broader SWMBH region. Overall documented behavioral health diagnosis prevalence was lower in Berrien County, including lower rates of several common conditions such as anxiety, depressive disorders, trauma-related disorders, bipolar disorder, and SUD. Overall chronic condition prevalence was also slightly lower, although tobacco use and chronic kidney disease were significantly higher than in the remainder of the region. Among the PIHP/CMH-served population, Berrien County also had a higher percentage living independently and a lower percentage identified as unhoused.

Trends from 2022 through 2025 provide important context for interpreting these patterns. Medicaid enrollment declined from 52,251 in 2024 to 46,972 in 2025, while the percentage of enrollees receiving at least one Medicaid service increased from 74.3% to 76.9%. Behavioral and chronic condition prevalence increased in the full 2025 population, but neither overall measure increased among enrollees active in both 2024 and 2025. This suggests that changes in the composition of the Medicaid population may have contributed to the higher full-population prevalence observed in 2025, while increased healthcare contact may also have influenced opportunities for conditions to be identified and documented.

The analysis also demonstrates substantial overlap between behavioral health, chronic medical conditions, social needs, and acute-care utilization. Individuals with greater chronic-condition burden experienced progressively more inpatient utilization, and documented Social Determinants of Health concerns were strongly associated with hospitalization. Among behavioral health populations, SMI/SED and SUD showed consistently elevated medical and behavioral health acute-care use across multiple analyses. The Complex Behavioral Health and High Chronic Complexity multimorbidity profiles similarly identified relatively small populations with particularly high ED and inpatient utilization.

Healthcare quality and medication analyses identified additional areas for monitoring. Berrien County performed slightly above the SWMBH regional rate on both adult disease-management measures, while pharmacy quality indicators identified small adult and pediatric populations with substantially elevated hospitalization risk. Higher triggering rates for selected indicators, including concurrent opioid and benzodiazepine use among adults and antipsychotic use among children diagnosed with ADHD, may warrant further review alongside clinical and prescribing context.

This report is intended to support local population health planning, quality improvement, resource allocation, and further analysis. Findings should be interpreted alongside local

knowledge of service availability, access to care, population characteristics, and documentation practices. Observed associations and statistically significant differences can identify areas that warrant attention but do not, by themselves, explain why those differences occurred.

Overall, the analysis provides a foundation for identifying priority populations in Berrien County, developing strategies responsive to local patterns of need, and monitoring changes in health conditions, healthcare utilization, and quality over time.

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