

THE ARKANSAS MENTAL HEALTH FRONTIER: FROM MOMS TO MEDICAL MARIJUANA

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LEARNING OBJECTIVES

- Increased understanding of the frequency and impact of **acute maternal behavioral health** events including emergency room visits and hospitalizations for women in the perinatal and postnatal period
- Be informed of the growing evidence behind **social media exposure** and behavioral health issues in youth and potential private and public responses to these new threats
- Gain understanding of the penetration and use of **medical marijuana** as a new therapeutic in the Arkansas environment.



OUR MISSION, VISION & VALUES

MISSION

ACHI's mission is to be a catalyst for improving the health of Arkansans through evidence-based research, public issue advocacy, and collaborative program development.

VISION

ACHI's vision is to be a trusted health policy leader committed to innovations that improve the health of Arkansans.

VALUES

ACHI's values are trust, innovation, initiative, and commitment.



OUR PRIORITIES

Healthy Systems

**Healthy
Communities**



**Healthy
Choices**



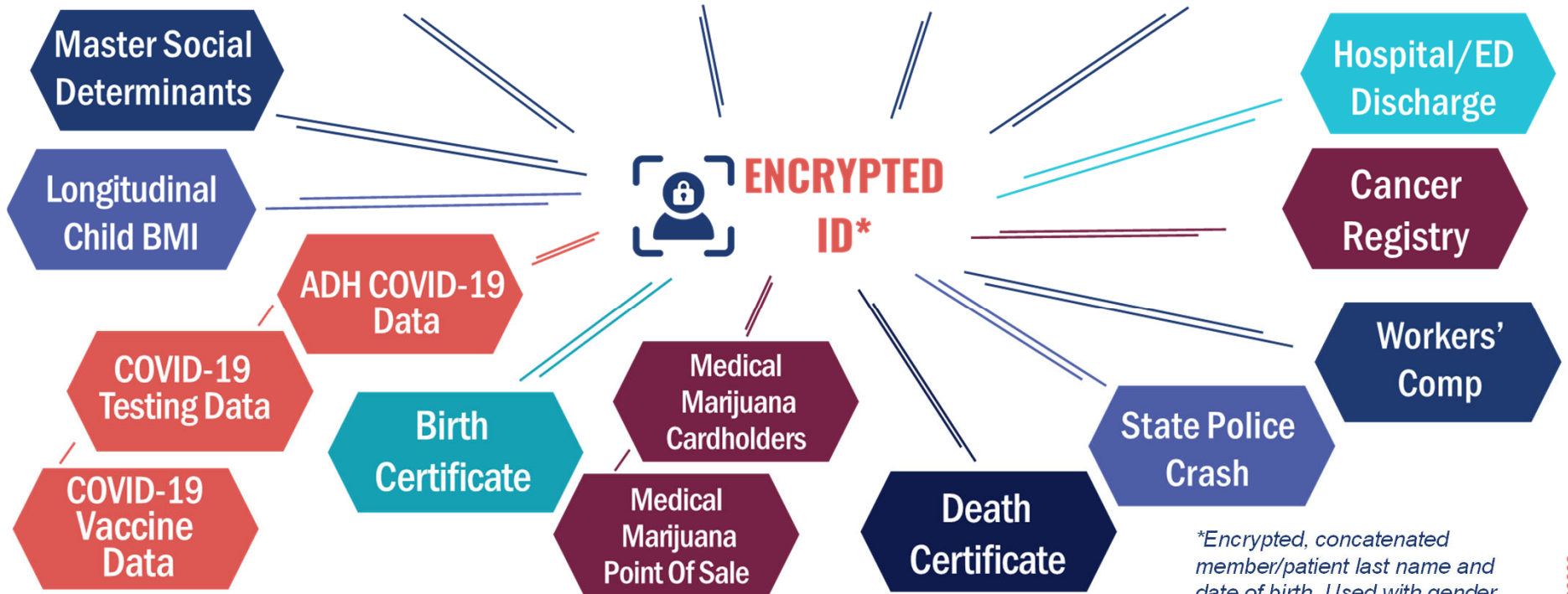
Arkansas All-Payer Claims Database

COMMERCIAL
FULLY INSURED

PUBLIC
SELF-INSURED

MEDICAID

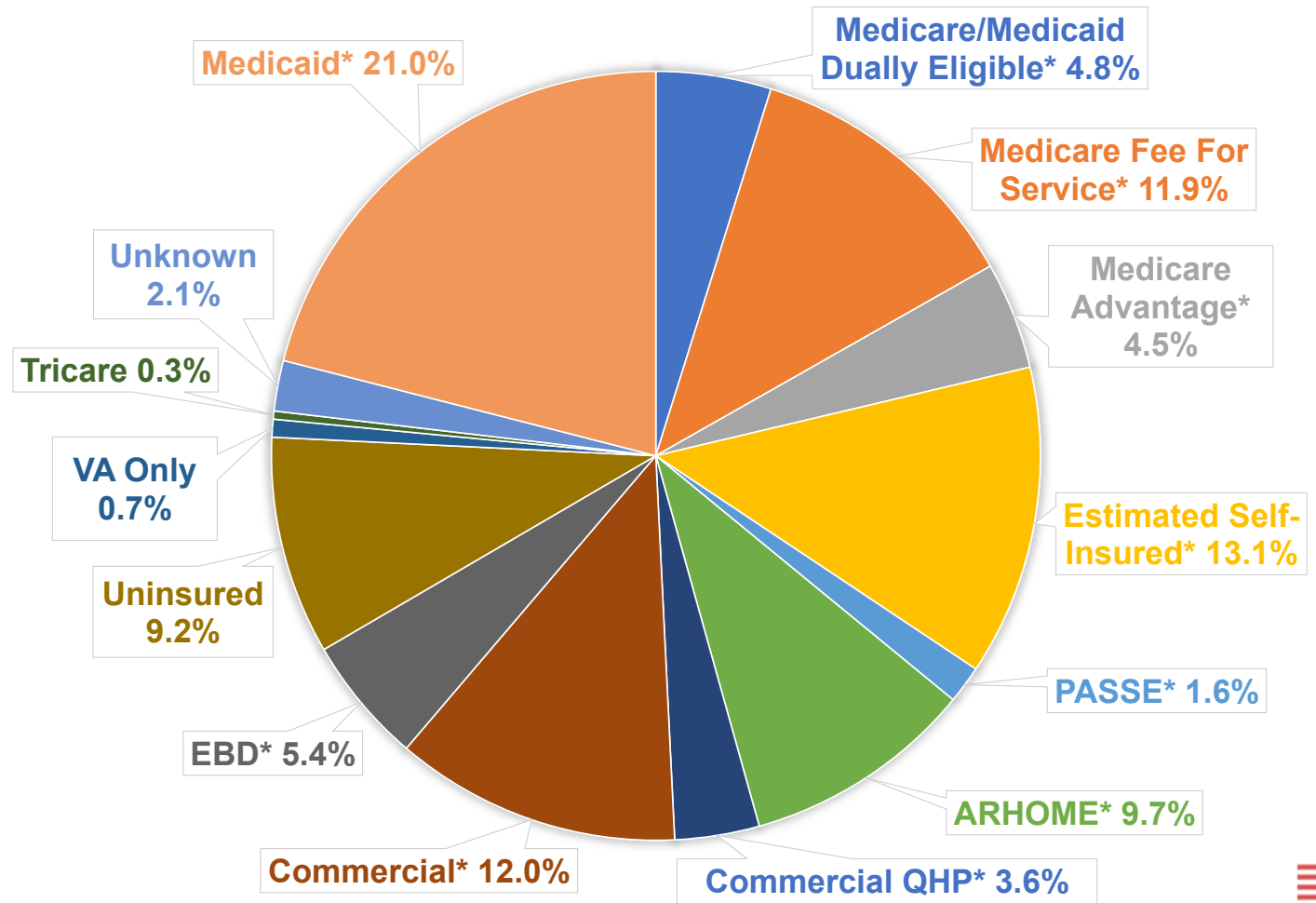
MEDICARE



**Encrypted, concatenated member/patient last name and date of birth. Used with gender.*



ARKANSAS APCD HEALTH COVERAGE POPULATION: STATEWIDE

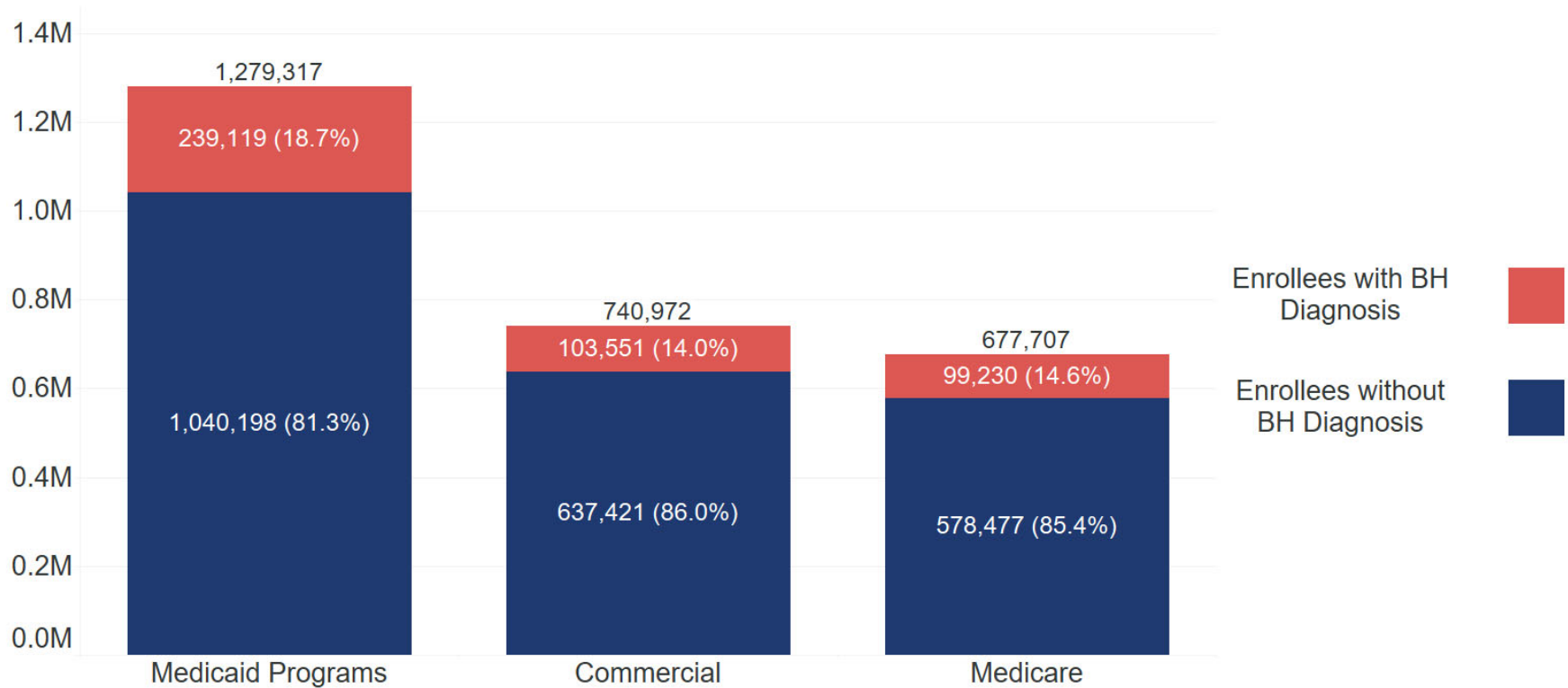


Notes: Based on covered members as of October 2020 for Medicare and October 2021 for all other submitters. | * Sourced from the Arkansas APCD.

BEHAVIORAL HEALTH (BH) PATIENTS & PAYMENTS ANALYSES



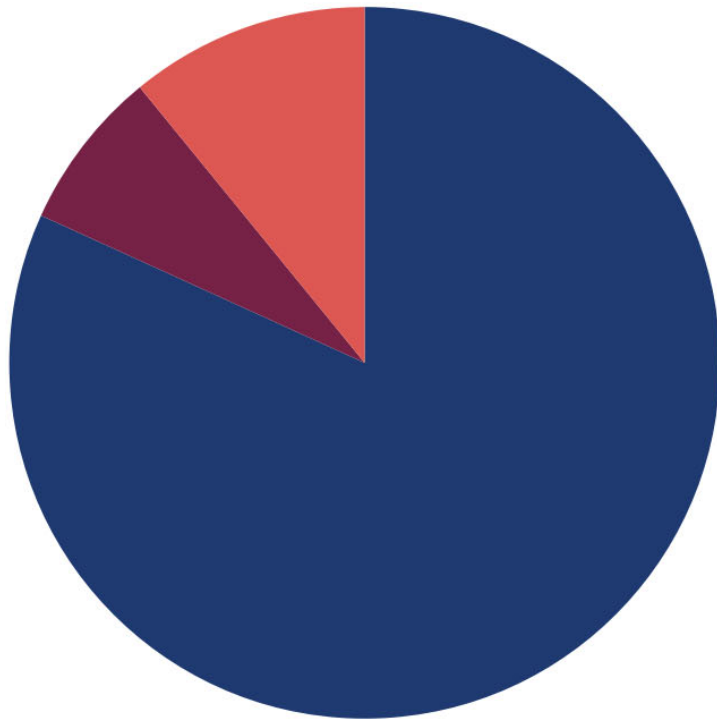
ANNUALIZED ENROLLEES BY BH PRIMARY DIAGNOSIS STATUS






Source: Healthcare Transparency Initiative's (HTI) Arkansas All Payer Claims Database (commercial, Medicaid, Medicaid PASSE, Medicaid QHP Members). Individuals may be counted in more than one payer category if they were enrolled in more than one medical plan during the study year. Medicaid programs & commercial January 1, 2023 – December 31, 2023. Medicare January 1, 2022 – December 31, 2022.



ANNUALIZED PAYMENTS TO PROVIDERS FOR CLAIMS WITH PRIMARY BH DIAGNOSIS

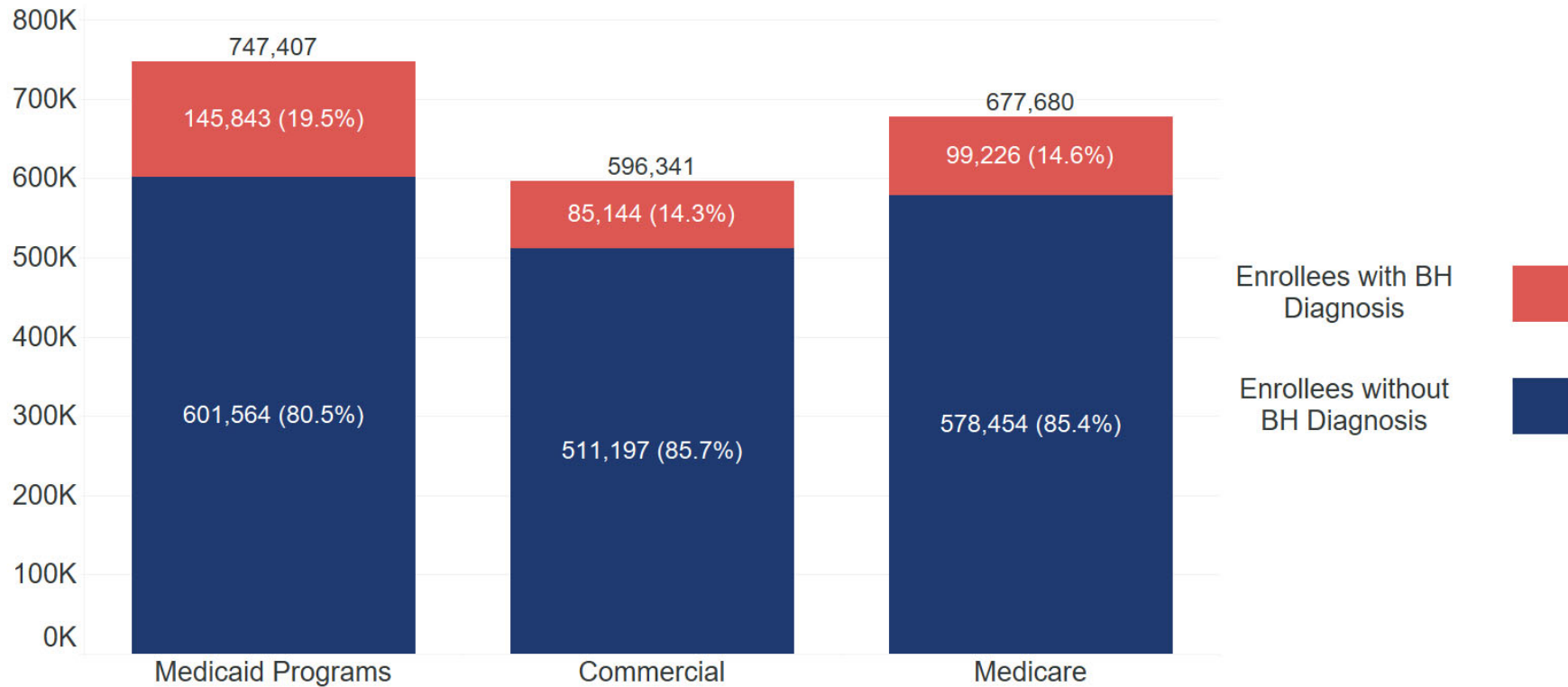


	Payer	Provider Payments	Percentage of Total
	Medicaid Programs	\$837.8M	76.3%
	Commercial	\$135.0M	12.3%
	Medicare	\$125.3M	11.4%



Source: Healthcare Transparency Initiative's (HTI) Arkansas All Payer Claims Database (commercial, Medicaid, Medicaid PASSE, Medicaid QHP Members). Medicaid programs & commercial January 1, 2023 – December 31, 2023. Medicare January 1, 2022 – December 31, 2022.

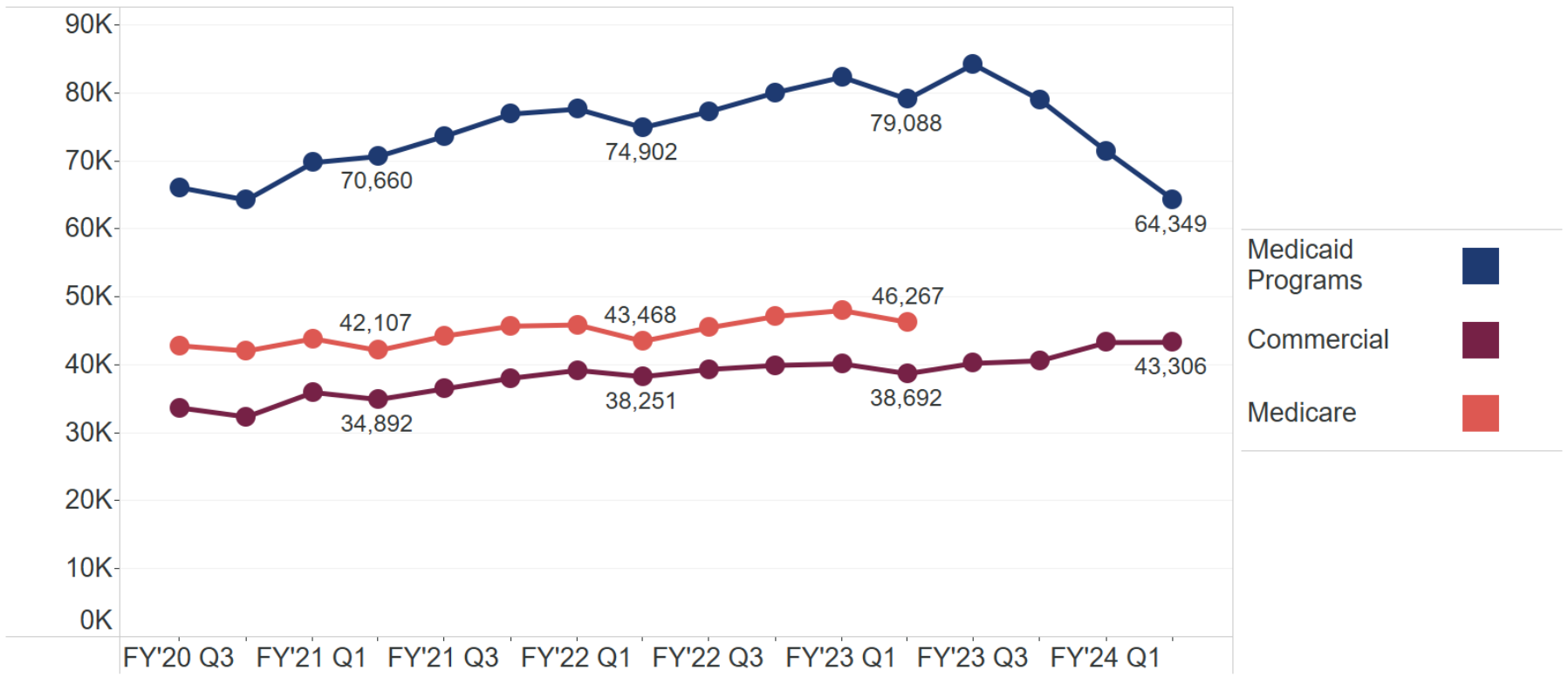
ANNUALIZED ENROLLEES BY BH PRIMARY DIAGNOSIS STATUS, ADULTS



Source: Healthcare Transparency Initiative's (HTI) Arkansas All Payer Claims Database (commercial, Medicaid, Medicaid PASSE, Medicaid QHP Members). Individuals may be counted in more than one payer category if they were enrolled in more than one medical plan during the study year. Medicaid programs & commercial January 1, 2023 – December 31, 2023. Medicare January 1, 2022 – December 31, 2022.



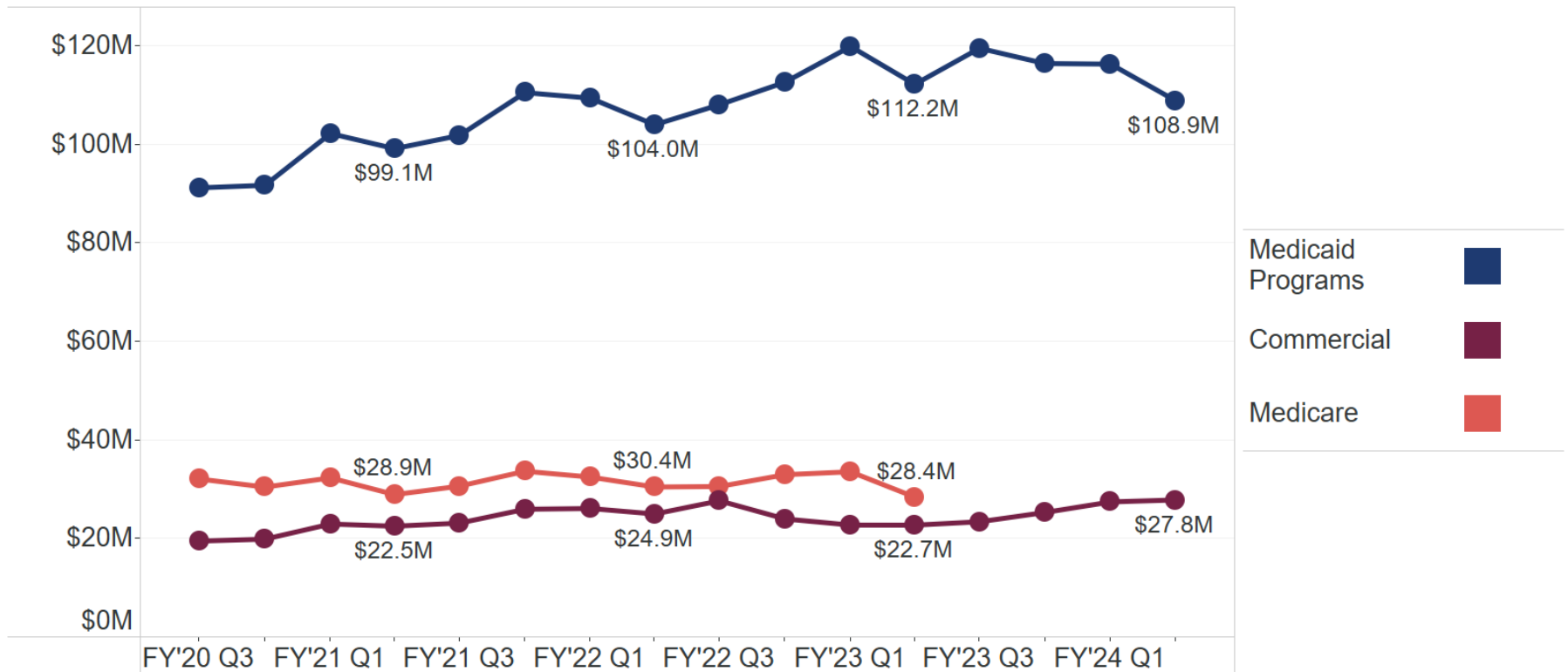
INDIVIDUALS WITH BH PRIMARY DIAGNOSIS, ADULTS



Source: Healthcare Transparency Initiative's (HTI) Arkansas All Payer Claims Database (commercial, Medicaid, Medicaid PASSE, Medicaid QHP Members). Individuals may be counted in more than one payer category if they were enrolled in more than one medical plan during the study year.



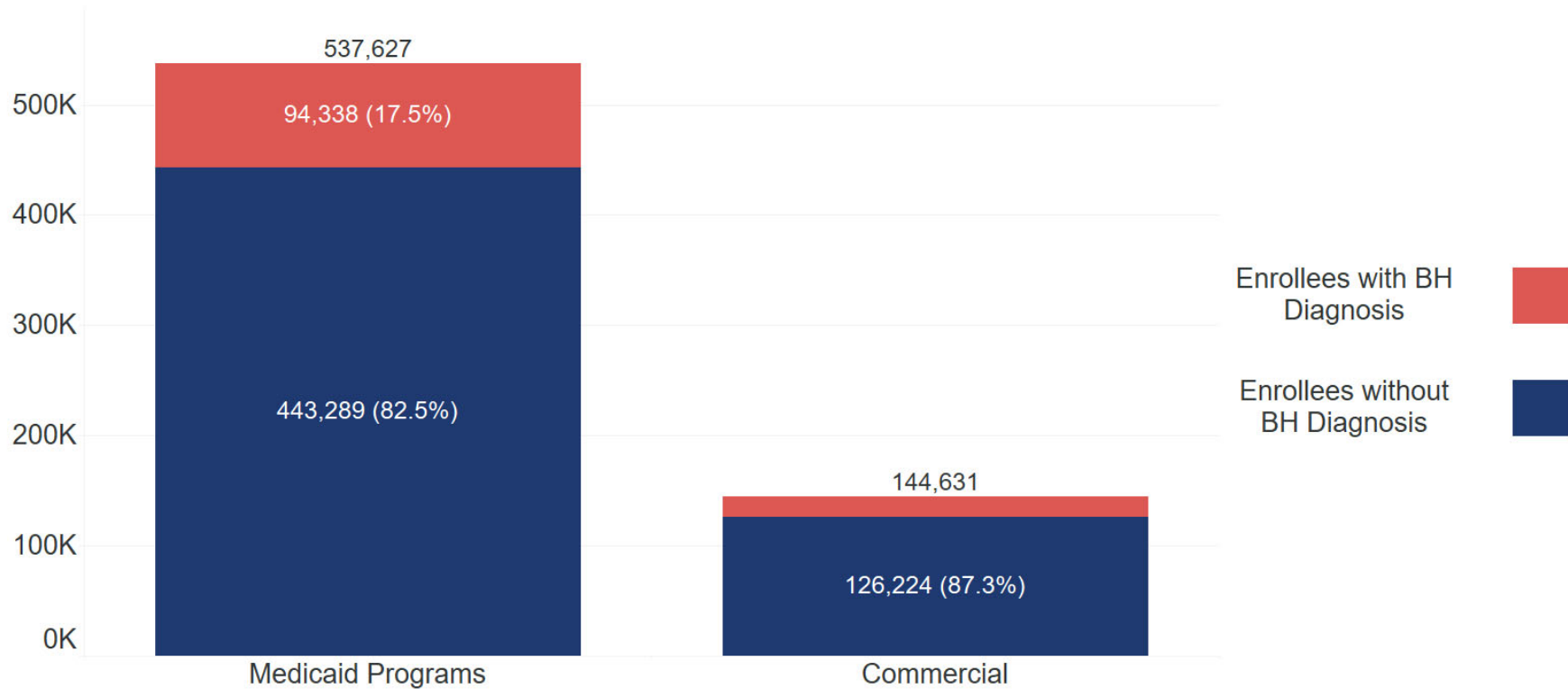
PAYMENTS TO PROVIDERS FOR CLAIMS WITH BH PRIMARY DIAGNOSIS, ADULTS



Source: Healthcare Transparency Initiative's (HTI) Arkansas All Payer Claims Database (commercial, Medicaid, Medicaid PASSE, Medicaid QHP Members).
 *Provider payments are for medical claims with a behavioral health primary diagnosis. Population includes those individuals in the APCD.



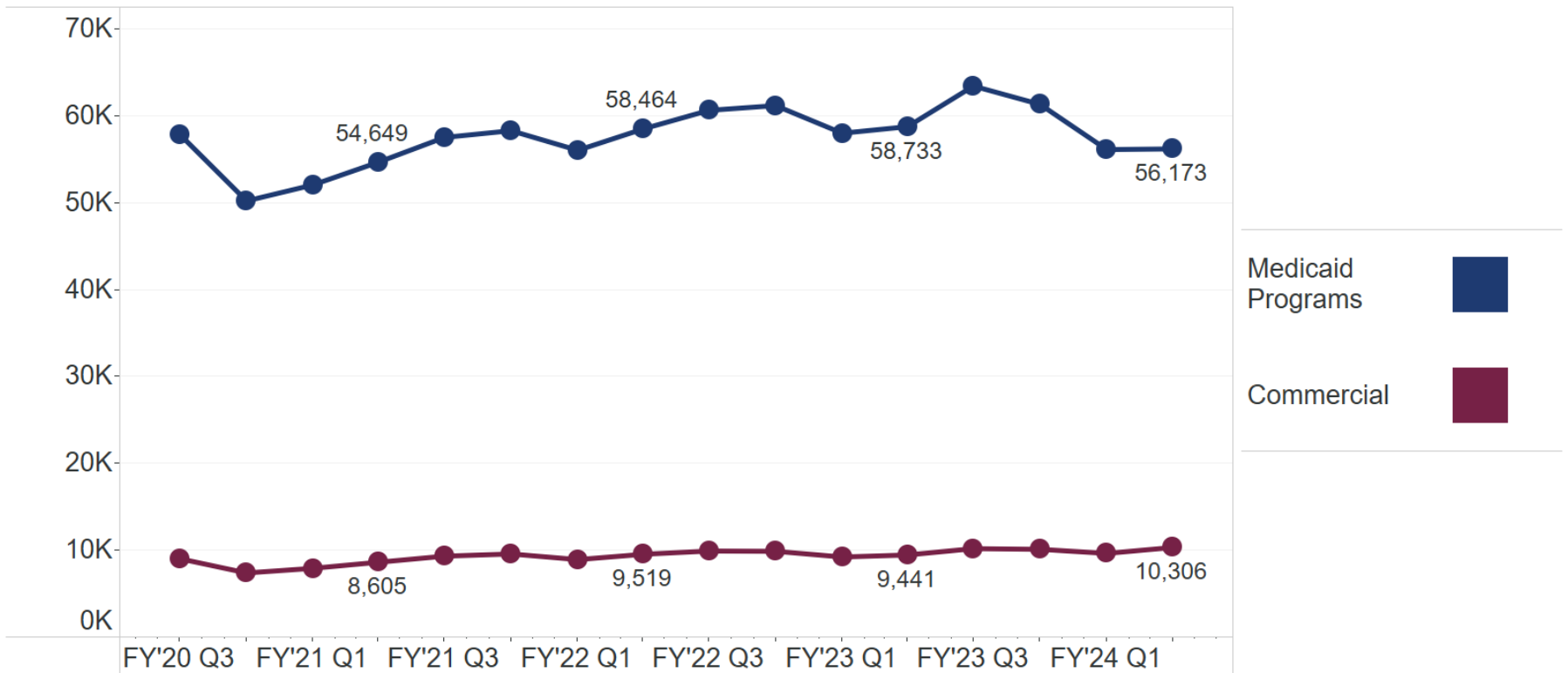
ANNUALIZED ENROLLEES BY BH PRIMARY DIAGNOSIS STATUS, CHILDREN



Source: Healthcare Transparency Initiative's (HTI) Arkansas All Payer Claims Database (commercial, Medicaid, Medicaid PASSE, Medicaid QHP Members)
Individuals may be counted in more than one payer category if they were enrolled in more than one medical plan during the study year.
Medicaid programs & commercial January 1, 2023 – December 31, 2023.



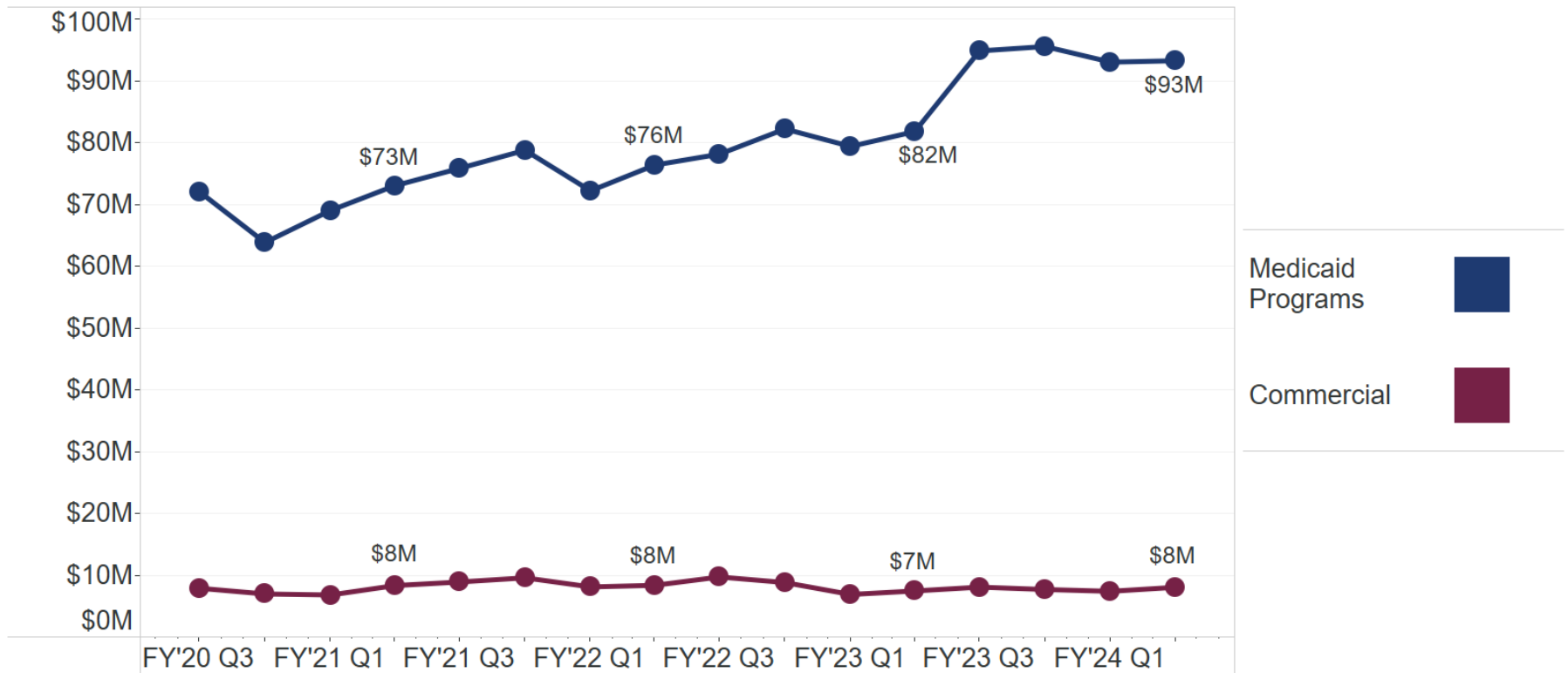
INDIVIDUALS WITH BH PRIMARY DIAGNOSIS, CHILDREN



Source: Healthcare Transparency Initiative's (HTI) Arkansas All Payer Claims Database (commercial, Medicaid, Medicaid PASSE, Medicaid QHP Members). Individuals may be counted in more than one payer category if they were enrolled in more than one medical plan during the study year.



PAYMENTS TO PROVIDERS FOR CLAIMS WITH BH PRIMARY DIAGNOSIS, CHILDREN



Source: Healthcare Transparency Initiative's (HTI) Arkansas All Payer Claims Database (commercial, Medicaid, Medicaid PASSE, Medicaid QHP Members).
 *Provider payments are for medical claims with a behavioral health primary diagnosis. Population includes those individuals in the APCD.



HEALTHCARE UTILIZATION OF MOTHERS EXPERIENCING ACUTE BEHAVIORAL HEALTH EVENTS DURING THE BIRTHING JOURNEY

9 POINTS ON A HEALTHY BIRTHING JOURNEY

1

Pre-Pregnancy Preparation

Pre-pregnancy health education, planning, and access to contraceptives can help prevent unintended pregnancies, which have a greater risk of babies being born prematurely or at a low birth weight.¹



1 OUT OF 3
New Arkansas mothers who experienced an unintended pregnancy in 2021.²

2

Initiation of Prenatal Care

Prenatal visits should start in the first trimester. For uncomplicated first pregnancies, visits should occur:

- Every 4 weeks through week 28.
- Every 2 weeks for weeks 28 through 36.
- Weekly thereafter.

High-risk pregnancies require more visits.³

NEW ARKANSAS MOTHERS WHO RECEIVED INADEQUATE* PRENATAL CARE IN 2022:⁴



3

Education and Supports

Prenatal classes, providers of choice, and birthing companions such as doulas provide emotional and educational support to parents as they navigate pregnancy, childbirth, and the postpartum period.

16 STATES provide Medicaid coverage for doula services: CA, CO, FL, KS, MA, MD, MI, MN, NJ, NM, NV, NY, OK, OR, RI and VA.⁵

4

Safest Method of Delivery

For most pregnancies, a vaginal delivery is a safer method of delivery than a cesarean birth (C-section), with a lower risk of maternal morbidity and mortality.⁶

High-risk pregnancies should receive specialty care.



34% Arkansas births performed by C-section, 2019-2021.⁷

*Prenatal care starting in or after the fifth month or less than half of the appropriate number of visits for the infant's gestational age.

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5

Family Support and Bonding

Family supports such as parental leave, child care assistance, breastfeeding counseling, and safety education help a new mom as she adjusts to postpartum changes and bonds with her child.



Arkansas infants exclusively breastfed at 6 months in 2019.⁸

6

Depression Screening

Mothers should be screened for depression and anxiety at least once during pregnancy and in the first year after delivery. Screening should be coupled with appropriate follow-up and treatment when indicated.⁹

NEW ARKANSAS MOTHERS WITH POSTPARTUM DEPRESSION IN 2021:²

20%



7

Home Visits

Home visiting programs provide families with support from trained professionals in the families' homes. These professionals may include nurses, social workers, or early childhood specialists.

6%



Arkansas children ages 0-2 years served by home visiting programs in 2021.¹⁰

8

Postpartum Visits

Within 12 weeks after birth, a mom should undergo a comprehensive postpartum checkup and continue to receive medical care during the postpartum period, as needed.¹¹ Contraception and urgent maternal warning signs should also be discussed.



Between 2018 and 2020, most pregnancy-related deaths in Arkansas occurred during the postpartum period.¹²

9

Well-Child Visits

Well-child visits, recommended preventive checkups starting at infancy, help parents:

- Track growth and development milestones.
- Discuss specific concerns about a child's health and well-being.
- Ensure the child receives appropriate vaccines to prevent illnesses.¹³



Arkansas children covered by Medicaid or CHIP who did not receive 6 or more recommended well-child visits in the first 15 months of life in 2020.¹⁴

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Visit achi.net/library/birthing-journey for references.



achi.net/maternal-infant-health

STUDY PERIODS

- Study period – January 1, 2019 through June 30, 2022
- Mothers' observation period includes:
 - Prenatal Period: 9 months prior to delivery hospitalization
 - Delivery Hospitalization
 - 1 Year Postpartum: Between delivery hospitalization discharge and one year after birth of infant
- Infants' observation period:
 - First year of life



DEFINITIONS

- Acute Behavioral Health (BH) Event – Emergency department (ED) visit or inpatient hospitalization with a primary diagnosis of mental health or substance use disorder.
 - Index event – first acute BH event in individual observation period
- Acute BH events identified from ADH hospital discharge data for mothers during the observation period.
- APCD claims data extracted to calculate total medical expenditures for mothers and infants during observation periods

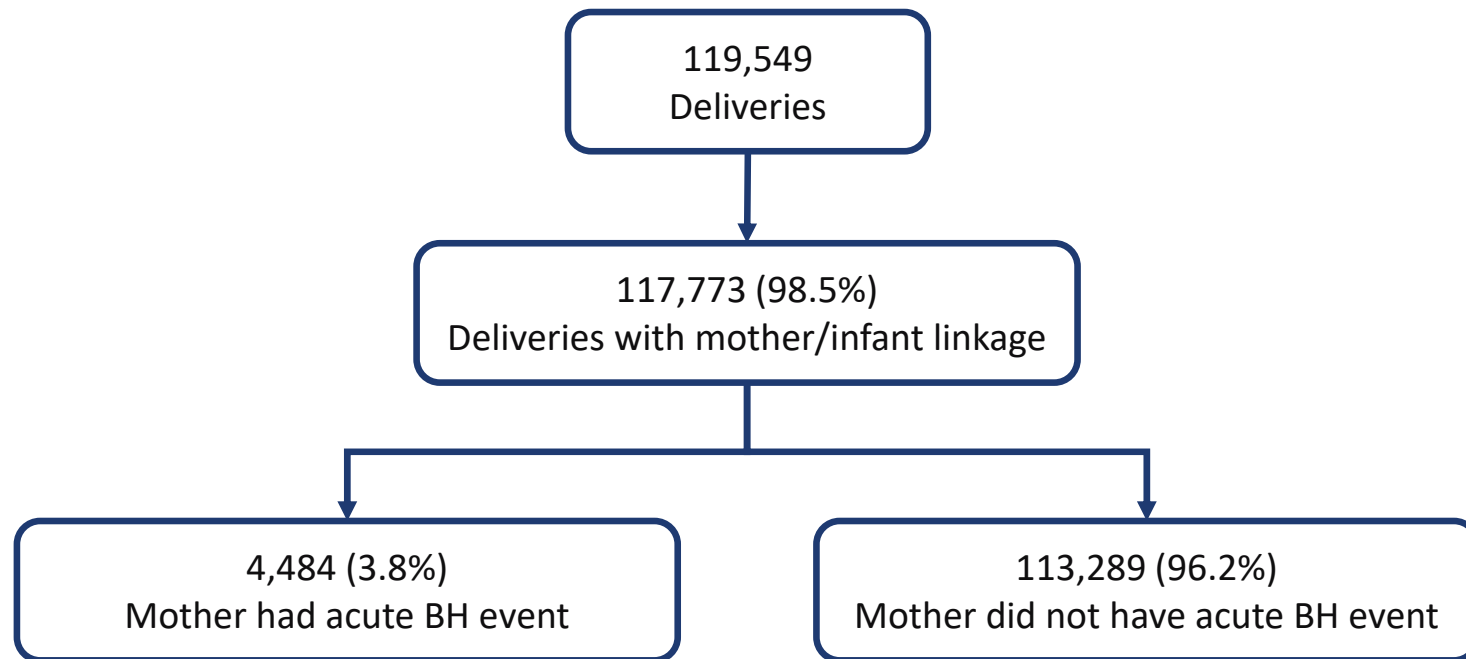


OUTCOME MEASURES

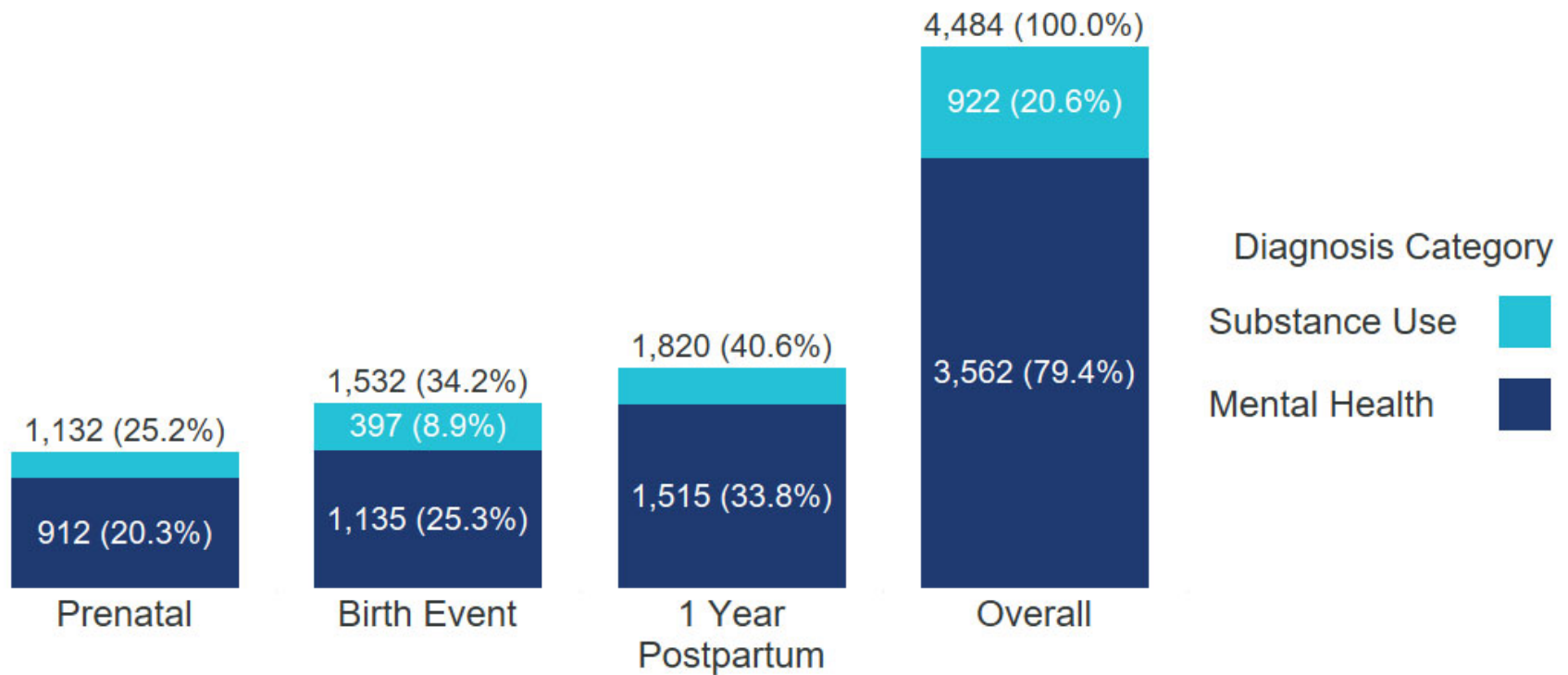
- Utilization
 - All-cause ED Visit – visits to the emergency department for any reason
 - All-cause Hospitalization – inpatient stays for any reason
- Total medical expenditures
- Outcomes measured during:
 - Mother's observation period (prenatal period through 1 year postpartum)
 - Infant's observation period (first year of life)



MOTHERS POPULATION FLOW DIAGRAM



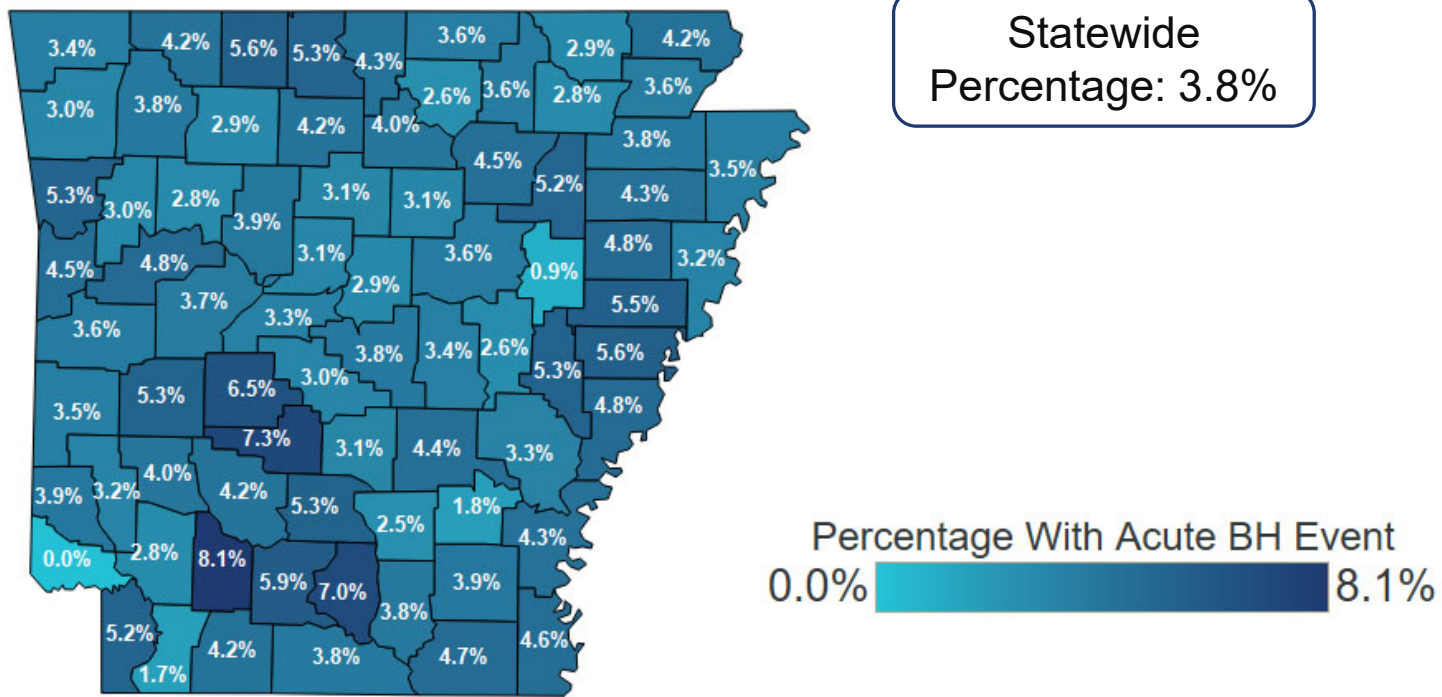
MOTHER'S TIME OF ACUTE BH INDEX EVENT AND DIAGNOSIS CATEGORY



Source: Health Data Initiative (HDI) Arkansas Department of Health birth records and hospital and emergency department discharge data.



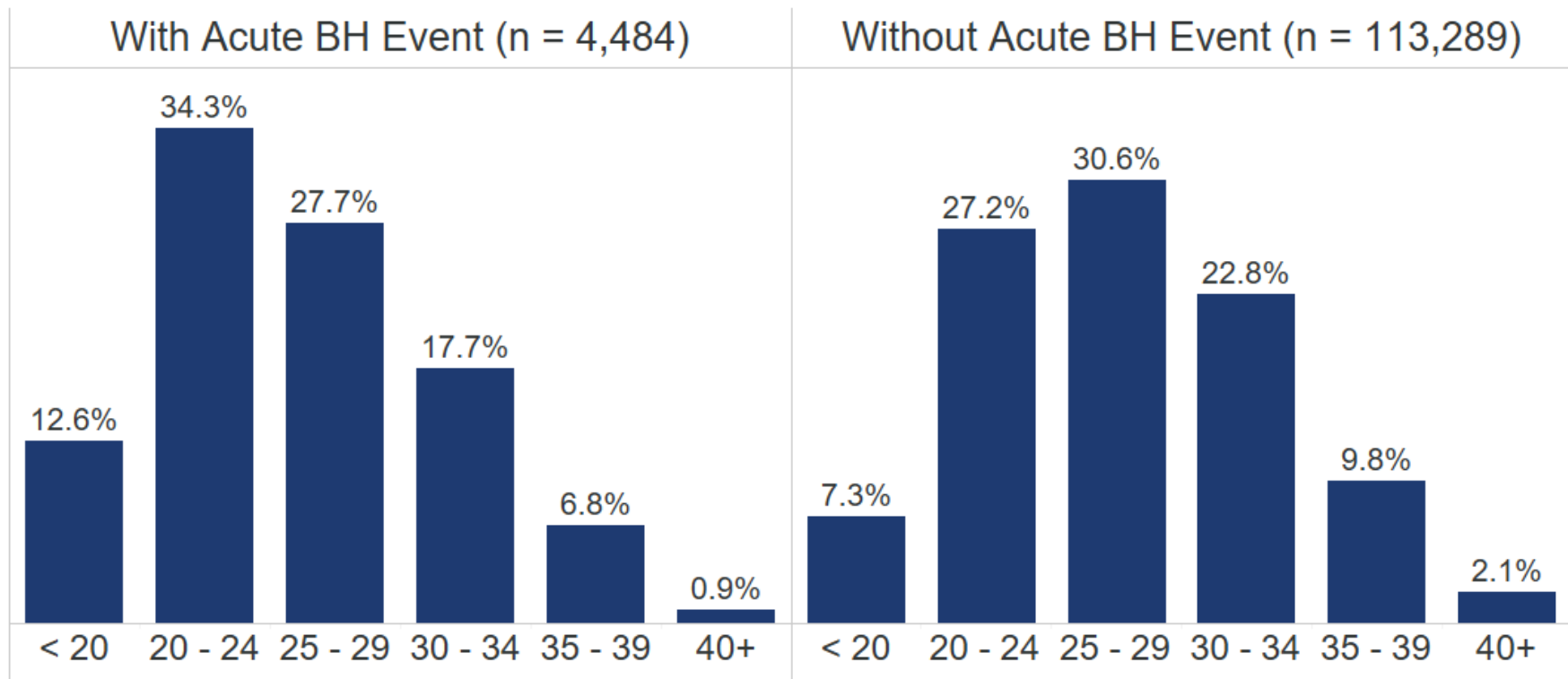
PERCENTAGE OF DELIVERIES ASSOCIATED WITH ACUTE BH EVENT



Source: Health Data Initiative (HDI) Arkansas Department of Health birth records and hospital and emergency department discharge data.
* Border county data may be incomplete due to high counts of out-of-state deliveries

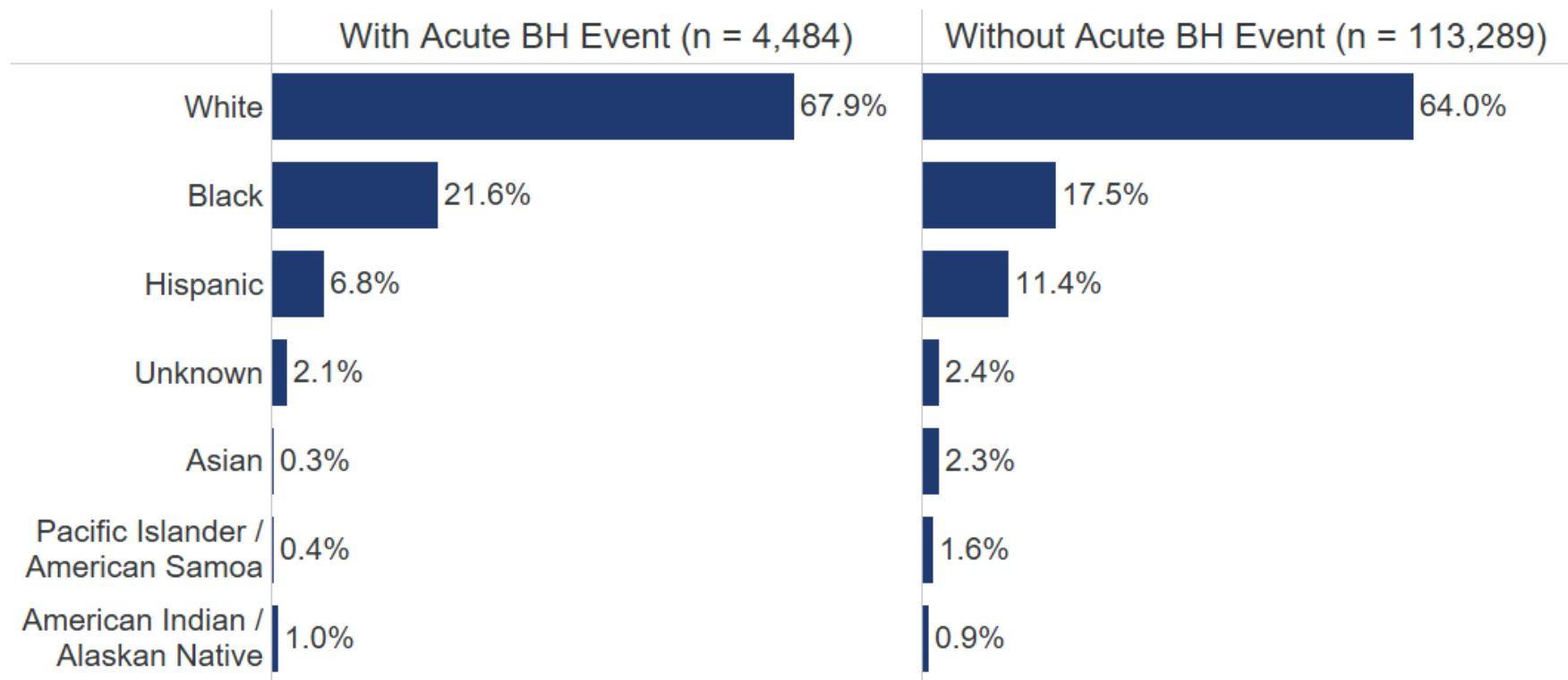


AGE DISTRIBUTION AT TIME OF DELIVERY



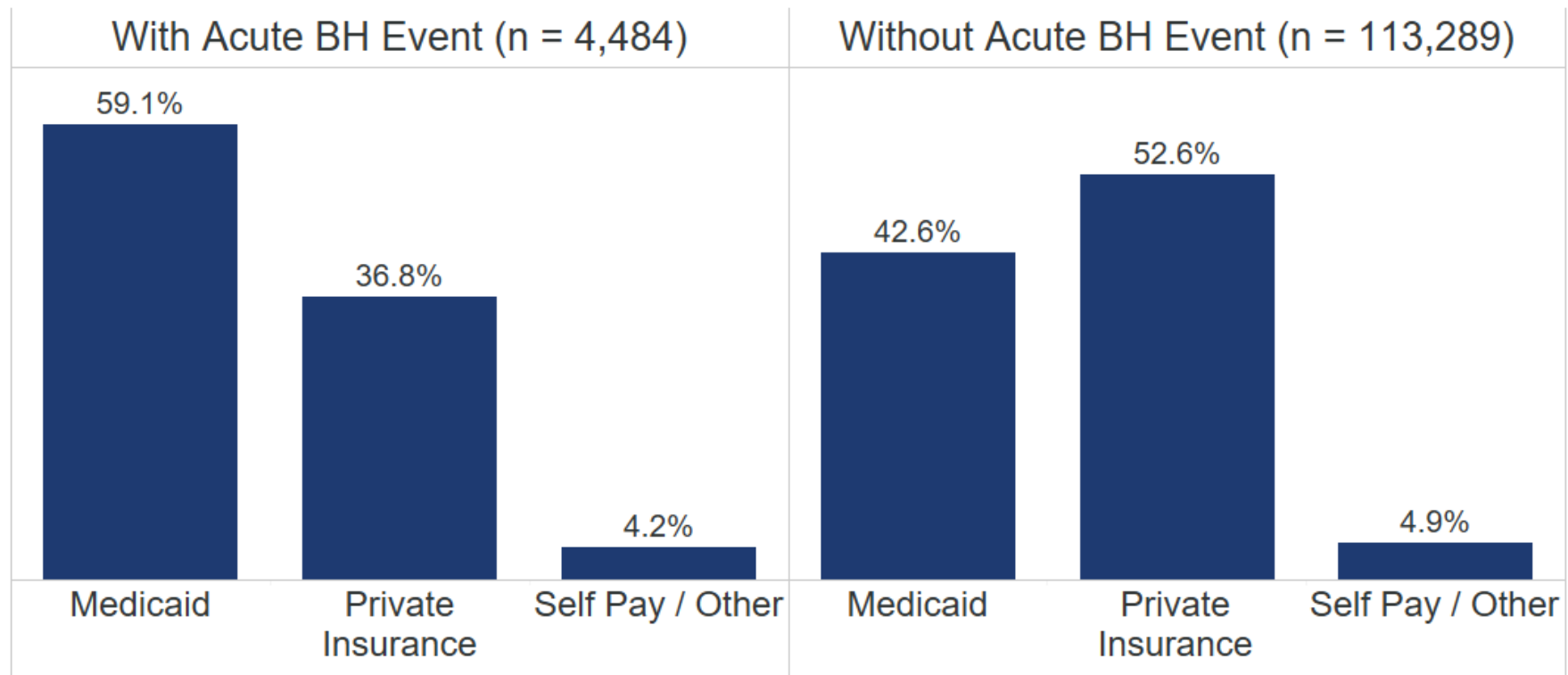
Source: Health Data Initiative (HDI) Arkansas Department of Health birth records and hospital and emergency department discharge data.

RACE/ETHNICITY DISTRIBUTION



Source: Health Data Initiative (HDI) Arkansas Department of Health birth records and hospital and emergency department discharge data.

PAYER DISTRIBUTION AT TIME OF DELIVERY

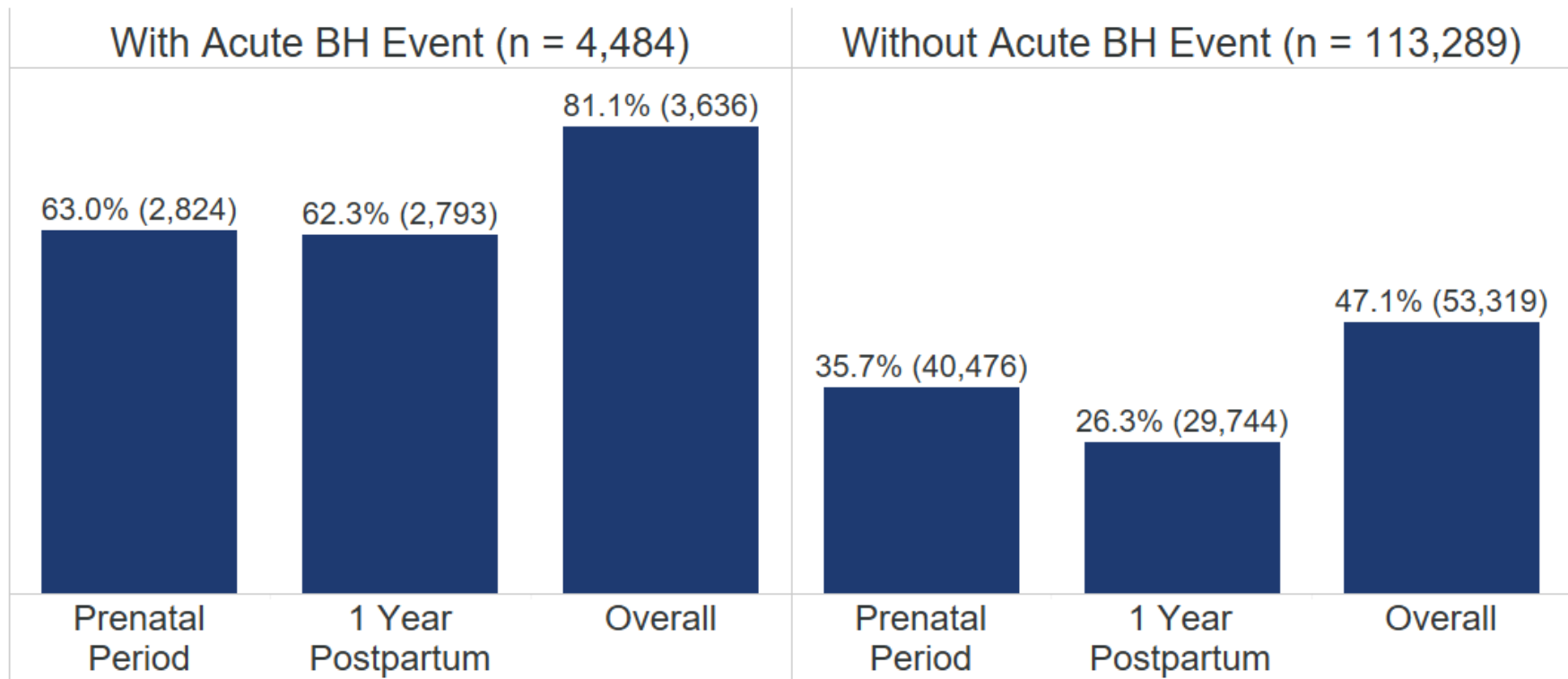


Source: Health Data Initiative (HDI) Arkansas Department of Health birth records and hospital and emergency department discharge data.

EMERGENCY DEPARTMENT AND HOSPITAL UTILIZATION FOR MOTHERS WITH AND WITHOUT ACUTE BH EVENT



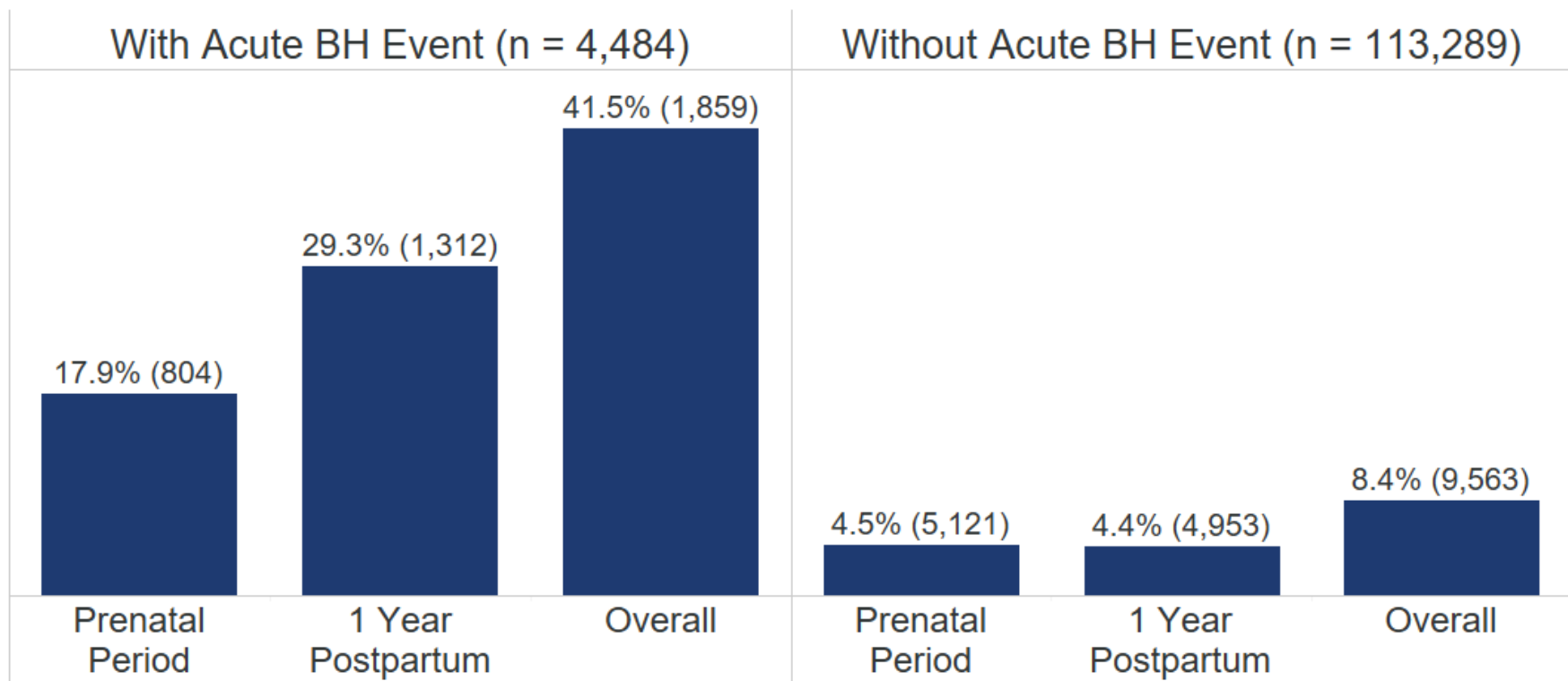
PERCENTAGE OF MOTHERS WITH AT LEAST 1 ED VISIT DURING OBSERVATION PERIOD



Source: Health Data Initiative (HDI) Arkansas Department of Health hospital and emergency department discharge data.

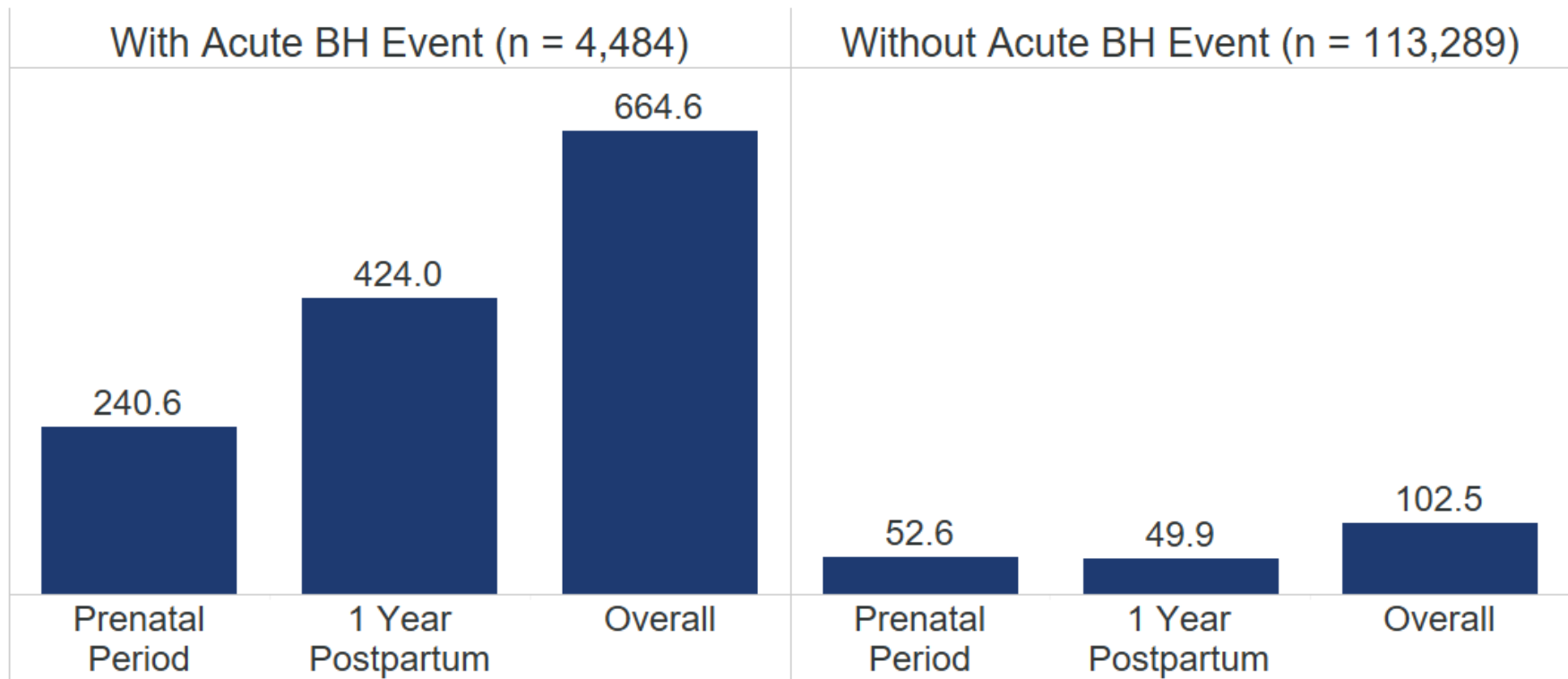
* Acute BH index events included in analysis

PERCENTAGE OF MOTHERS WITH AT LEAST 1 HOSPITALIZATION



Source: Health Data Initiative (HDI) Arkansas Department of Health hospital and emergency department discharge data.
 * Acute BH index events included in analysis

HOSPITALIZATIONS PER 1,000 MOTHERS



Source: Health Data Initiative (HDI) Arkansas Department of Health hospital and emergency department discharge data.
* Acute BH index events included in analysis

TOP 10 DIAGNOSTIC CATEGORIES FOR MOTHERS DURING HOSPITALIZATIONS, PRENATAL PERIOD

With Acute BH Event (n = 1,202 Diagnoses)

Without Acute BH Event (n = 8,500 Diagnoses)

Diagnostic Category	Events	Percentage of Total	Diagnostic Category	Events	Percentage of Total
Other specified complications in pregnancy	859	71.5%	Other specified complications in pregnancy	4,469	52.6%
Early or threatened labor	101	8.4%	Early or threatened labor	1,682	19.8%
Depressive disorders	28	2.3%	Hypertension and hypertensive-related conditions	946	11.1%
Hypertension and hypertensive-related conditions	26	2.2%	Maternal care related to fetal conditions	277	3.3%
Diabetes or abnormal glucose	19	1.6%	Diabetes or abnormal glucose tolerance	267	3.1%
Schizophrenia spectrum and other psychotic disorders	19	1.6%	Maternal care related to disorders of the placenta	151	1.8%
Bipolar and related disorders	16	1.3%	Hemorrhage after first trimester	106	1.2%
Hemorrhage after first trimester	12	1.0%	Malposition, disproportion or other labor complications	99	1.2%
Maternal care related to disorders of the placenta and placental implantation	11	0.9%	Polyhydramnios and other problems of amniotic cavity	32	0.4%
Maternal care related to fetal conditions	10	0.8%	Diabetes mellitus with complication	31	0.4%

Source: Health Data Initiative (HDI) Arkansas Department of Health hospital and emergency department discharge data.

* Diagnostic categories are CCS-R categories from primary diagnosis code during event

* Acute BH index events excluded from diagnostic category counts



TOP 10 DIAGNOSTIC CATEGORIES FOR MOTHERS DURING HOSPITALIZATIONS, 1 YEAR POSTPARTUM

With Acute BH Event (n = 1,418 Diagnoses)			Without Acute BH Event (n = 6,313 Diagnoses)		
Diagnostic Category	Events	Percentage of Total	Diagnostic Category	Events	Percentage of Total
Depressive disorders	197	13.9%	Complications specified during the puerperium	845	13.4%
Schizophrenia spectrum and other psychotic disorders	182	12.8%	Hypertension and hypertensive-related conditions	742	11.8%
Bipolar and related disorders	128	9.0%	Complications specified during childbirth	455	7.2%
Complications specified during the puerperium	115	8.1%	Other specified complications in pregnancy	409	6.5%
Other specified complications in pregnancy	98	6.9%	Early or threatened labor	362	5.7%
Hypertension and hypertensive-related conditions	44	3.1%	Biliary tract disease	359	5.7%
Stimulant-related disorders	39	2.8%	Septicemia	221	3.5%
Complications specified during childbirth	32	2.3%	Previous C-section	211	3.3%
Epilepsy; convulsions	29	2.0%	Uncomplicated pregnancy, delivery or puerperium	170	2.7%
Early or threatened labor	28	2.0%	Malposition, disproportion or other labor complications	165	2.6%

Source: Health Data Initiative (HDI) Arkansas Department of Health hospital and emergency department discharge data.

* Diagnostic categories are CCS-R categories from primary diagnosis code during event

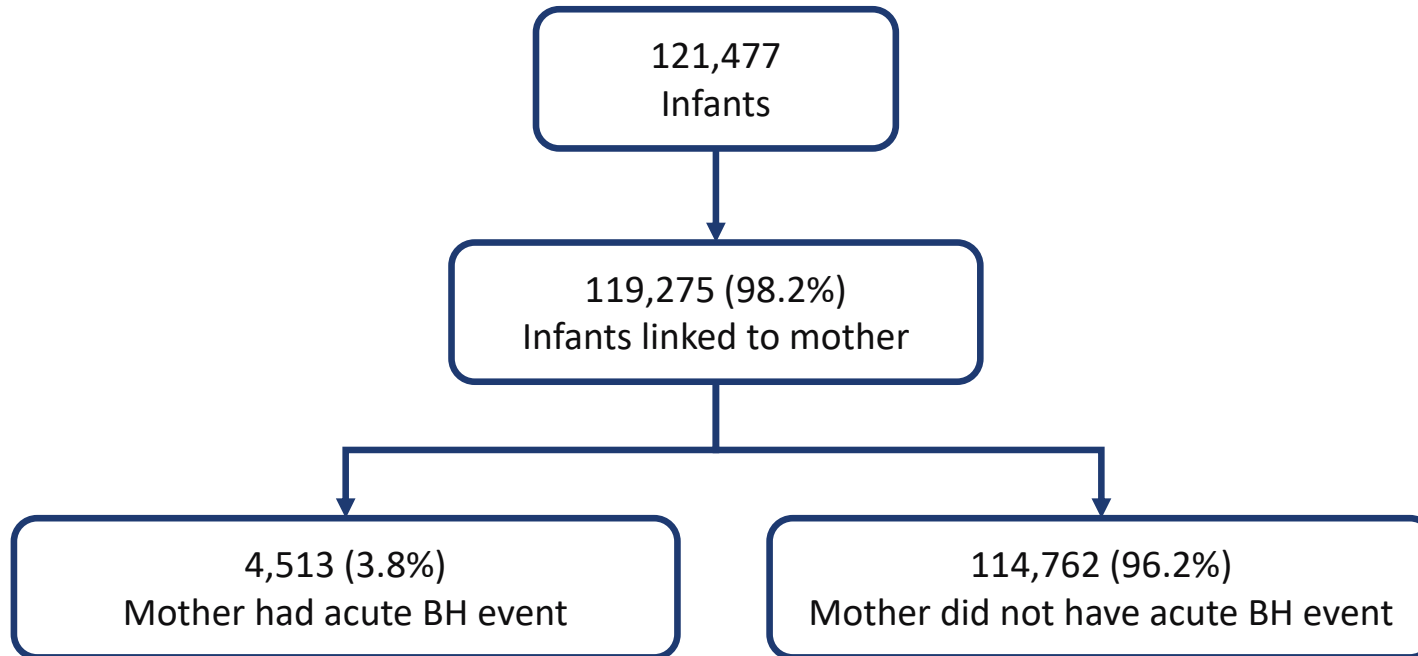
* Acute BH index events excluded from diagnostic category counts



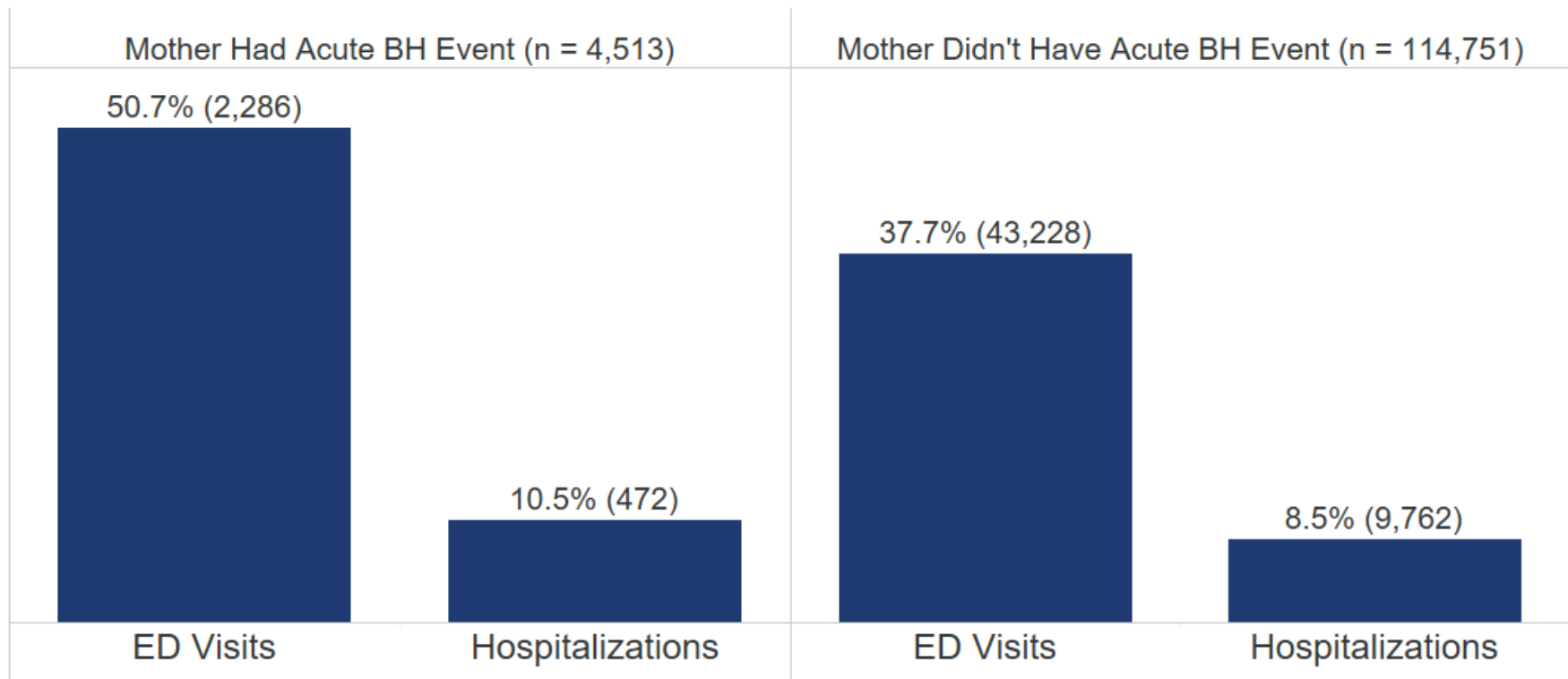
EMERGENCY DEPARTMENT AND HOSPITAL UTILIZATION FOR INFANTS OF MOTHERS WITH AND WITHOUT ACUTE BH EVENTS



INFANTS' POPULATION FLOW DIAGRAM



PERCENTAGE OF INFANTS WITH AT LEAST 1 EVENT



Source: Health Data Initiative (HDI) Arkansas Department of Health hospital and emergency department discharge data.

TOP 10 DIAGNOSTIC CATEGORIES FOR INFANTS DURING HOSPITALIZATIONS, FIRST YEAR OF LIFE

Mother Had Acute BH Event (n = 625 Diagnoses)

Mother Didn't Had Acute BH Event (n = 12,767 Diagnoses)

Diagnostic Category	Events	Percentage of Total	Diagnostic Category	Events	Percentage of Total
Respiratory failure; insufficiency; arrest	87	13.9%	Respiratory failure; insufficiency; arrest	1,800	14.1%
Acute bronchitis	81	13.0%	Hemolytic jaundice and perinatal jaundice	1,597	12.5%
Hemolytic jaundice and perinatal jaundice	46	7.4%	Acute bronchitis	1,359	10.6%
Other specified and unspecified perinatal conditions	40	6.4%	Other specified and unspecified perinatal conditions	872	6.8%
Perinatal infections	29	4.6%	Perinatal infections	556	4.4%
Other general signs and symptoms	27	4.3%	Fluid and electrolyte disorders	478	3.7%
Maltreatment/abuse	27	4.3%	Other general signs and symptoms	405	3.2%
Respiratory perinatal condition	20	3.2%	Respiratory perinatal condition	380	3.0%
Neonatal digestive and feeding disorders	18	2.9%	Pneumonia (except that caused by tuberculosis)	368	2.9%
Malnutrition	17	2.7%	Urinary tract infections	347	2.7%

Source: Health Data Initiative (HDI) Arkansas Department of Health hospital and emergency department discharge data.

* Diagnostic categories are CCS-R categories from primary diagnosis code during event

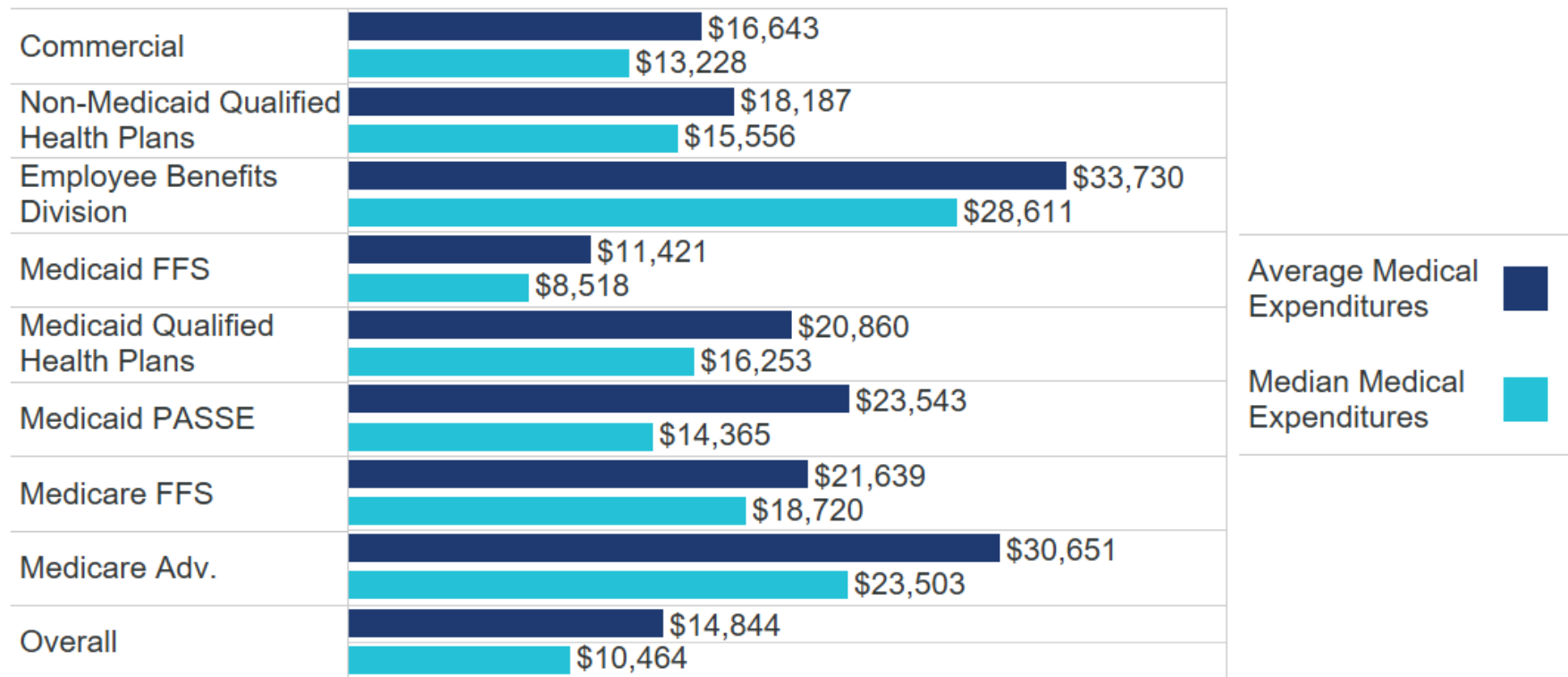
* Acute BH index events excluded from diagnostic category counts



MATERNAL/INFANT EXPENDITURES IN THE APCD



MEDICAL EXPENDITURES FOR MOTHERS WITH AN ACUTE BH EVENT BY PAYER TYPE

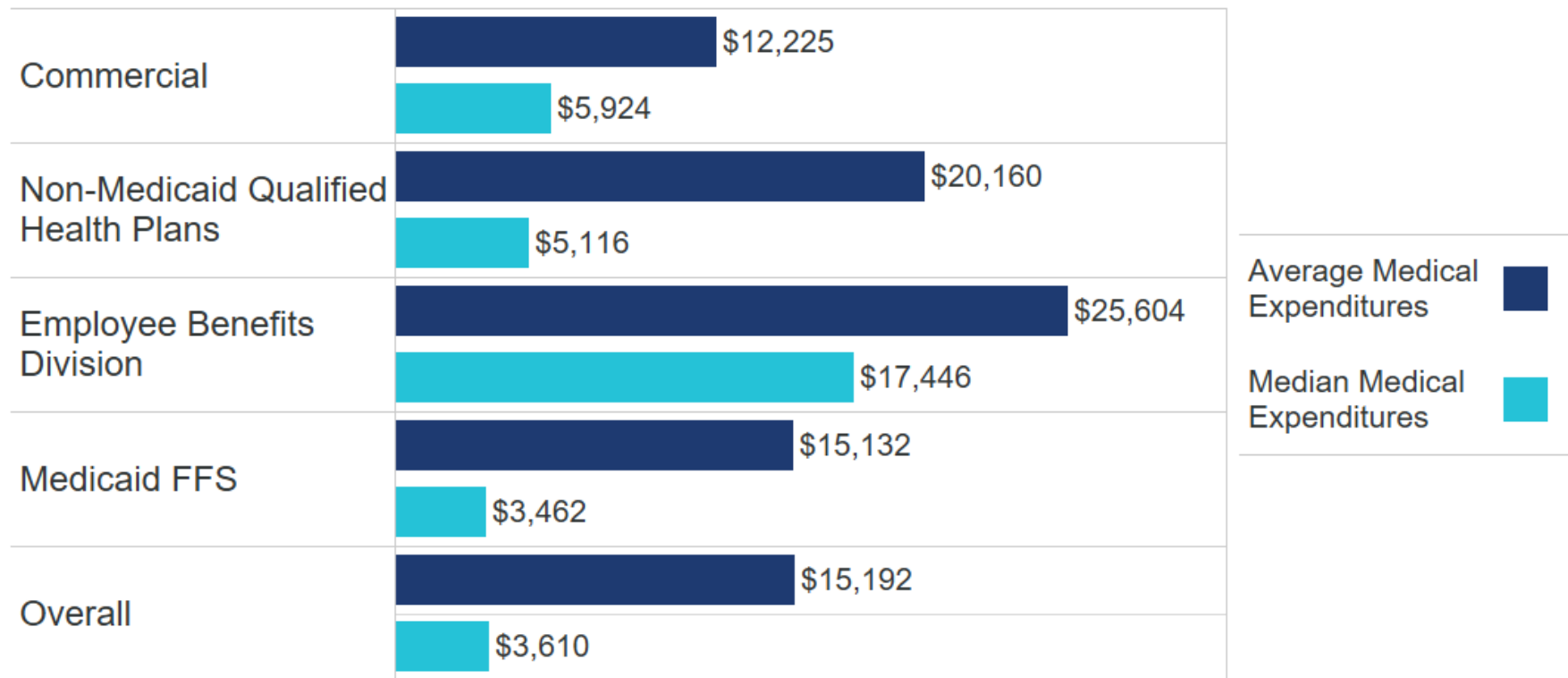


Source: Healthcare Transparency Initiative's (HTI) Arkansas All Payer Claims Database.

* Medical expenditures are total paid amounts during the mother's observation period, including the delivery hospitalization



MEDICAL EXPENDITURES FOR INFANTS WHOSE MOTHER HAD AN ACUTE BH EVENT BY PAYER TYPE



Source: Healthcare Transparency Initiative's (HTI) Arkansas All Payer Claims Database.

* Medical expenditures are total paid amounts during the infant's observation period, including the nursery hospitalization



SUMMARY OF FINDINGS



ALL-CAUSE HOSPITALIZATIONS

- Mothers with an acute BH event
 - were 4.9x more likely to be hospitalized in the observation period compared to mothers without an acute BH event
 - had 6.5x as many hospitalizations in the observation period compared to mothers without an acute BH event
 - had three BH diagnostic categories in the top 10 categories during the prenatal period
 - had three BH diagnostic categories as the top 3 categories during 1-year postpartum



ALL-CAUSE HOSPITALIZATIONS FOR INFANTS

- Infants of mothers with an acute BH event
 - were 1.2x more likely to have a hospitalization in the observation period compared to infants of mothers without an acute BH event
 - had 1.2x as many hospitalizations in the observation period compared to infants of mothers without an acute BH event
 - had diagnostic categories of child maltreatment, feeding disorders, and malnutrition in the top 10 categories



YOUTH MENTAL HEALTH AND SAFETY IN THE ONLINE AGE



95%

of teens 13-17 report using social media, with more than a third saying they use it “almost constantly”

8th-grade children average

3.5 hours

on social media daily

1 in 3

kids report using screen media until midnight or later on a typical weekday

Nearly

40%

of kids 8-12 are on social media platforms



64%

**of adolescents say they are
“often” or “sometimes”
exposed to hate-based
social media content**

Nearly

60%

**of adolescent girls say
they’ve been contacted by
strangers on social media
who made them feel
uncomfortable**

47%

**of Arkansas high school
seniors reported depressive
symptoms or feelings of
prolonged sadness during
the 2019-2020 school year**







CHANGES IN STYLE OF COMMUNICATION

- SOURCE: JONATHAN HAIDT, *THE ANXIOUS GENERATION*.

- Real-World Communication
 - Synchronous conversation
 - Embodied – verbal and non-verbal cues
 - 1:1 or 1 to several participants
 - Relationships with high bar for entry and exit
- Virtual-World Communication
 - Asynchronous conversation
 - Disembodied – text-based conversation
 - 1 to many participants
 - Relationships with low bar for entry and exit



YOUTH BRAIN DEVELOPMENT AND SOCIAL MEDIA

Youth hypersensitivity to social feedback

- Likes and follower counts → positive/negative social feedback
- Tailored ad content → predisposed to peer influence
- AI-recommended content → prioritized targeting



YOUTH BRAIN DEVELOPMENT AND SOCIAL MEDIA

Youth underdeveloped impulse control

- Infinite scroll → difficulty disengaging, which creates dependency
- Lack of time limits → interruptions of schoolwork and/or sleep
- Push notifications → capitalizes on youths' sensitivity to distraction
- Use and retention of data → exploits lack of appreciation for long-term consequences

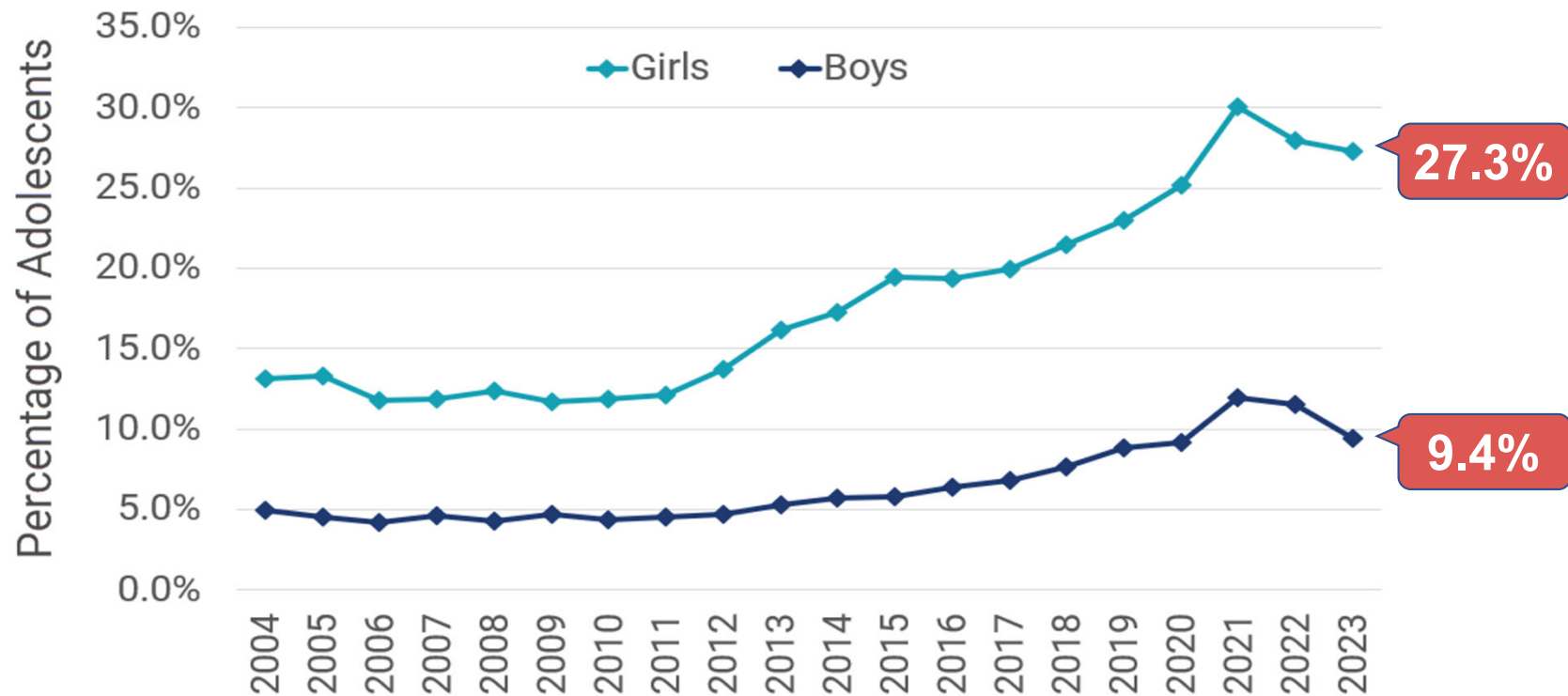


MENTAL HEALTH IMPACTS

- Research shows that 12- to 15-year-olds who spend more than 3 hours a day on social media are at TWICE the risk for depression, anxiety and other poor mental health outcomes
- Studies link excessive social media use by adolescents to a decrease in life satisfaction and the creation of neural pathways comparable to addiction



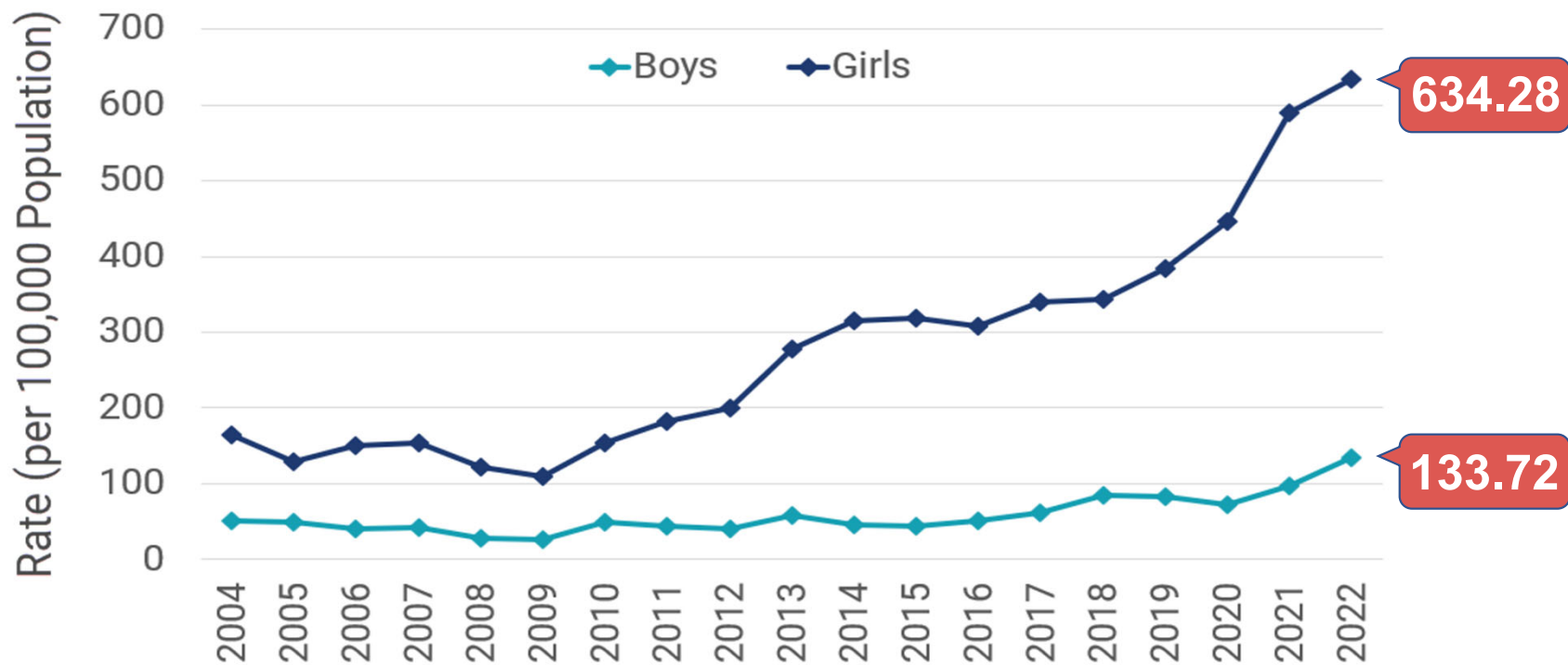
MAJOR DEPRESSIVE EPISODES AMONG ADOLESCENTS 12-17 YEARS OF AGE, 2004-2023



Source: U.S. National Survey on Drug Use and Health



SELF-HARM NONFATAL ER VISITS AMONG CHILDREN 10-14 YEARS OLD, 2004-2022



Source: National Electronic Injury Surveillance System-All Injury Program for WISQARS Nonfatal data



U.S. SURGEON GENERAL'S ADVISORY, 2023

- Children are affected by social media in different ways based on individual strengths and vulnerabilities and cultural, historical, and socio-economic factors
- Social media can expose children to content that presents risks of harm
- Social media use can be excessive and problematic for some children
- There are critical gaps in our understanding of mental health risks to children and adolescents posed by social media



MONITORING TOOLS & PARENTAL CONTROLS

- See breakdown of screen time and activity by phone apps
- Schedule when apps are not available
- Set time limits for individual apps
- Limit communications by contact type and time
- Block inappropriate content or apps
- Set passcode so only you can change settings
- Monitor your child's usage remotely, depending on phone



TALK TO YOUR CHILDREN

- Discuss the importance of adopting healthy social media practices, such as:
 - Blocking or reporting unwanted or inappropriate content
 - Reaching out when they see or experience harassment
 - Understanding the implication of cyberbullying
 - Not sharing personal information online
- Be mindful of how you use social media and the amount of time you spend on screens; set a positive example



WATCH FOR WARNING SIGNS

- Disruptions in relationships, schoolwork or extracurricular activities
- Significant mood changes
- Eating habit changes
- Obsessiveness or deceptive behavior regarding being online



DR. JOE'S SOCIAL MEDIA PRESCRIPTION

Strategy: Engage, Socialize, Educate, Participate, Protect

- Build a family media plan
 - Age-appropriate exposure(s)
 - Graduated autonomy and independence
 - Physical barriers to use – especially school time and sleep
 - Technological solutions to appropriately limit
- Balance times with and without devices
- Talk about and experience social media together
- Set a good example
- Tailor and optimize your family's online experience
- Play zone defense – talk with the parents of your children's friends



95TH GENERAL ASSEMBLY ACTION

[Act 122](#) restricts access to cell phones and personal electronic devices in public schools.

[Act 900](#) amends Arkansas's social media safety law to enhance protections for minors and expands the list of social media platforms included.

[Act 901](#) enables parents to sue social media companies if their child develops disorders, dies of suicide or attempts suicide, harms themselves, or becomes addicted to the platform due to the content to which they were exposed.



MORE RESOURCES FOR PARENTS & CAREGIVERS

- American Psychological Association's health advisory on social media use in adolescence: [APA.org](https://www.apa.org)
- American Academy of Pediatrics Center of Excellence on Social Media and Youth Mental Health: [AAP.org/socialmedia](https://www.aap.org/socialmedia)
- Arkansas Department of Education Division of Elementary & Secondary Education social media awareness campaign: [DESE.ADE.Arkansas.gov/offices/research-and-technology/smactalk](https://dease.ade.arkansas.gov/offices/research-and-technology/smactalk)
- Create a family media plan: [healthychildren.org/mediauseplan](https://www.healthychildren.org/mediauseplan)

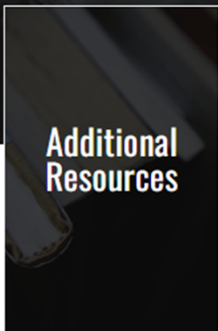
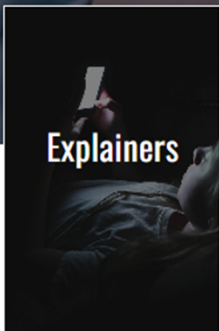
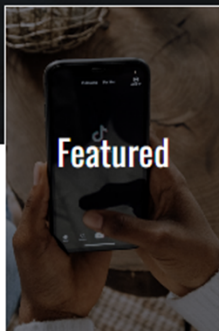


Social Media and Youth Mental Health

The emerging connection between social media, mental health, and adolescent development is complex. ACHI is committed to providing evidence-based resources to help youth, families, educators, and policymakers responsibly navigate this evolving space.



SUBSCRIBE FOR UPDATES



For more, visit achi.net/youthsocialmedia or scan the QR code above.

RESULTS FROM THE FIRST NIH-FUNDED POPULATION BASED STUDY OF MEDICAL MARIJUANA

*Using Linked Health Data to Assess Impact on
Healthcare Utilization, Opioid Use, and Health System
Costs of Medical Marijuana in Arkansas*

NIDA Award Number: PAR-19-064



MEDICAL MARIJUANA PROGRAM IN ARKANSAS

- Authorized by constitutional amendment in 2016, first dispensary opened in May 2019
- 38 dispensaries and 105,752 active cards, as of Aug. 5*
- Participation process
 - Patient submits form signed by state-licensed physician (1st visit in person) to Department of Health
 - State-issued card authorizes purchases from licensed dispensaries for 12 months (renewable annually)
 - Cardholder may purchase equivalent of 2.5 oz. of “useable cannabis flower” every 2 weeks
 - Highly regulated cultivation and dispensary oversight
 - 18 qualifying symptoms and conditions



QUALIFYING SYMPTOMS AND CONDITIONS

- ALS
- Alzheimer's Disease
- Arthritis, Severe
- Cachexia
- Cancer
- Crohn's Disease
- Fibromyalgia
- Glaucoma
- Hepatitis C
- HIV/AIDS
- Intractable Pain
- Muscle Spasms
- Nausea, Severe
- Peripheral Neuropathy
- Post-Traumatic Stress Disorder (PTSD)
- Seizures
- Tourette Syndrome
- Ulcerative Colitis



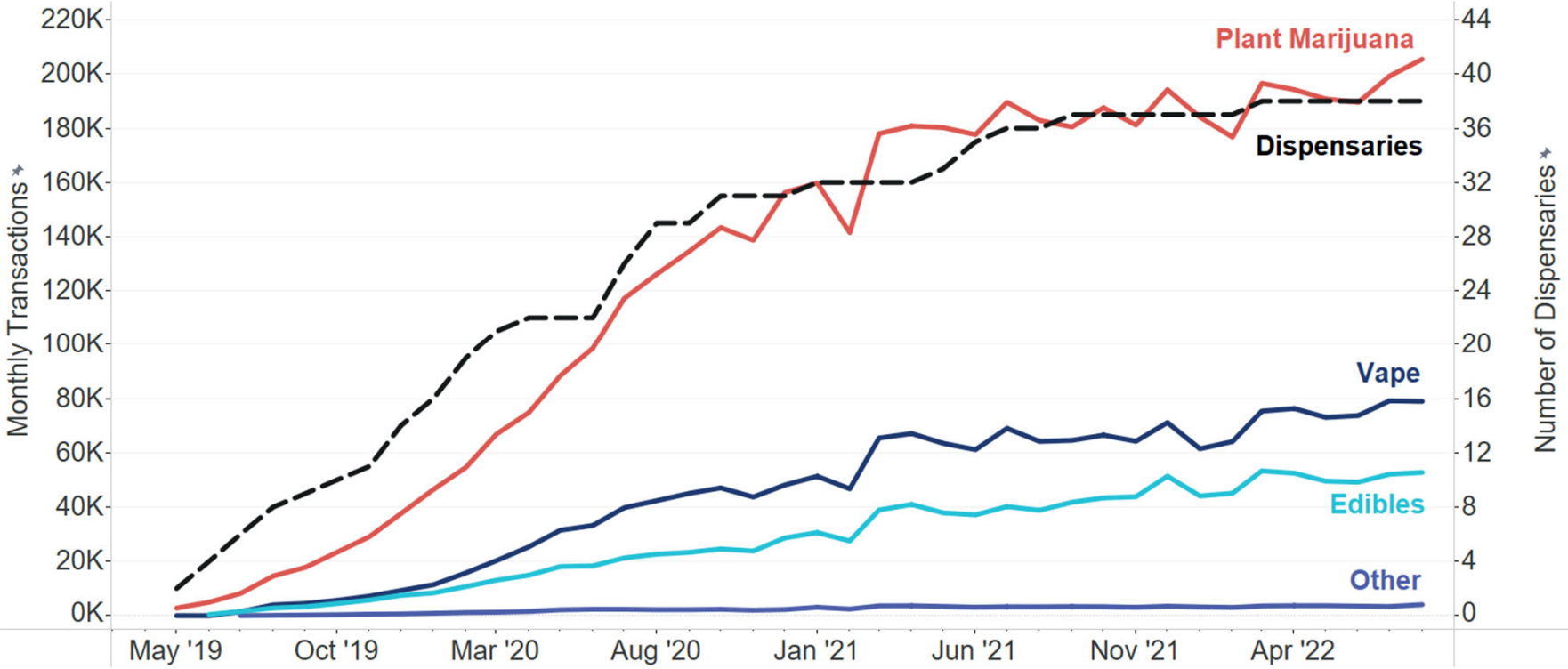
WHAT ARE QUALIFYING CONDITIONS? (2021)

- 76,907 individuals with 98,755 qualifying conditions
 - 20.7% with 2 or more
 - 39,002 (50.7%) with at least 1 of 3 pain conditions

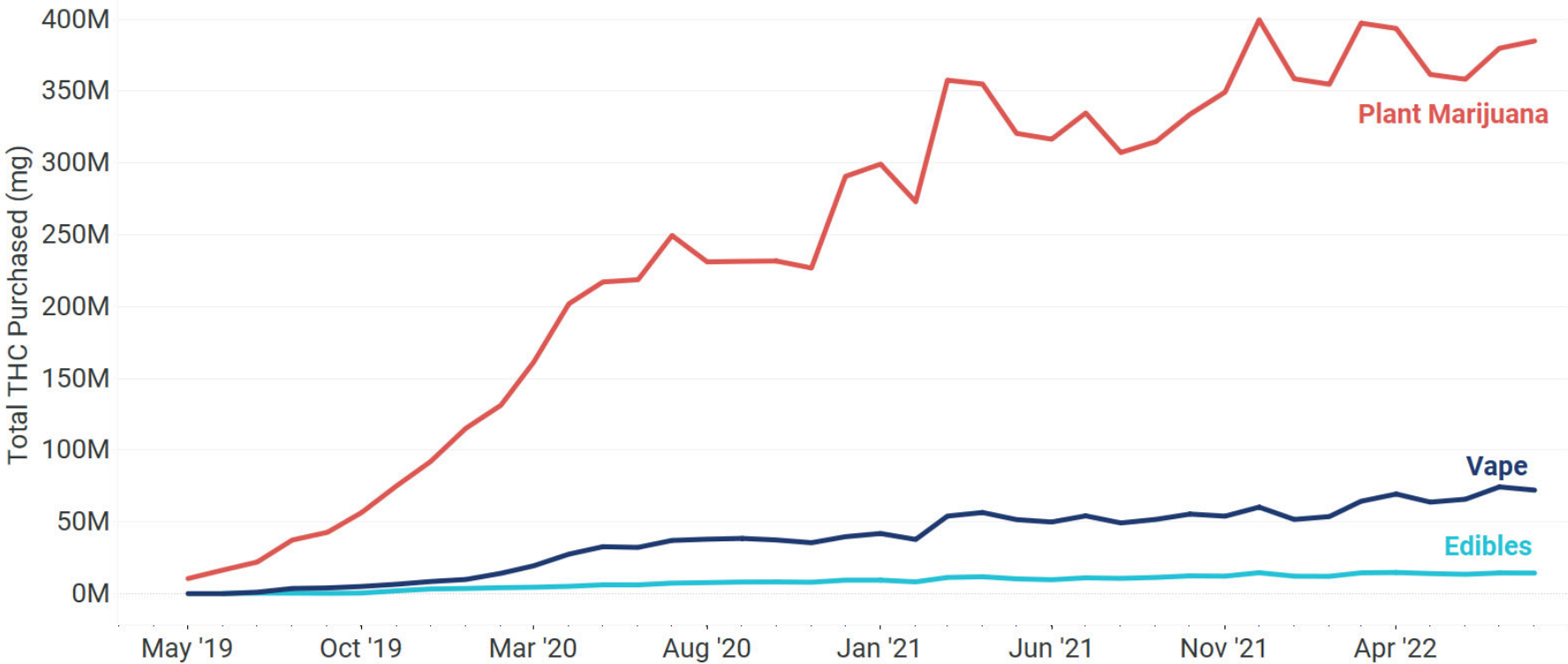
PTSD	32,241 (41.9%)	Glaucoma	969 (1.3%)
Intractable Pain	30,627 (39.8%)	Hepatitis C	845 (1.1%)
Severe Arthritis	11,310 (14.7%)	Crohn's Disease	484 (0.6%)
Peripheral Neuropathy	5,553 (7.2%)	Ulcerative Colitis	458 (0.6%)
Fibromyalgia	4,707 (6.1%)	HIV/AIDS	414 (0.5%)
Muscle Spasms	3,549 (4.6%)	Cachexia	330 (0.4%)
Cancer	2,995 (3.9%)	Tourette Syndrome	110 (0.1%)
Severe Nausea	2,362 (3.1%)	Alzheimer's Disease	81 (0.1%)
Seizures	1,693 (2.2%)	ALS	27 (0.0%)



TRENDS IN NUMBER OF TRANSACTIONS BY PRODUCT TYPE AND DISPENSARY OPENINGS



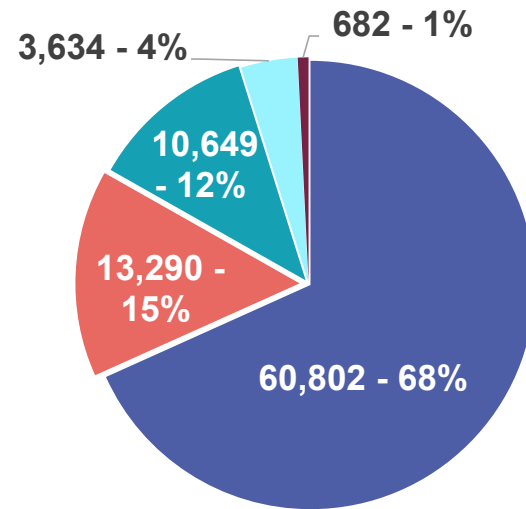
THC PURCHASED PER MONTH BY PRODUCT TYPE, MAY 2019–AUGUST 2022



MEDICAL MARIJUANA PURCHASING CHARACTERISTICS

	Mean
Mean THC (mg) Purchased per Day	162.3
Mean Transaction Days per Year	33.3
Mean Expenditures per Year	\$3,343

PREDOMINANT MMJ PURCHASED



■ Plant MMJ ■ Edible ■ Vape ■ Mixed Types ■ Other



HOW MANY PHYSICIANS CERTIFY INDIVIDUALS?

- Of 6,871 actively licensed physicians, 860 (12.5%) certified at least 1 individual in 2021

Number of Physicians	Number of Qualified Individuals per Physician	Total Individuals	Percentage of Qualified Individuals
506	1-9	1,440	4%
285	10-99	8,625	22%
62	100-999	15,687	40%
7	1,000+	13,180	34%



MMJ IMPACT ON PTSD HEALTHCARE UTILIZATION

- No changes in prescription use observed
- Differences observed with increased hospitalizations and slightly fewer outpatient visits in those without MMJ use
- Suggested 4 hospitalizations avoided for every 100 patients with diagnosed PTSD using MMJ
- No information on large majority of individuals that qualified for PTSD but lacked claims based validation of condition



ADDITIONAL QUESTIONS BEING EXPLORED

- Examination of individuals with pain diagnoses
 - Healthcare utilization
 - Opioid use patterns – substitution of MMJ, avoidance of high dose
- Examination for increases in cannabis use disorder, substance use disorder diagnoses
- Assessments for population health impacts including
 - ER, hospitalization utilization
 - Motor vehicle accidents
 - Deaths
- Purchasing patterns associated with outcomes



MAJOR FINDINGS

- Over 3% of AR adults certified to purchase MMJ
- Purchasers, on average: visit a dispensary every 11 days, purchase 162 mg of THC per day, spend \$3,343 per year
 - Edibles represent far lower avg. THC consumption than flower or vape
 - If consumed, THC far exceeds existing clinical recommendations
- Of licensed AR physicians, 12.5% have certified individuals
 - Most appear to have clinically cared for individual; 7 certified 34% of those qualified, with limited evidence of patient-physician relationship
- Early findings for individuals with PTSD may show benefit
- Longer term assessments for pain, adverse outcomes, and substance use disorder underway



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