State Trauma Registry Report

2022 Data compiled from current patient records reported from thirteen facilities to LERN State Trauma Registry. Includes standard dataset established by National Trauma Data Bank (NTDB)

Figure 1: Age Distribution

Patients reported by age group. Highest patient population lies in the age range 25 – 34 years old. This is also the highest patient population on a national level.
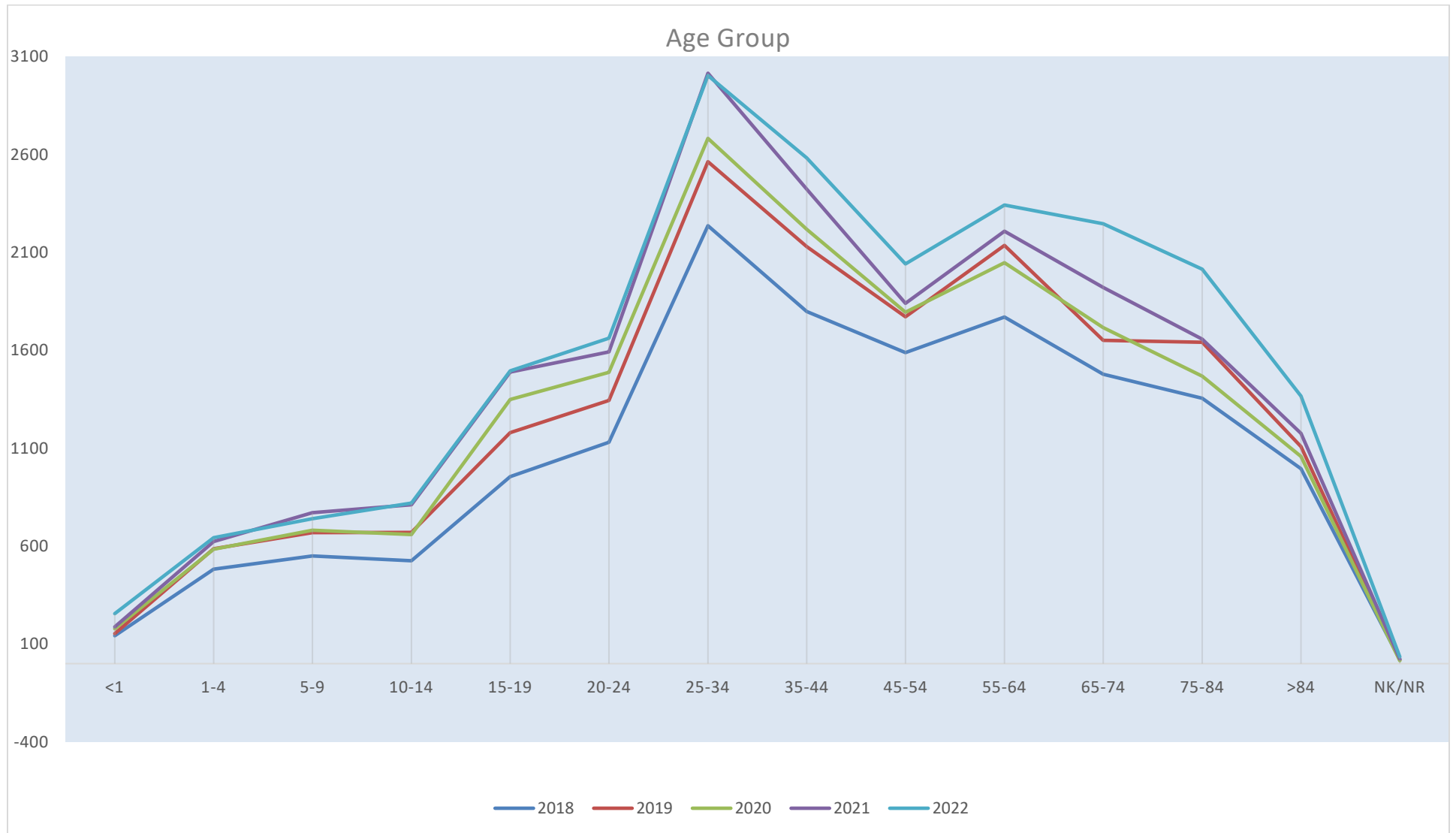
Figure 2: Cause of Injury

Cause of Injury	Total
Fall	7357
Motor Vehicle Accident	4642
Firearm Discharge	1915
Assault	1714
Pedestrian	829
Motorcycle Accident	671
ATV Accident	670
Struck by or Against Object	459
Transport Accident	400
Pedal Cycle Accident	367
Machinery/Equipment Accident	353
Animal Bite/Contact/Rider	331
Contact by Sharp Object	298
Suicide or Self-inflicted Injury	232
Caught, Crushed, Pinched	217
Unknown	190
Acc Struck by Person	151
Abuse or Neglect	99
Other	88
Burns, Fire, Flame, Explosion, Smoke	69
Overexertion	50
Watercraft Accident	30
Diving, Drowning, or Submersion	23
Legal Intervention	20
Foreign Body	16
Contact Hot Food or Object	16
Sport/Activity Accident	11
Slipping, Tripping, and Stumbling without Falling	11
Electrical Accident	11
Aircraft Accident	7
Weather Accident	7
Grand Total	21254

Fall by Age	Total	Percentage
Geriatric (>64)	4362	59.29%
Adult (15-64)	2192	29.79%
Pediatric (0-14)	789	10.72%
Unknown	14	0.19%
Grand Total	7357	100.00%

Assaults

- Sharp Object — 33%
- Firearm — 26%
- Brawl or Fight — 26%
- Blunt Object — 11%
- Other — 4%

Top 3 COI by Year

Fall — MVA — Firearm Discharge
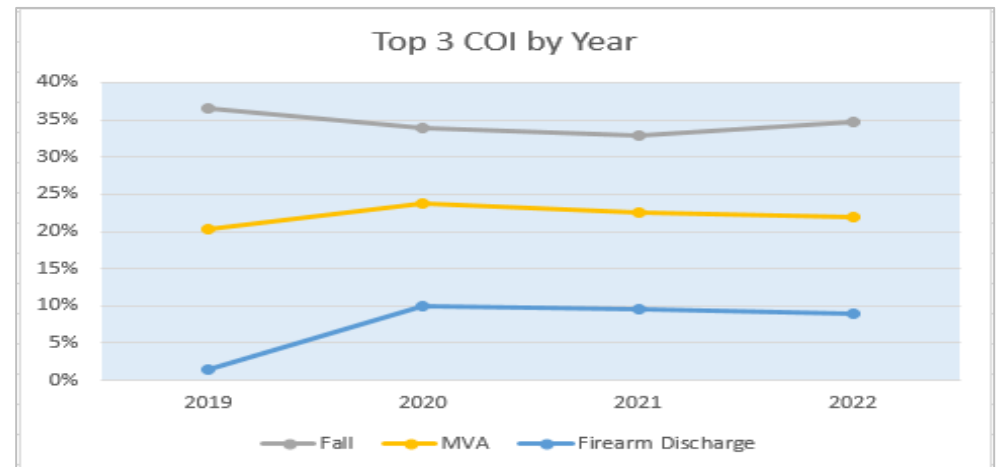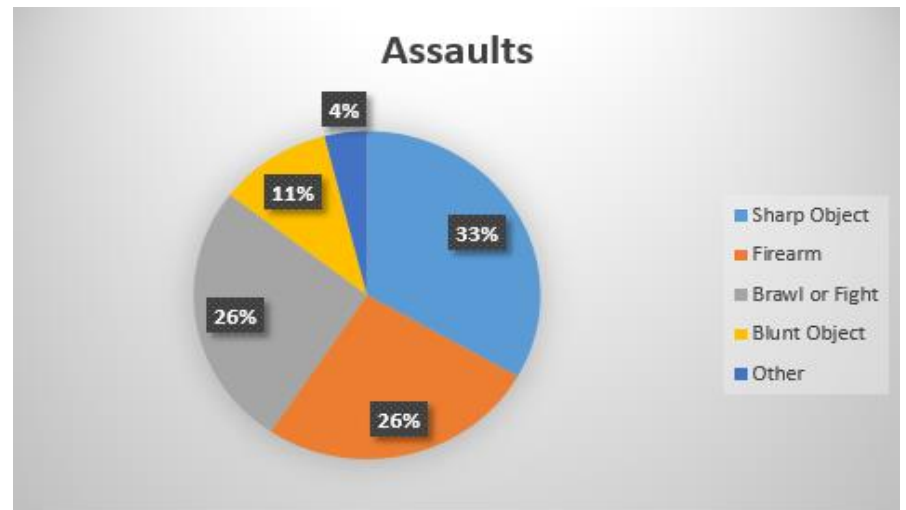
Figure 3: Cause of Injury by Mortality

Cause of Injury	Deaths
Fall	211
Firearm Discharge	176
Motor Vehicle Accident	163
Assault	68
Pedestrian	68
Suicide or Self-inflicted Injury	58
Motorcycle Accident	33
Transport Accident	24
Pedal Cycle Accident	13
ATV Accident	10
Struck by or Against Object	9
Abuse or Neglect	9
Other	5
Burns, Fire, Flame, Explosion, Smoke	5
Animal Bite/Contact/Rider	3
Diving, Drowning, or Submersion	3
Machinery/Equipment Accident	1
Watercraft Accident	1
Electrical Accident	1
Contact by Sharp Object	1
Weather Accident	1
Caught, Crushed, Pinched	0
Aircraft Accident	0
Legal Intervention	0
Overexertion	0
Total	**863**

Fall by Age	ISS Score Range					
	0	1-8	9-15	16-24	>24	Total
Geriatric (>64)	2	33	64	18	49	166
Adult (15-64)	1	6	9	4	25	45
Pediatric (0-14)	0	0	0	0	0	0
Total	3	39	73	22	74	211

Assaults

- Firearm — 66%
- Sharp Object — 16%
- Brawl or Fight — 9%
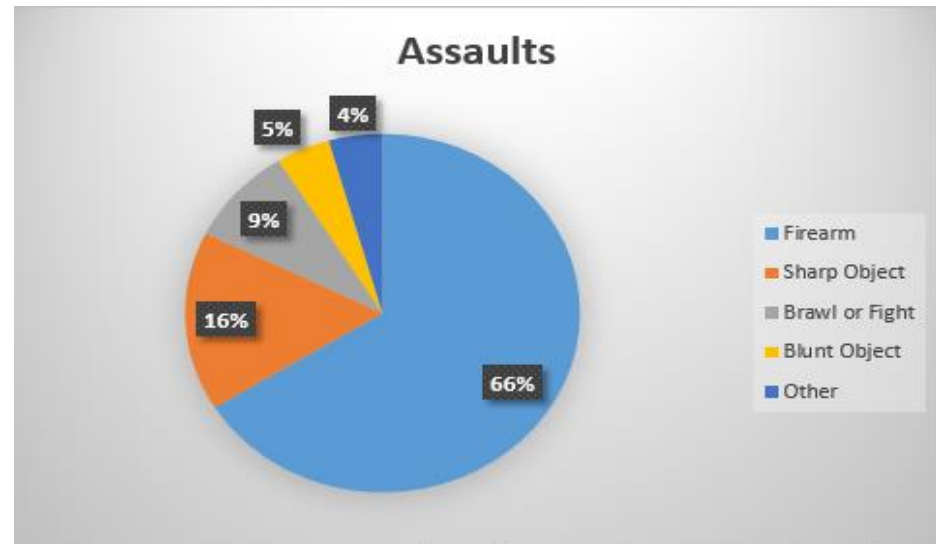- Blunt Object — 5%
- Other — 4%

Figure 4: Received Pre-Hospital or by Transfer

Patients reported as received pre-hospital or transferred from another acute care facility. Patients transferred from a private physician office, stand-alone ambulatory surgery center, or delivered to hospital by a non-EMS transport are not considered an inter-facility transfer. Outlying facilities that provide emergency services or that are utilized to stabilize a patient are considered acute care facilities.

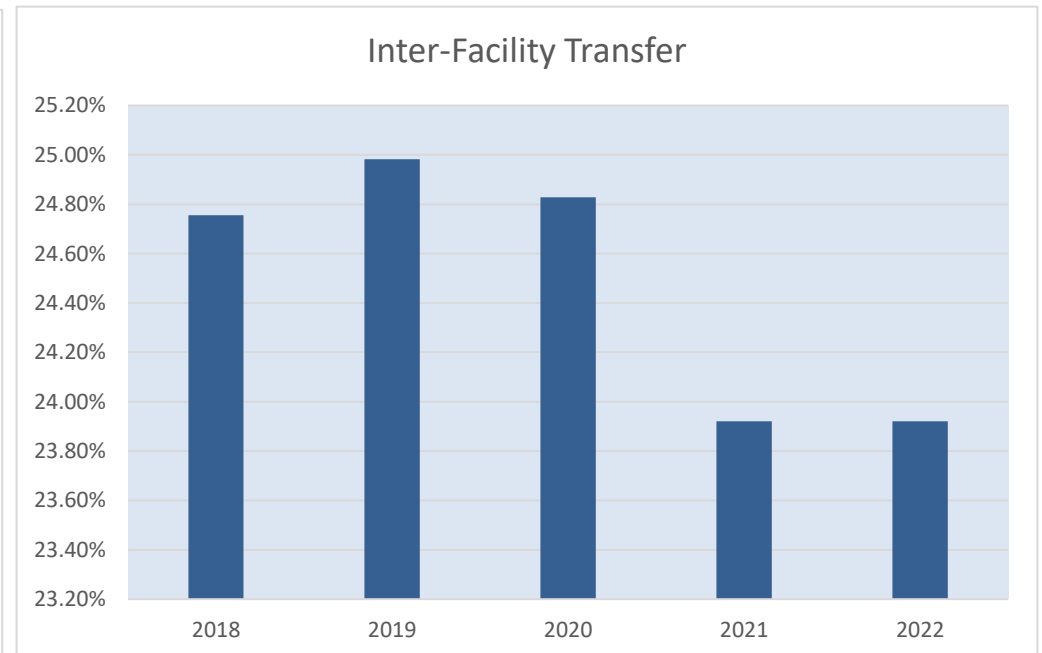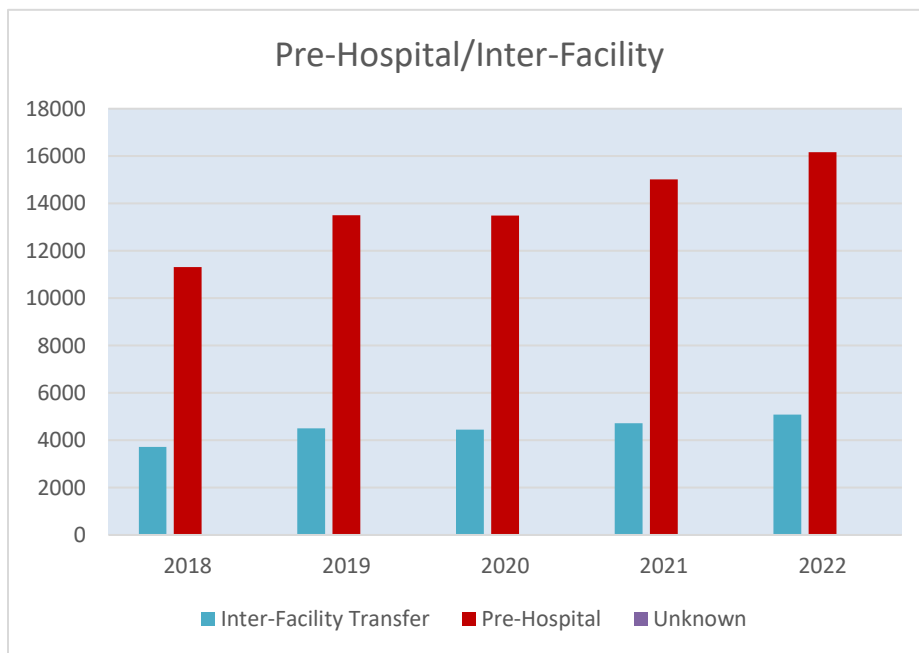| Received by	2018	2019	2020	2021	2022
Pre-Hospital	11312	13505	13488	15011	16169
Inter-Facility Transfer	3722	4499	4455	4723	5084
Unknown	1	5	0	10	1
Total	15035	18009	17943	19744	21254

Figure 5: Payor Mix

Not Paid is inclusive of Primary Payment listed as Other, Not Known, Self-Pay, or Not Billed.

Status	2018	2019	2020	2021	2022
Paid	12238	15013	15315	16827	18229
Not Paid	2797	2996	2628	2917	3025
Total	15035	18009	17943	19744	21254

Payor Mix

Year	Paid	Not Paid
2018	81.4%	18.6%
2019	83.4%	16.6%
2020	85.4%	14.6%
2021	85.2%	14.8%
2022	85.8%	14.2%
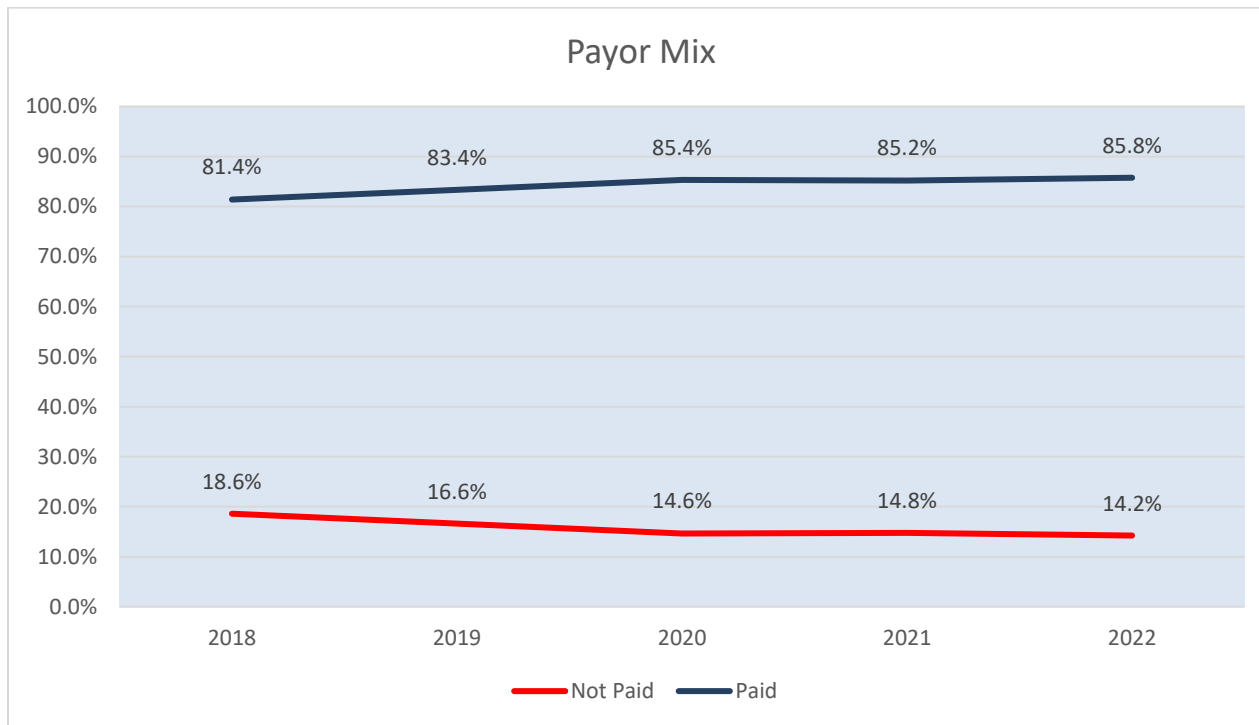
Figure 6: Payor Type

Payor type for paid patients.

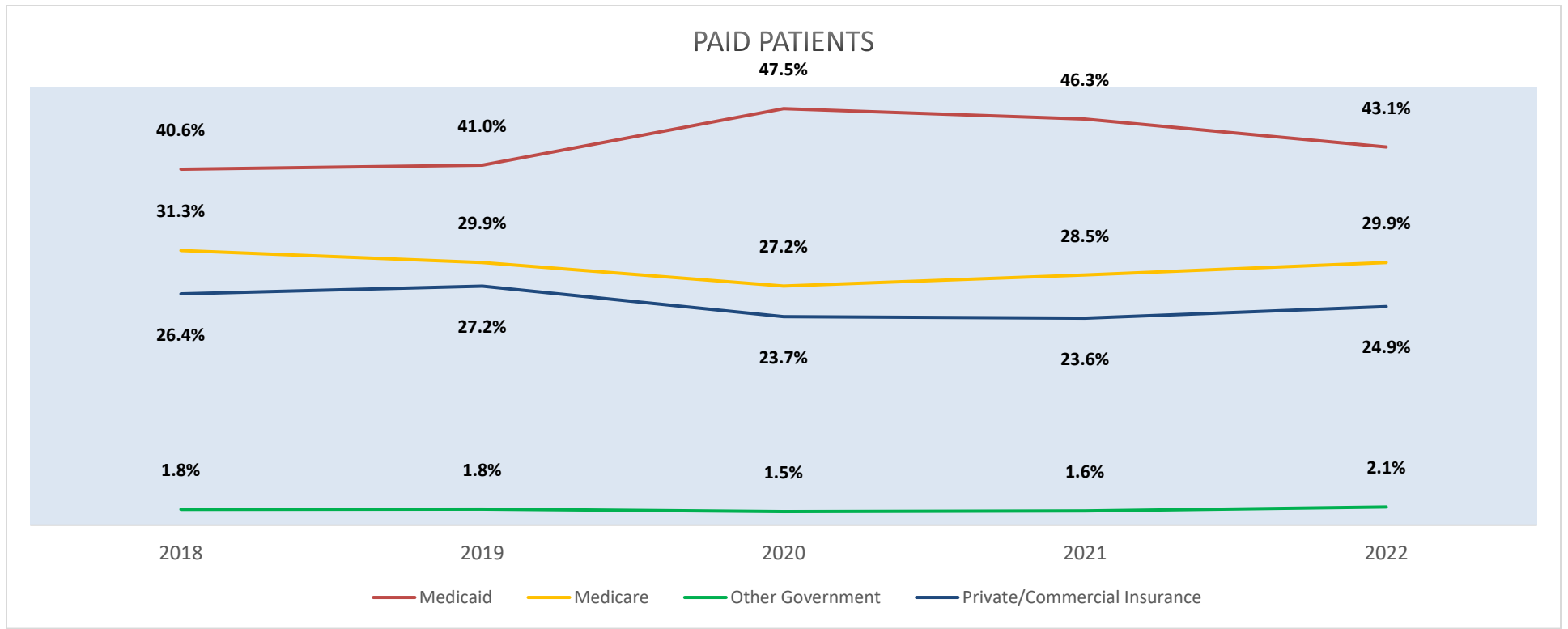| Paid Method	2018	2019	2020	2021	2022
Medicaid	4964	6158	7269	7787	7855
Medicare	3830	4494	4173	4798	5456
Other Government	219	272	236	273	376
Private/Commercial Insurance	3225	4089	3637	3969	4542
Total	12238	15013	15315	16827	18229

PAID PATIENTS

Figure 7: Hospital Average/Median Length of Stay

The hospital length of stay (LOS) is calculated by the using the admit time/date and the discharged time/date. For the purpose of this report days were adjusted based on each partial or full day is measured as one calendar day. Patients admitted and discharged on same day count as 0.

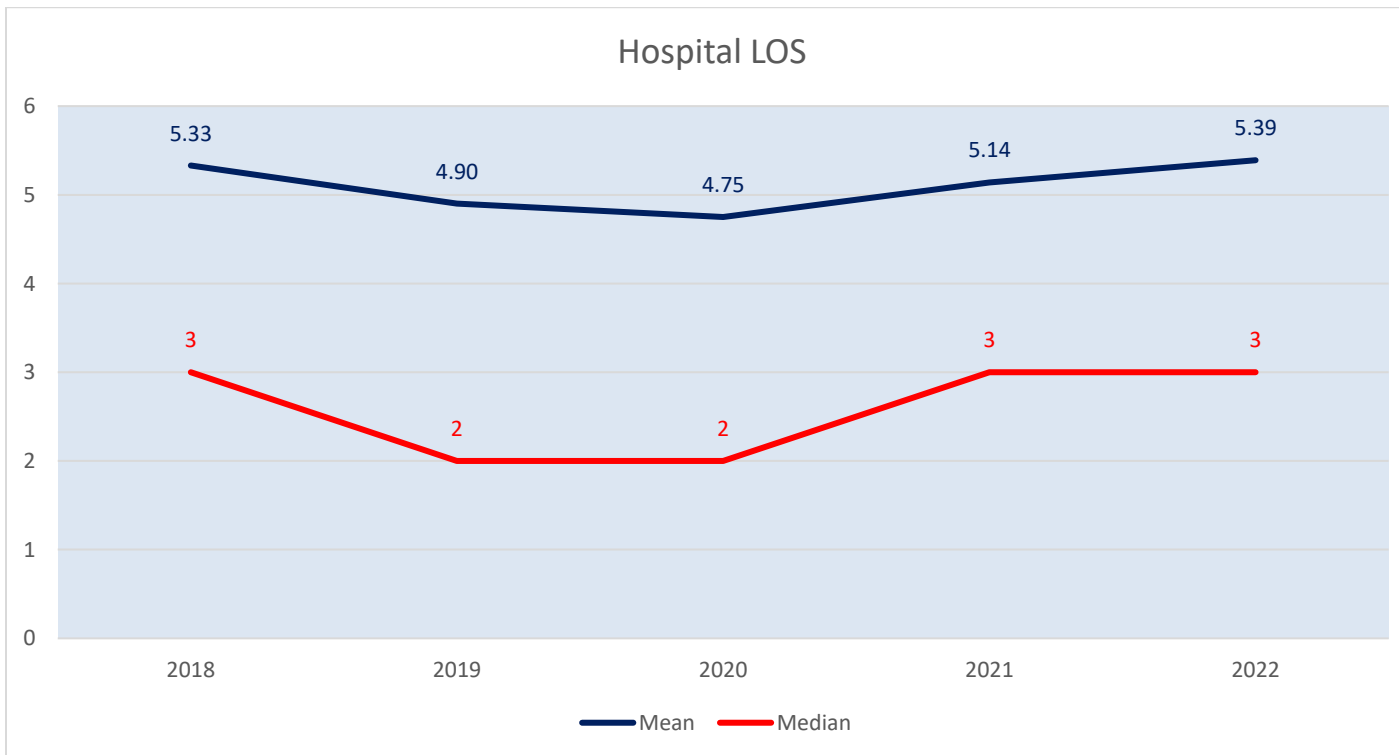| Year	Mean	Median
2018	5.33	3
2019	4.90	2
2020	4.75	2
2021	5.14	3
2022	5.39	3

Hospital LOS

Figure 8: ICU Days

The intensive care unit (ICU) length of stay is the cumulative amount of time spent in ICU. Each partial or full day is measured as one calendar day.

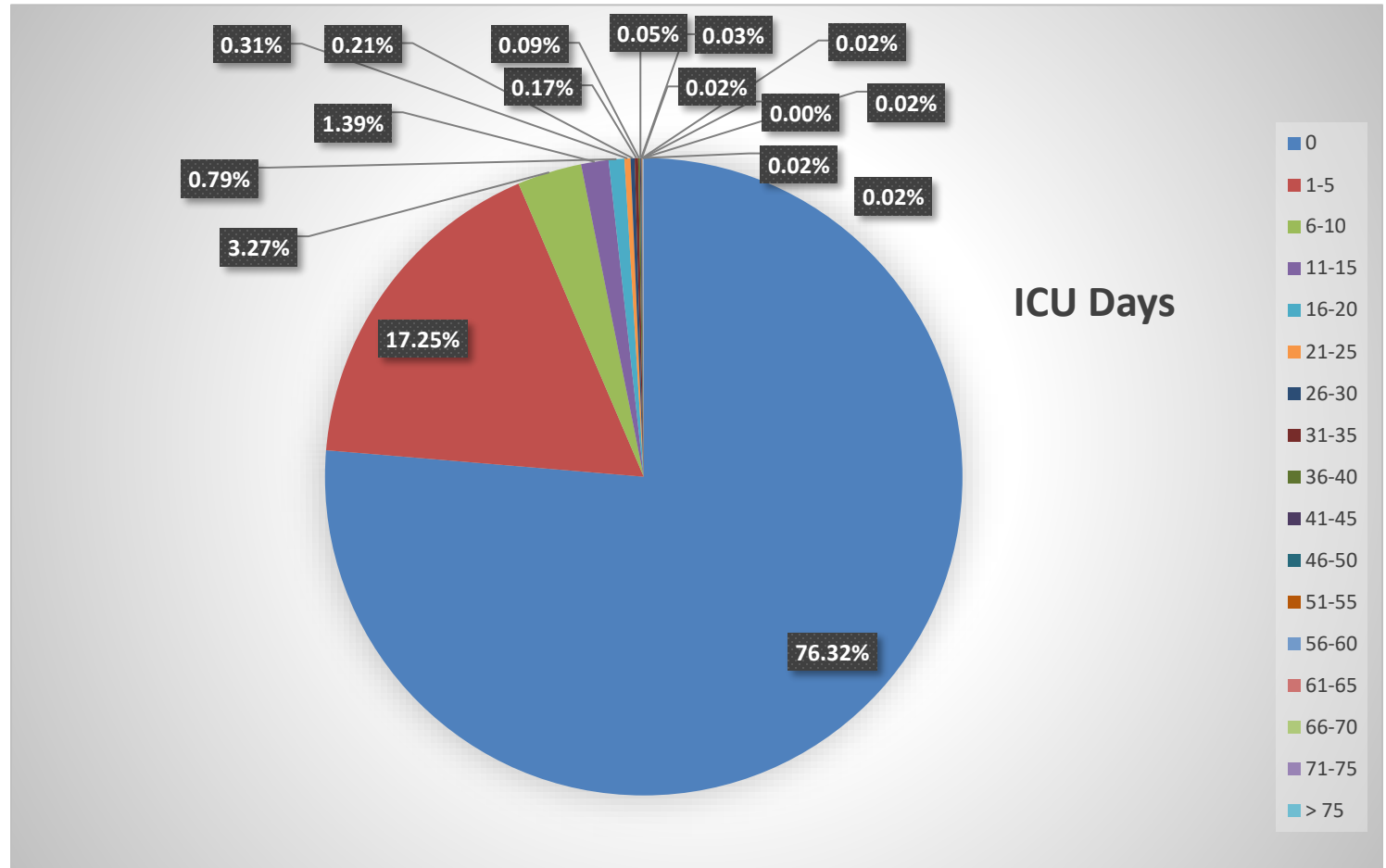| ICU DAYS	Total	Percent
0	16222	76.32%
1-5	3666	17.25%
6-10	696	3.27%
11-15	296	1.39%
16-20	168	0.79%
21-25	66	0.31%
26-30	44	0.21%
31-35	37	0.17%
36-40	19	0.09%
41-45	10	0.05%
46-50	7	0.03%
51-55	5	0.02%
56-60	4	0.02%
61-65	4	0.02%
66-70	1	0.00%
71-75	5	0.02%
> 75	4	0.02%
Total	21254	100%

Figure 9: Blood Alcohol Testing

Of the 21,254 patients in the 2022 data, 49.6% were not tested, 50.4% were tested. Of the patients tested, 1,971 had a BAC ≥ 0.08% (above legal limit).

Tested	Total	Percent
Yes	10716	50.4%
No	9178	43.2%
Unknown	1360	6.4%
Total	21254	100%

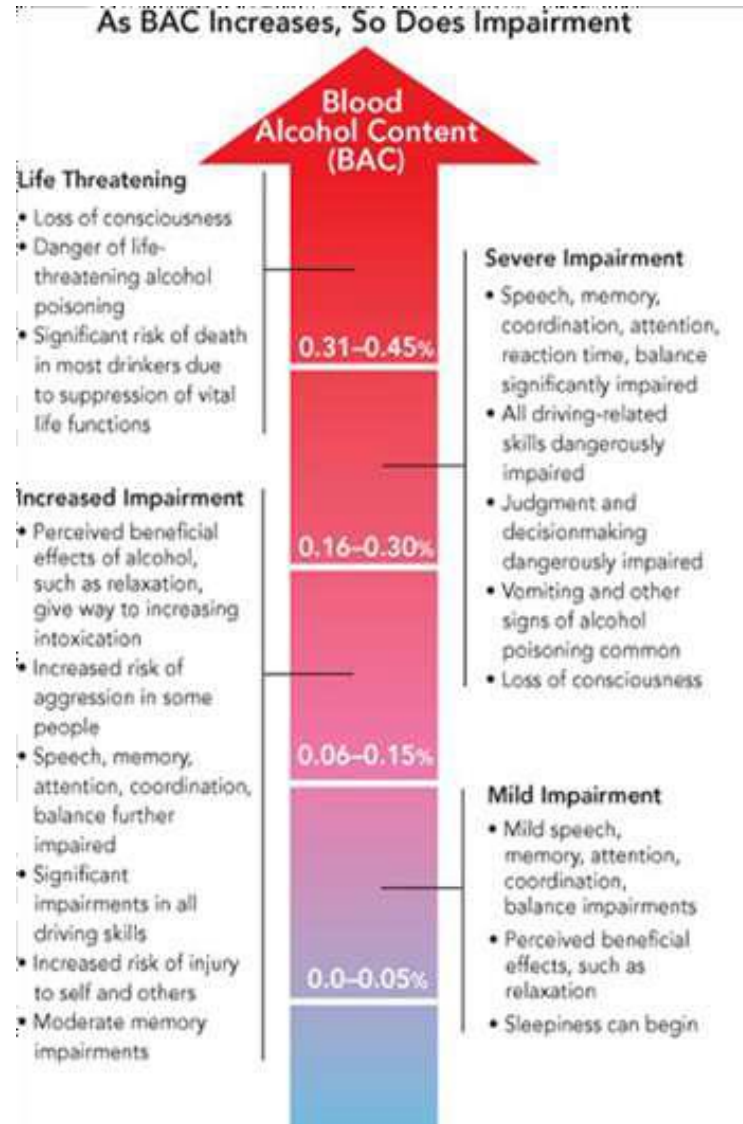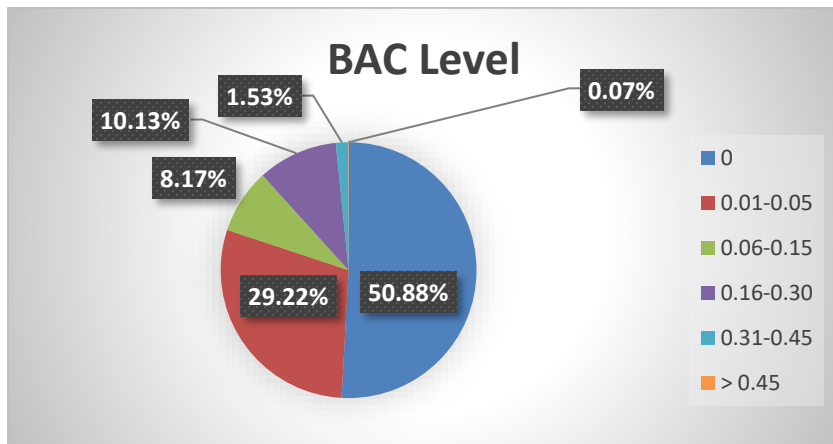| Tested Patients	
BAC Level	Total
0	5452
0.01-0.05	3131
0.06-0.15	876
0.16-0.30	1085
0.31-0.45	164
> 0.45	8
Total	10716

Figure 10: Drug Screening

Patients reported by based on drug screening. Of the 21,254 patients in the 2022 data, 60.63% were not tested, 14.24% tested negative, and the remaining 25.13% tested positive for drugs.

Drug Screening	Total	Percent
Not Tested	12738	59.93%
None	3026	14.24%
Positive for Single Drug	3034	14.27%
Positive for Multiple Drugs	2307	10.85%
Unknown	149	0.70%
Total	21254	100%

Drug	Avg ISS
THC (Cannabinoid)	10
OPI (Opioid)	10
AMP (Amphetamine)	10
BZO (Benzodiazepines)	13
COC (Cocaine)	9

| Drug	Total	Percent
THC (Cannabinoid)	2835	32.80%
OPI (Opioid)	2291	26.50%
AMP (Amphetamine)	1185	13.71%
BZO (Benzodiazepines)	1175	13.59%
COC (Cocaine)	786	9.09%
mAMP (Methamphetamine)	124	1.43%
BAR (Barbiturate)	79	0.91%
PCP (Phencyclidine)	41	0.47%
MTD (Methadone)	41	0.47%
OXY (Oxycodone)	35	0.40%
Other Evidence of Drugs	24	0.28%
MDMA (Ectasy)	16	0.19%
TCA (Tricyclic Antidepressant)	12	0.14%
Total	8644	100%

DRUG DETECTED
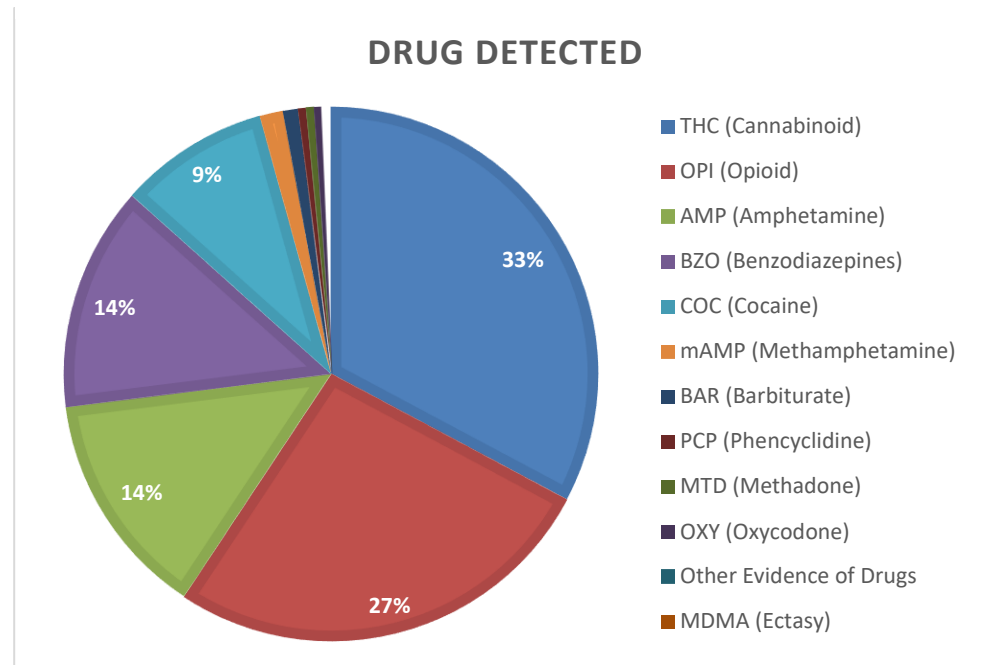
Figure 11: ISS by Age

Patients reported by age group and ISS score. The Injury Severity Score (ISS) is a system for numerically stratifying injury severity. The ISS system has a range of 1-75 and risk of death increases with a higher score. NTDB categorizes ISS 1-8 as Minor; 9-15 as Moderate; 16-24 as Severe; and greater than 24 as Very Severe.
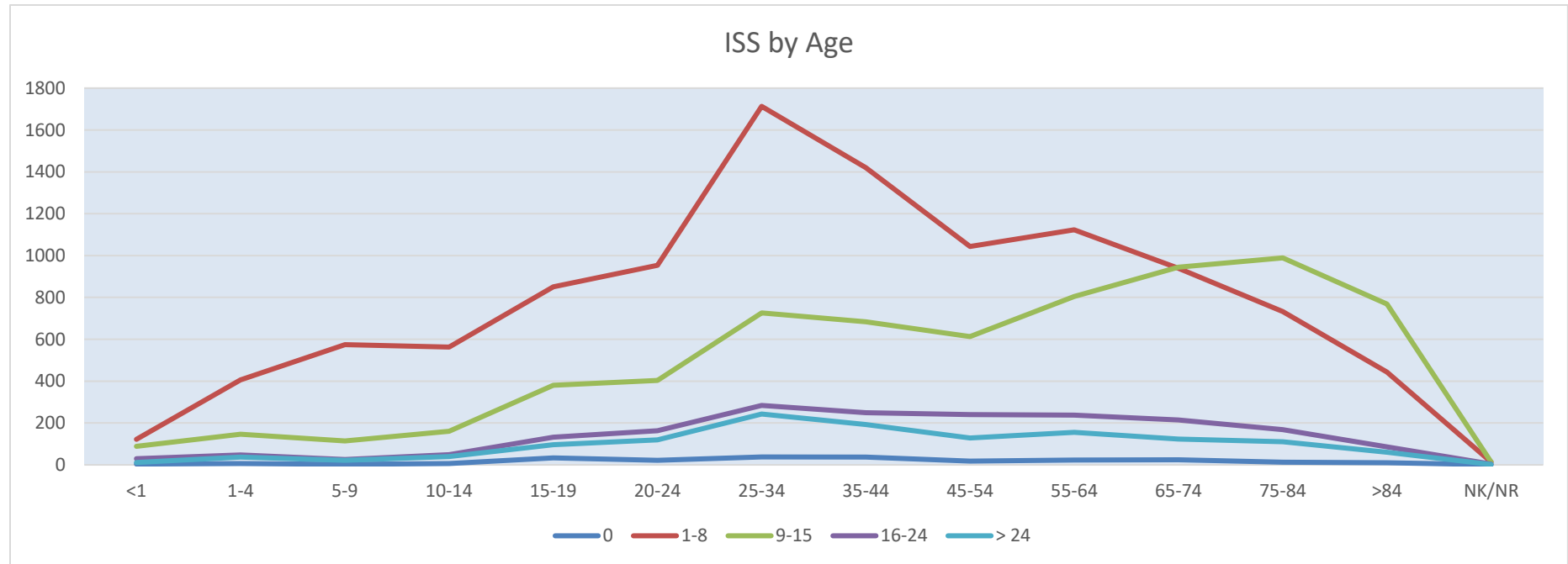
	Mean ISS Score		
Year	All Facilities	I & II	III
2018	8.75	8.82	8.11
2019	8.43	8.71	6.75
2020	8.89	9.21	7.29
2021	8.88	9.02	7.87
2022	8.58	8.75	7.71

Figure 12: Total Patients in Registry by Year / Deaths Percent by Year

In 2016, there were 9 facilities reporting. In 2017, the number of facilities reporting increased to 10. In 2020, the number of facilities reporting increased to 11. In 2022, 13 facilities were reporting. Death percentage includes patient that arrived to ED without signs of life.

Patients in Trauma Registry

- 2018: 14986
- 2019: 18009
- 2020: 17943
- 2021: 19744
- 2022: 21254

Death Rate (%)

- 2018: 4.62
- 2019: 4.04
- 2020: 4.64
- 2021: 4.75
- 2022: 4.16