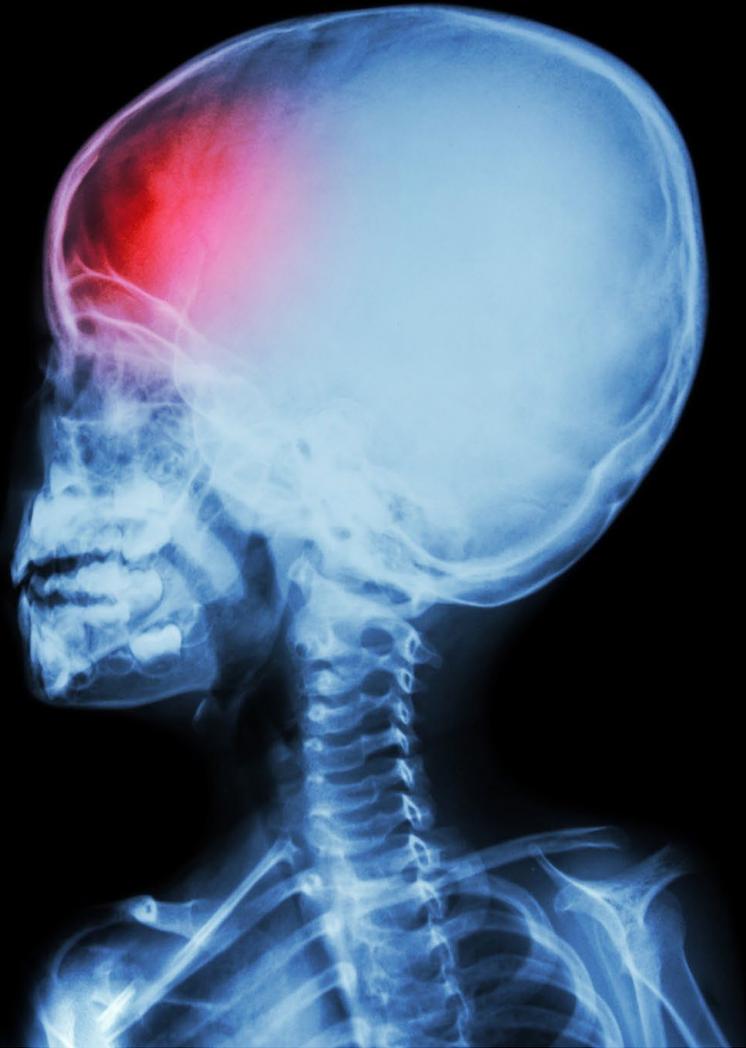
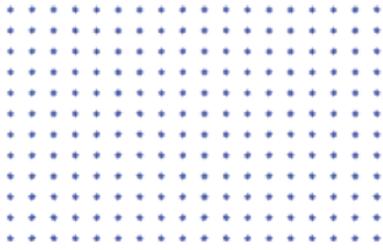


Pediatric TBI in Bastrop County, Report

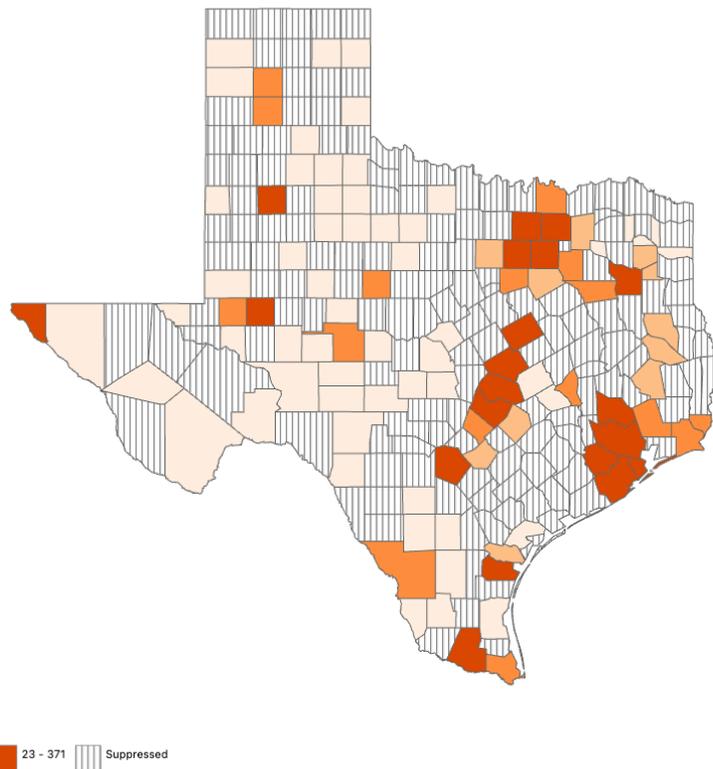
February 2025





National Data Set: CDC Wonder Database

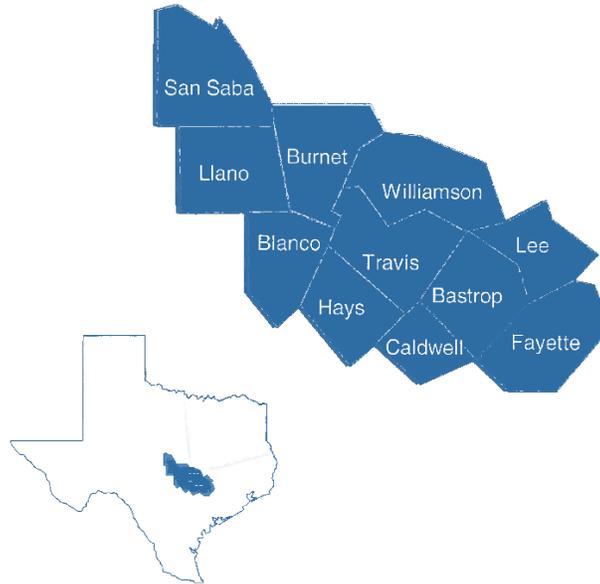
I used the CDC Wonder database to gather data, by county in Texas, from years 2018-2024. This used ICD-10 codes as outlined by the U.S. Military, see [here](#), to find deaths attributable to TBI. The raw results can be found in the file, "TBI_Children_CDC_WONDER.txt"



Pediatric TBI death count by county, 2018-2024. Note the striped counties are suppressed, meaning fewer than ten children died of TBI in these counties, but more than 0.

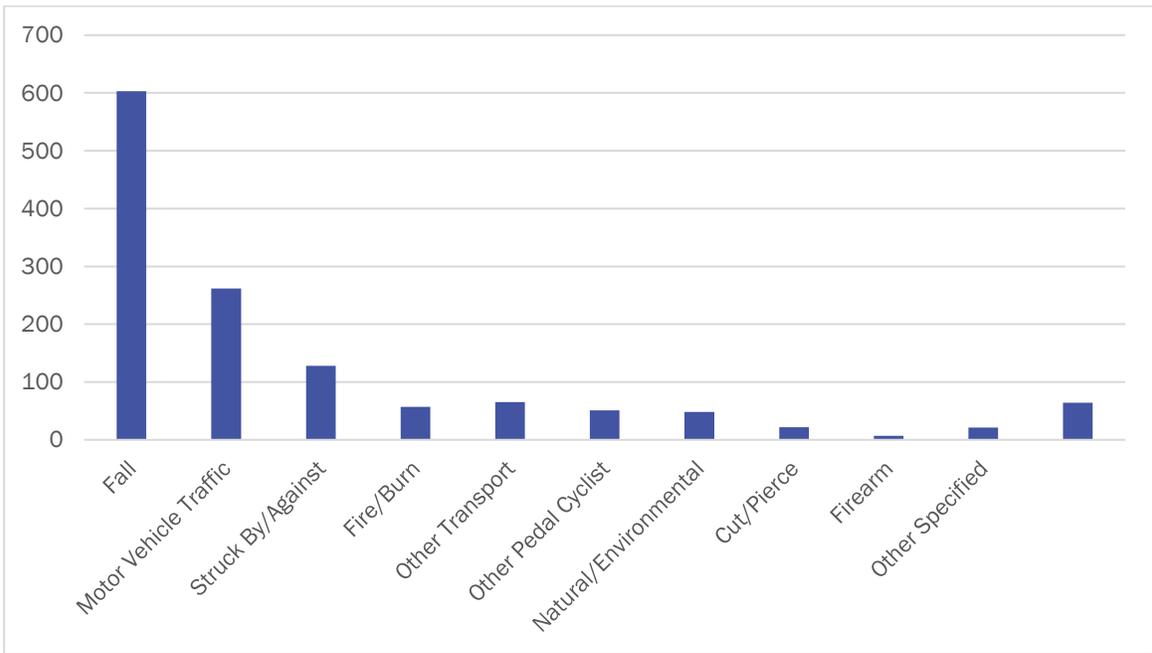
Texas Data Set: Texas Department of State Health Services (DSHS)

- Bastrop County falls within the **O Group**. Trauma registry data is thus collected in alongside these counties and grouped together. The counties in Group O are detailed in the image below:

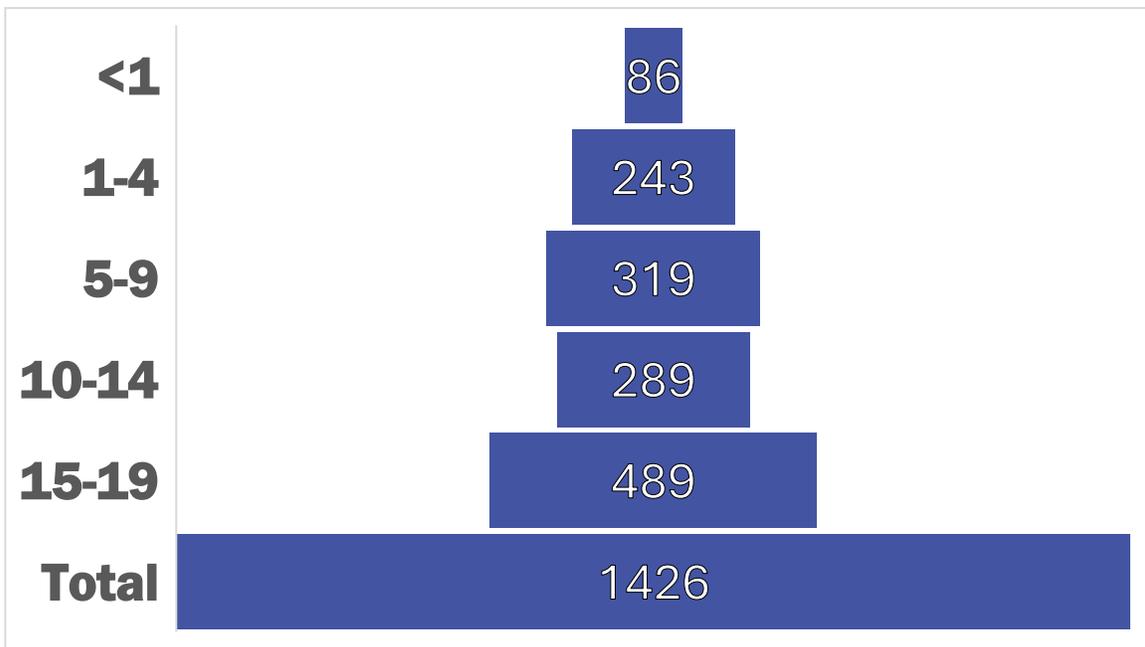


- Data collected from the [Texas DSHS](#) directly reveals major mechanisms of injury and breaks down injuries by specific age group below:

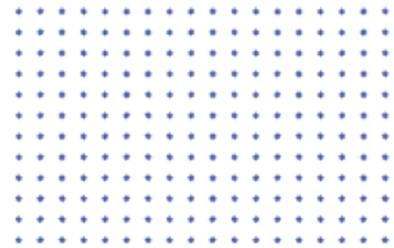
Graph 1. Distribution of all injuries in children by mechanism in 2014 in Region O



Graph 1. Distribution of all injuries in children by age group in 2014, region O



EXPLORING COUNTY-SPECIFIC DATA



Data requests were sent to the DSHS for more specific data about TBI in Bastrop and surrounding counties. We received two data reports, one from TXS2 and one from the trauma registry.

- **TXS2:** An emergency room surveillance database, 2017 – 2023. Of note, **not all emergency rooms participate**, so this should be viewed as a minimum rather than a true count. It is helpful to compare within the county, however, but may be less helpful to compare between counties, as Travis county may have more ER's that report to TXS2. They were unable to disclose any more information about which ER's report this data.
- **Trauma registry:** A trauma hospital database, 2018 – 2022. Of note, **only level 1 and level 2 trauma centers are required to report their data**. So if someone goes to a level 3 or 4 trauma center for a TBI, it would not be reported. The most serious TBI's would likely be captured here.

TxS2 data:

Uses a new surveillance system that tracks emergency room data from reporting facilities

2017–2023

2018–2022

Trauma registry data:

Surveillance data based on trauma and EMS hospitals; may be incomplete.

TXS2 Findings:

YEARLY COUNTS OF TRAUMATIC BRAIN INJURY RELATED VISITS IN BASTROP AND SURROUNDING COUNTIES

Table 2: TBI Related Visits that occurred in Bastrop and Surrounding Counties, 2017-2023

Patient County	2017	2018	2019	2020	2021	2022	2023	Total
Bastrop	163	245	325	294	335	523	600	2485
Caldwell	149	186	218	190	147	294	373	1557
Fayette	39	53	54	43	49	51	70	359
Hays	556	748	764	610	609	1019	1277	5583
Lee	16	39	40	38	36	70	75	314
Travis	2060	2686	3266	2542	2768	4404	4897	22623
Williamson	379	639	1270	962	1126	1613	1436	7425

YEARLY COUNTS OF TRAUMATIC BRAIN INJURY RELATED VISITS FOR BASTROP BY DEMOGRAPHIC INFORMATION

Table 3: TBI Related Visits that occurred where Bastrop is listed as the Patient County of Residence by Age Group, 2017-2023 (n=2485)

Age Groups	2017	2018	2019	2020	2021	2022	2023	Total
Under 1	8	24	31	31	43	37	55	229
Ages 1-4	71	83	100	88	92	145	157	736
Ages 5-9	31	47	70	51	67	114	131	511
Ages 10-14	33	52	56	53	52	77	115	438
Ages 15-19	20	39	68	71	81	150	142	571

Table 4: TBI Related Visits that occurred in Bastrop by Self- Reported Race and Ethnicity, 2017-2023

Race and Ethnicity Category	2017	2018	2019	2020	2021	2022	2023
Asian and non-Hispanic	*	*	*	*	*	*	*
Black and non-Hispanic	6	12	16	18	24	52	58
Hispanic (regardless of Race)	*	8	5	*	59	281	347
Other Race and Non-Hispanic	14	8	54	15	19	7	8
Unknown Race/Ethnicity	88	150	146	103	85	9	9
White and non-Hispanic	53	67	104	158	148	173	177

*Data was suppressed, meaning the count was more than 0 but less than 5 TBI related visits

Table 5: TBI Related Visits that occurred in Bastrop by Sex, 2017- 2023

Sex	2017	2018	2019	2020	2021	2022	2023	Total
Female	72	97	135	134	154	224	263	1079
Male	91	148	190	160	181	299	337	1406

Bastrop County

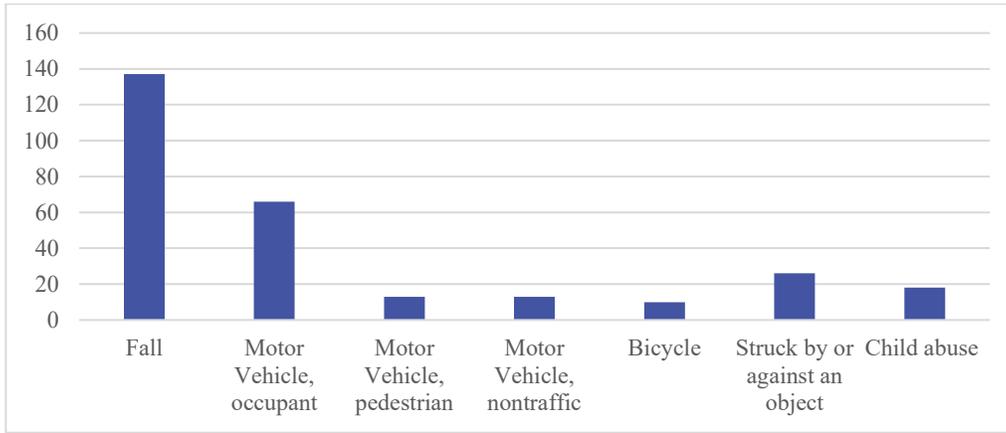
Pediatric TBI | 7

Trauma Registry Findings:

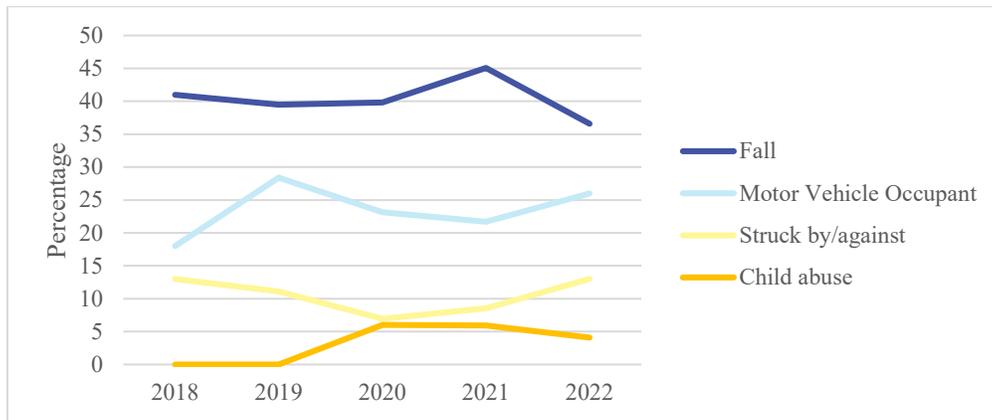
Table 6. Number of TBI (Fatal and Non-Fatal) in Bastrop and Surrounding Counties by Year, 2018 - 2022

Patient County	2018	2019	2020	2021	2022	Total
Bastrop	9	9	16	30	7	71
Caldwell	5	6	14	11	5	41
Fayette	*	3	*	0	*	3
Hays	13	14	29	38	20	114
Lee	*	5	*	3	*	8
Travis	51	30	116	168	66	431
Williamson	16	14	37	55	23	145

Graph 3. Number of TBI's (Fatal and Non-Fatal) in Bastrop and Surrounding Counties by Cause in 2021



Graph 4. Distribution of most common TBI causes (percent) in Children from 2018 - 2022 in Bastrop and Surrounding Counties



Analysis:

- I constructed the following data table using data from the 2020 or 2023 U.S. Census Bureau. These are estimates. They include population percentages by “Population under 5” and “Population under 18.” However, the raw data is from 0 – 19, as you can see. So, if a 19-year-old had a TBI, they could be counted, but it was not reflected in the population. In other words, there may be a **slight but likely insignificant over-reporting** of the rate for patient 5 – 19. Data requests were sent to the DSHS for more specific data about TBI in Bastrop and surrounding counties. We received two data reports, one from TXS2 and one from the trauma registry.

County	Deaths	Population (2020)	Four-year Population	Population Younger than 18	TBI Death rate per 100,000 children	Rate compared to Travis County (IRR)
Travis	52	1,290,188	516,0752	19.7%	5.1	Ref
Bastrop	10	97,216	388,864	25.9%	9.9	1.92
Harris	371	4,731,145	18,924,580	25.6%	7.7	1.23

RATE OF TRAUMATIC BRAIN INJURY RELATED VISITS IN BASTROP BY AGE:

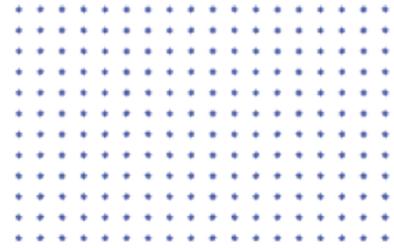
Age Group	TBI Visit	Population Percentage, 2023	Population Estimate, 2023	TBI Visit Rate Per 100,000	Rate Ratio
5 – 19	388	18.90%	20937	1853.2	Ref
Under 5	212	6.70%	7422	2856.3	1.53

RATE OF TRAUMATIC BRAIN INJURY RELATED VISITS IN BASTROP BY RACE:

Race	TBI Visit by Race	Population Percentage, 2023	Population Estimate, 2023	TBI Visit Rate Per 100,000	Rate of TBI Visit Compared to Non-Hispanic Whites
NH White	173	0.452	50071.656	345.5	Ref

NH Black	52	0.07	7754.46	670.6	1.94
Hispanic	281	0.459	50847.102	552.6	1.60
Other	16	0.471	52176.438	30.7	0.09

SUMMARY OF KEY FINDINGS



Children in Bastrop County were nearly two times as likely to die from TBI compared to children from Travis County according to CDC data.

Children from Bastrop aged 0-5 years old presented approximately 1.5 times as often to the ER for TBI-related causes compared to children aged 6-19 years old in 2022.

Black children in Bastrop aged 0-19 presented nearly 2 times as often to ER's for TBI-related injuries compared to White children in 2022.

Hispanic children in Bastrop aged 0-19 presented 1.6 times as often to ER's for TBI-related injuries compared to White children in 2022.

Trauma registry data shows that children in Bastrop County are nearly four times as likely to be taken to a Trauma 1 or 2 hospital for TBI compared to children in Travis County.

Trauma registry data shows that while falls have remained the most common cause of TBI in children in Bastrop County, **child abuse cases rose in 2020 and 2021** for TBI's.