



INTRODUCTION

- Sickle cell disease (SCD) is a rare disorder caused by a mutation in the beta hemoglobin, which results in sickled red blood cells.
- The cumulative burden of SCD and its several acute and severe complications may increase the risk of mental health conditions (MHC) in individuals with SCD.
- This study aims to *describe the overall and individual prevalence of MHC and compare the demographic and clinical characteristics of individuals with SCD and individuals with SCD and MHC (SCD+MHC)* in Texas Medicaid.

METHODS

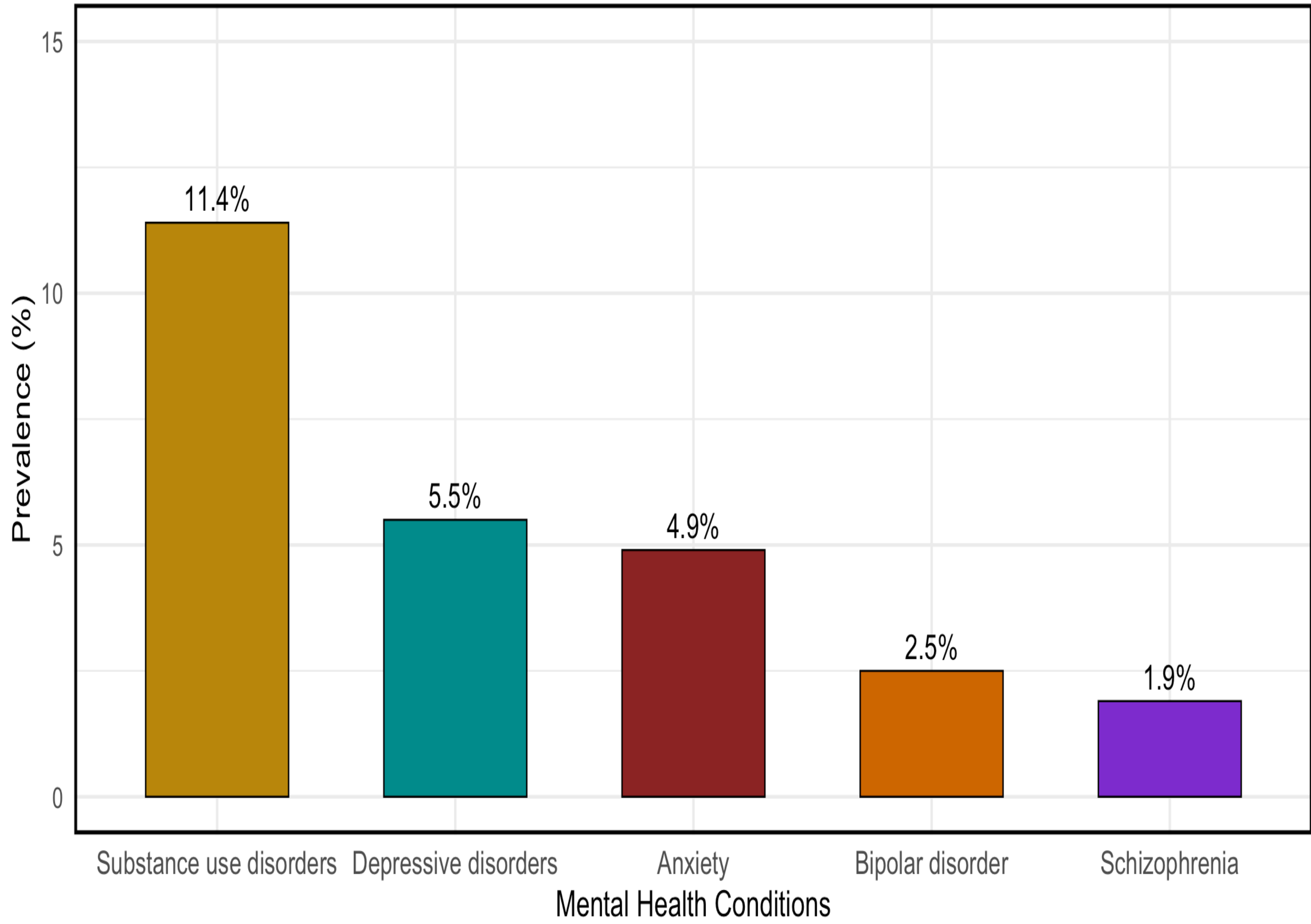
Data source/ study design	Retrospective analysis of Texas Medicaid data (03/01/2012-05/31/2021)
Study population	<ul style="list-style-type: none">≥3 inpatient or outpatient claims for SCD during the study periodAged 3-63 on index date (first claim for SCD)Individuals continuously enrolled for 12 months
Outcome	Individual and overall prevalence of MHC
Mental health conditions	<ul style="list-style-type: none">SCD+MHC group: ≥1 medical claim (using ICD-9 and ICD-10 codes) for an MHC during the post-index periodMHC included:<ul style="list-style-type: none">AnxietyAttention deficit/hyperactivity disorder (ADHD)Bipolar and related disordersConduct disorderDepressive disorderObsessive-compulsive disorderOppositional defiant disorderOther mood disordersPost-traumatic stress disorderSchizophrenia spectrum and other psychotic disordersSubstance use disorderSuicidal behavior disorder
Characteristics	<ul style="list-style-type: none">Demographic (age, gender)Clinical (SCD-related and non-SCD-related complications, and vaso-occlusive (VOC) events)
Statistical analysis	<ul style="list-style-type: none">Descriptive and inferential statistics (Mann-Whitney U, Chi-square) were usedP<0.05 was considered statistically significant

RESULTS

- Of the 3,618 individuals with SCD (mean age=22.8±13.6) included, **20.8% had at least one MHC**.
- The 5 most common MHC among individuals with **SCD+MHC** are shown in **Figure 1**.
- Individuals with **SCD+MHC** had a significantly higher proportion of males (**Table 1**).
- Compared to individuals with SCD only, *individuals with SCD+MHC had a significantly higher number and proportion of SCD-related complications, VOC events, and non-SCD-related comorbid medical conditions* (**Table 1**).

RESULTS

Figure 1: Five Most Prevalent Mental Health Conditions among Individuals with SCD (N = 3,618)



Approximately 1 in 5 (20.8%) of individuals with SCD have a mental health condition.

Those with SCD and mental health conditions have worse health outcomes.

DISCUSSION

- The prevalence of MHC among individuals with SCD is as high as that of the general population (22.8%).
- Individuals with **SCD+MHC** had worse health outcomes.
- Of those with substance use disorder, **80%** had tobacco use, abuse, or dependence.
 - Children and adolescents as young as **3-14 years** had a diagnosis of tobacco use, abuse, or dependence.
- The prevalence of depression and anxiety was also notably high and warrants more focus on these MHC.

Table 1: Comparison of Demographic and Clinical Characteristics of Individuals with SCD only and those with SCD+MHC (N=3,618)

Characteristics	All N	SCD only n (%)	SCD+MHC n (%)	p-value
	3,618	2,865 (79.2)	753 (20.8)	
Age at index date				
Mean ± SD, years	22.8±13.6	22.8±13.4	22.8±14.1	0.93
Gender				
Male	999 (27.6)	743 (25.9)	256 (34.0)	<0.0001
Female	2,618 (72.4)	2,121 (74.1)	497 (66.0)	
SCD-related complications				
Mean ± SD	2.0±1.9	1.7±1.7	3.0±2.3	<0.0001
Yes	2,663 (73.6)	2,008 (70.1)	655 (87.0)	<0.0001
VOC events				
Mean ± SD	5.0±15.2	2.8±11.8	13.3±22.3	<0.0001
Yes	1,729 (47.8)	1,188 (41.5)	541 (71.9)	<0.0001
Non-SCD-related comorbid medical conditions				
Mean ± SD	0.6±1.0	0.5±0.8	1.1±1.2	<0.0001
Yes	1,383 (38.2)	933 (32.6)	450 (59.8)	<0.0001

LIMITATIONS AND STRENGTHS

Limitations

- Susceptible to issues (e.g., coding errors) common with administrative claims data.

Strengths

- Real-world study with 3,618 individuals with SCD.
- Provides insights on the prevalence of MHC among individuals with SCD and its association with worse health outcomes.

CONCLUSION

- Findings highlight the need for targeted interventions, including screening and treatment of MHC and incorporating mental health specialists in the SCD comprehensive care team, to improve the health outcomes of individuals with SCD.

References

- Kavanagh PL. *Jama*. 2022;328(1):57-68. doi:10.1001/jama.2022.10233
- Matthew P. Myrvik. *Pediatr Blood Cancer*. 2013;60:1211-1214. doi: 10.1002/pbc.24394
- Tami D. Benton. *Curr Psychiatry Rep*. 2011; 3:111-115. doi: 10.1007/s11920-011-0177-3
- Viviane T. Leuche. *Pediatr Emer Care*. 2022;38:e664-e669. doi: 10.1097/PEC.0000000000002322
- Melissa A. Acquazzino. *J Pediatr hematol Oncol*. 2017;39:350-354. doi: 10.1097/MPH.0000000000000847
- NAMI | Mental Health By the Numbers. <https://www.nami.org/about-mental-illness/mental-health-by-the-numbers/> Accessed: 2025-05-02

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