

## ARIZONA STATE TRAUMA REGISTRY

### Standard Public Report - 2005 Trauma Data - Version 1.0

Information about the 2005 Arizona State Trauma Registry (ASTR) Data:

Ten hospitals contributed 2005 trauma data to the Arizona State Trauma Registry (ASTR). ASTR receives data from a limited number of hospitals in Arizona and this data is not representative of all Arizona trauma cases. Seven of the reporting facilities were designated as Level I Trauma Centers at the time that this report was prepared. The remaining three facilities were non-designated.

It was expected that all patients would have an ED Entry Date, as this is the required field used to determine the date range for case submission. However, upon analysis, it was determined that several patients had a blank ED Entry Date field. This issue will be addressed with individual hospitals. For these reporting purposes, patients were included if they had an ED Entry Date or a Hospital Admit Date in the year 2005. There were 21662 records submitted to ASTR meeting these criteria.

This report reflects trauma data as it exists in the ASTR on 9/19/06. During the Phase I and Phase II Data Standardization Project, the State required data elements from hospital registries were converted to a standardized format. This project was necessary in order to be able to prepare meaningful statewide reports. **The numbers in these reports are likely to change as conversion and data entry clean-up issues are identified and addressed.**

Report Definitions:

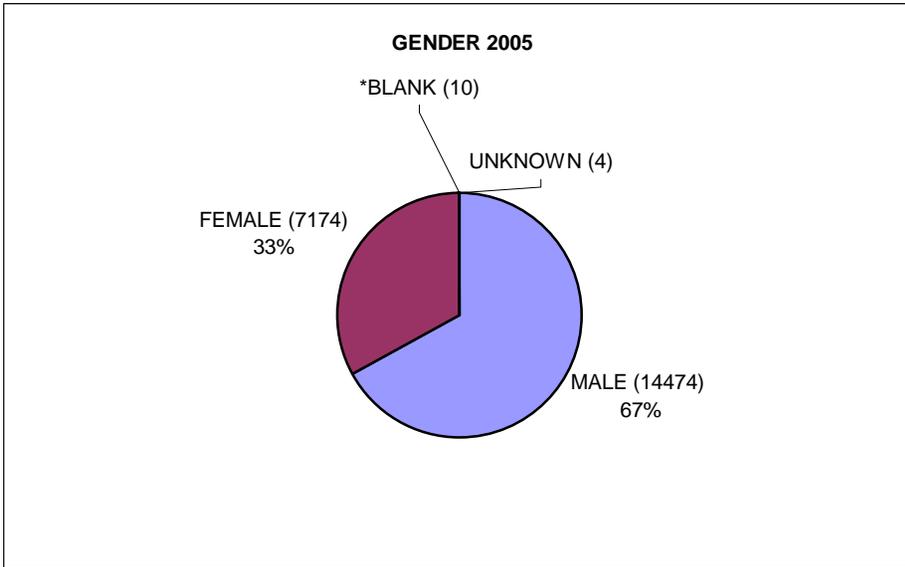
\*BLANK or \*BL in this report means that no value was submitted by the hospital for that specific data element.

\*NOT DOCUMENTED or \*N/D means that the registrar entered a Not Documented response for that specific data element. The ASTR Data Dictionary (revised June 2006) defines Not Documented as "no documentation in record, unknown."

\*NOT APPLICABLE or \*N/A in this report means that the registrar entered a Not Applicable response for that specific data element. In the ASTR Data Dictionary (revised June 2006), Not Applicable is allowed in instances where the data element does not apply to the specific circumstances of the trauma case. For example, the date of the EMS run sheet would not apply if the patient was transported to the hospital by a relative.

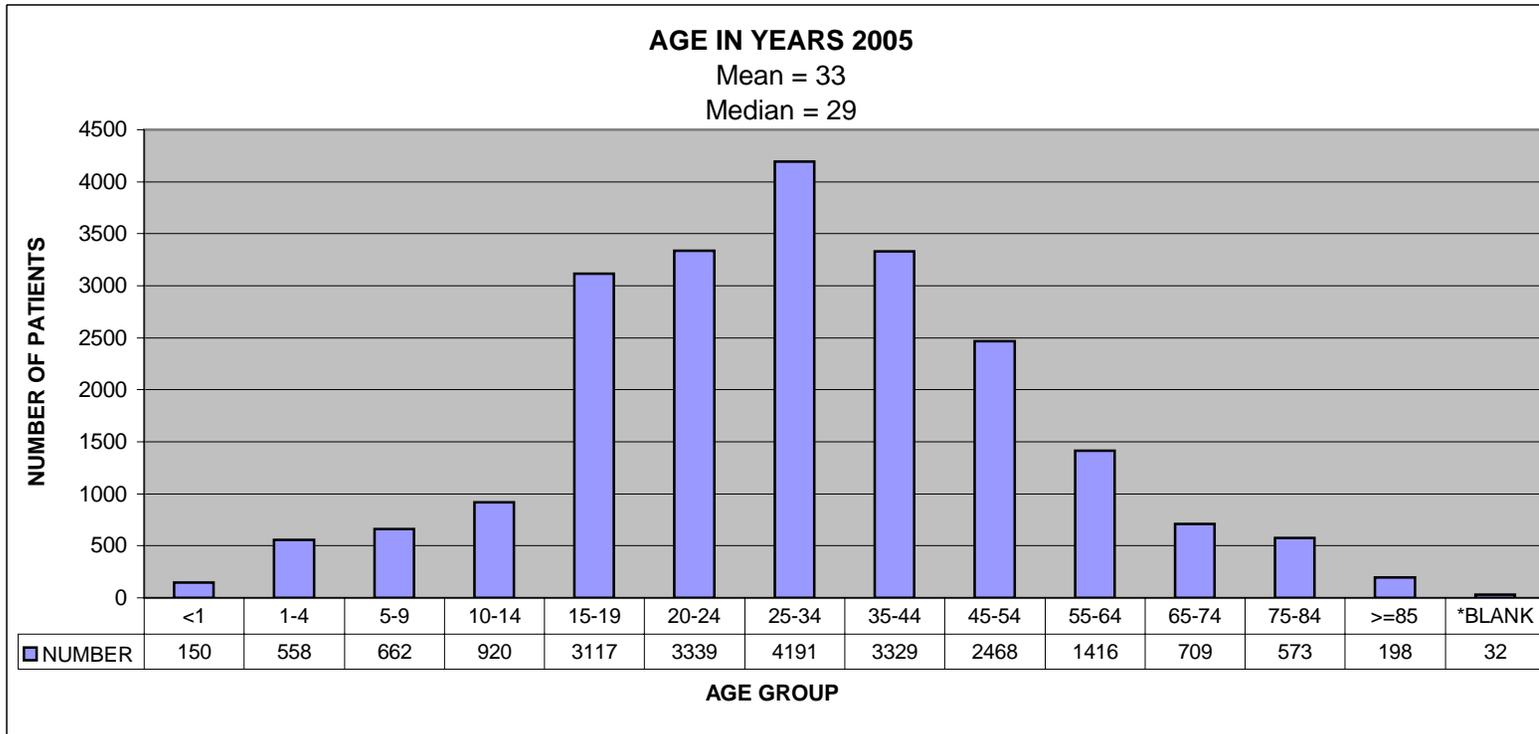
For questions regarding this report, please contact Anita Ray with the Arizona Department of Health Services at 602-542-1245, email: [raya@azdhs.gov](mailto:raya@azdhs.gov).

### GENDER 2005



GENDER	NUMBER	PERCENTAGE
MALE	14474	66.82
FEMALE	7174	33.12
*BLANK	10	0.05
UNKNOWN	4	0.02
TOTAL	21662	100.00

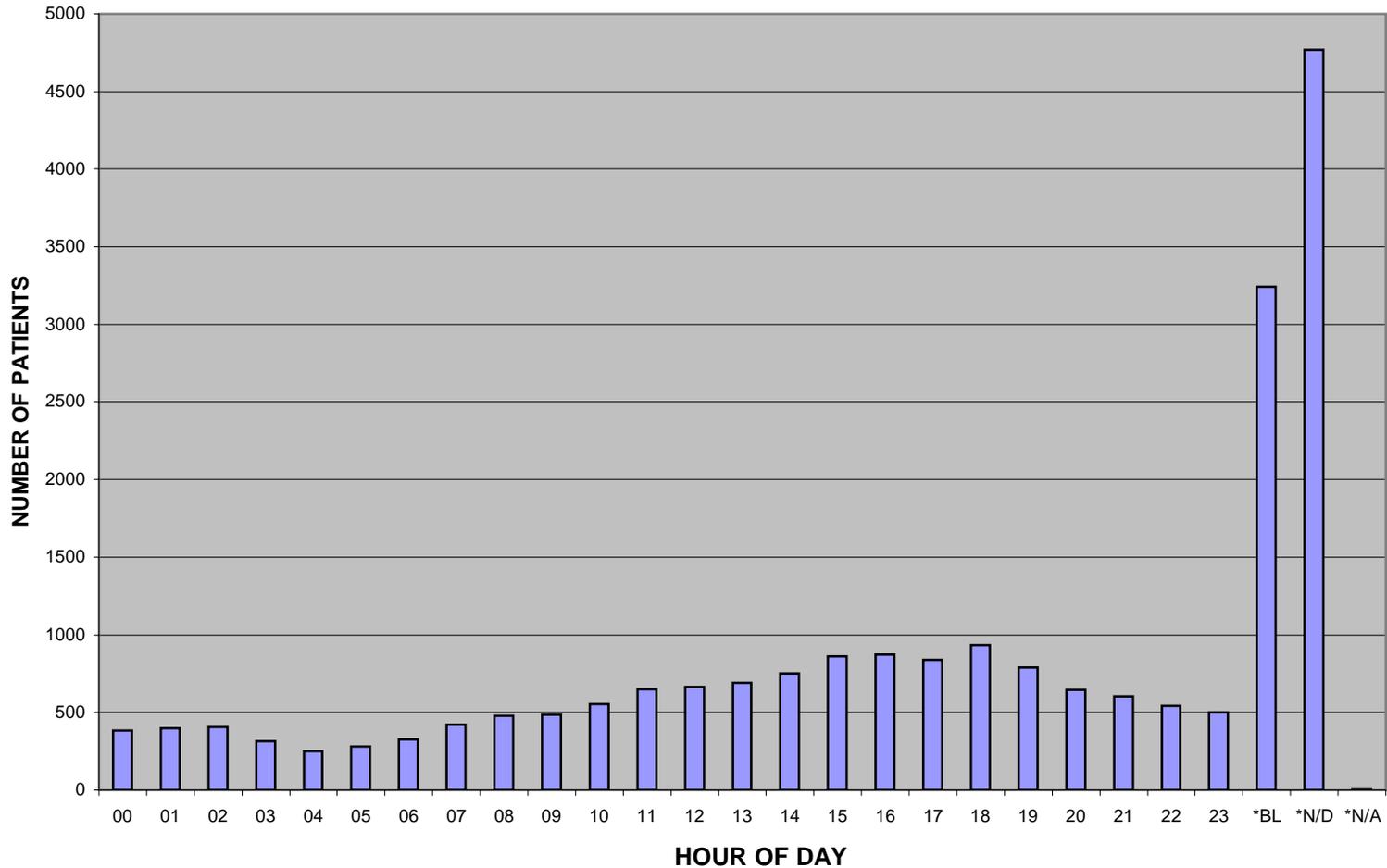
### AGE IN YEARS 2005



AGE	NUMBER	PERCENT
<1	150	0.69
1-4	558	2.58
5-9	662	3.06
10-14	920	4.25
15-19	3117	14.39
20-24	3339	15.41
25-34	4191	19.35
35-44	3329	15.37
45-54	2468	11.39
55-64	1416	6.54
65-74	709	3.27
75-84	573	2.65
>=85	198	0.91
*BLANK	32	0.15
TOTAL	21662	100.00

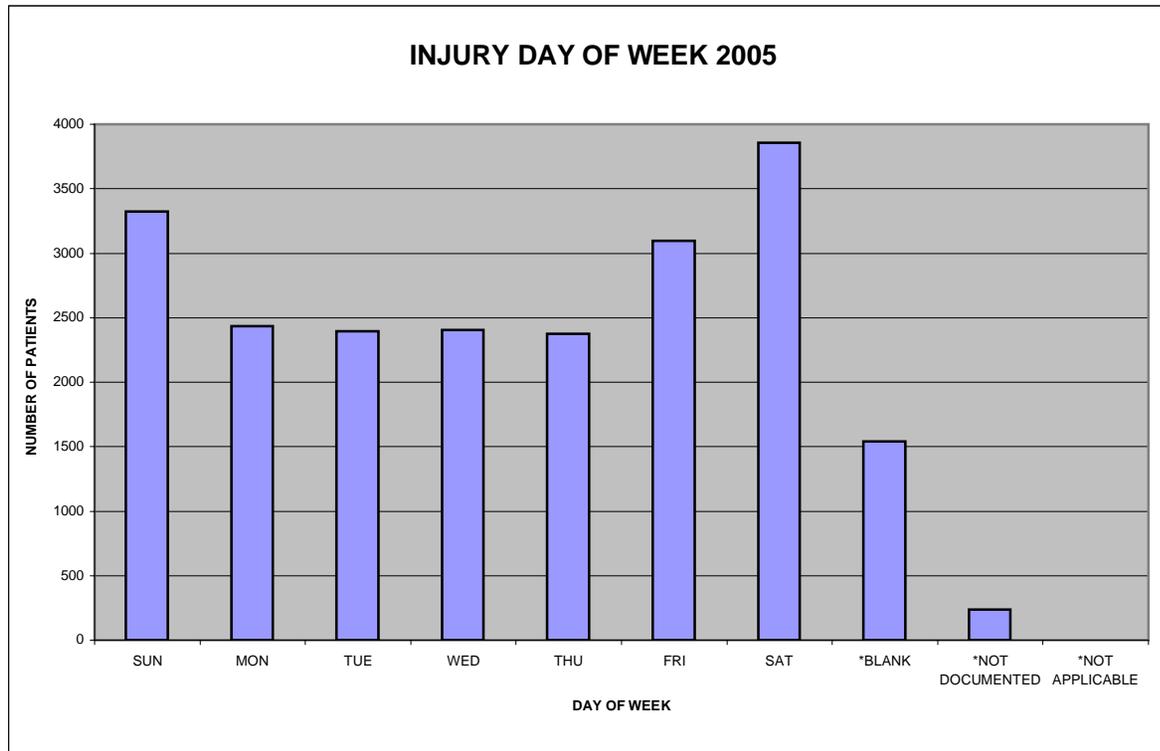
## INJURY TIME OF DAY 2005

### TIME OF INJURY (HOUR OF DAY) 2005



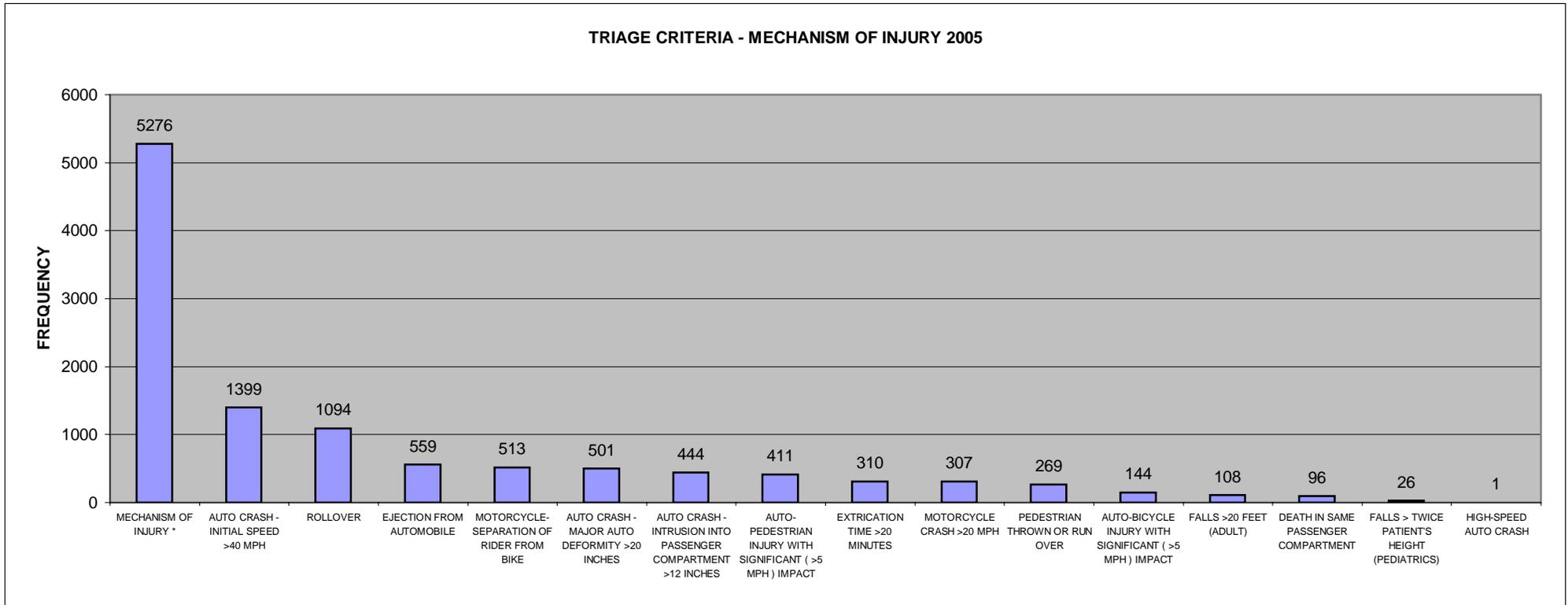
TIME OF INJURY - HOUR OF DAY	NUMBER	PERCENT
00	383	1.77
01	400	1.85
02	406	1.87
03	316	1.46
04	249	1.15
05	282	1.30
06	328	1.51
07	421	1.94
08	479	2.21
09	485	2.24
10	556	2.57
11	649	3.00
12	663	3.06
13	691	3.19
14	752	3.47
15	860	3.97
16	875	4.04
17	838	3.87
18	933	4.31
19	789	3.64
20	644	2.97
21	604	2.79
22	544	2.51
23	501	2.31
*BL	3242	14.97
*N/D	4768	22.01
*N/A	4	0.02
<b>TOTAL</b>	<b>21662</b>	<b>100.00</b>

### INJURY DAY OF WEEK 2005



INJURY DATE - DAY OF WEEK	NUMBER	PERCENTAGE
SUN	3321	15.33
MON	2435	11.24
TUE	2396	11.06
WED	2407	11.11
THU	2373	10.95
FRI	3095	14.29
SAT	3855	17.80
*BLANK	1541	7.11
*NOT DOCUMENTED	238	1.10
*NOT APPLICABLE	1	0.00
<b>TOTAL</b>	<b>21662</b>	<b>100.00</b>

## TRIAGE CRITERIA - MECHANISM OF INJURY 2005

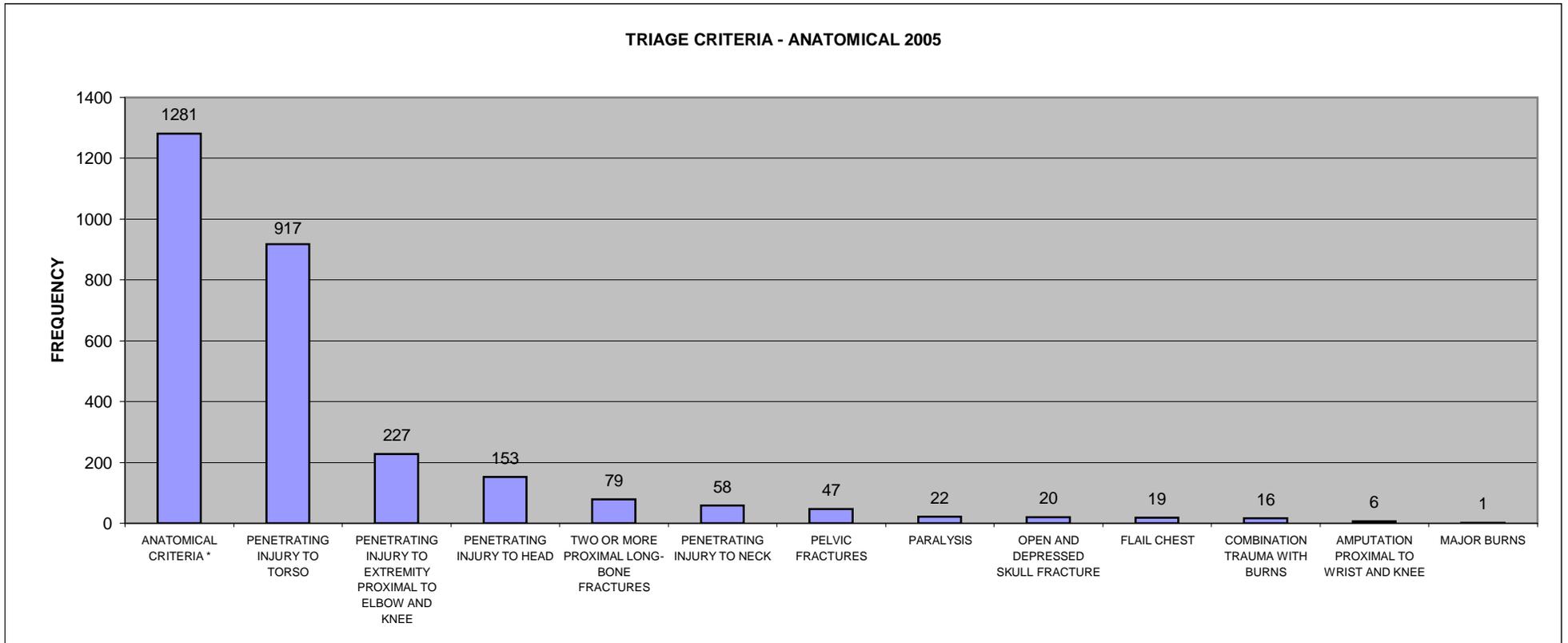


TRIAGE CRITERIA	FREQUENCY
MECHANISM OF INJURY *	5276
AUTO CRASH - INITIAL SPEED >40 MPH	1399
ROLLOVER	1094
EJECTION FROM AUTOMOBILE	559
MOTORCYCLE-SEPARATION OF RIDER FROM BIKE	513
AUTO CRASH - MAJOR AUTO DEFORMITY >20 INCHES	501
AUTO CRASH - INTRUSION INTO PASSENGER COMPARTMENT >12 INCHES	444
AUTO-PEDESTRIAN INJURY WITH SIGNIFICANT (>5 MPH) IMPACT	411
EXTRICATION TIME >20 MINUTES	310
MOTORCYCLE CRASH >20 MPH	307
PEDESTRIAN THROWN OR RUN OVER	269
AUTO-BICYCLE INJURY WITH SIGNIFICANT (>5 MPH) IMPACT	144
FALLS >20 FEET (ADULT)	108
DEATH IN SAME PASSENGER COMPARTMENT	96
FALLS > TWICE PATIENT'S HEIGHT (PEDIATRICS)	26
HIGH-SPEED AUTO CRASH	1
<b>TOTAL</b>	<b>11458</b>

**Note: Total number of Triage Criteria = 26394**  
The Triage Criteria field allows for multiple entries of triage criteria for each patient.

\*Prior to data conversion some hospitals only had the ability to select the five major categories (i.e. mechanism of injury, anatomical, physiological, co-morbidity, and other). In this figure and table, the Mechanism of Injury is the highest frequency. The frequency of this category is not a total of the more specific criteria.

## TRIAGE CRITERIA - ANATOMICAL 2005

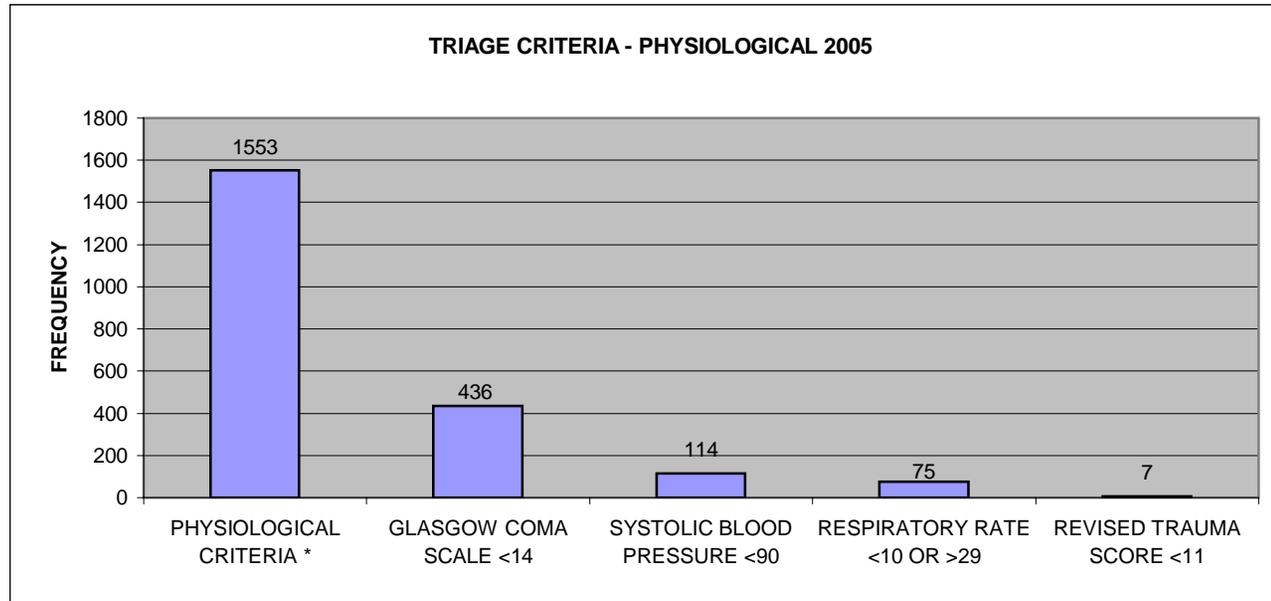


TRIAGE CRITERIA	FREQUENCY
ANATOMICAL CRITERIA *	1281
PENETRATING INJURY TO TORSO	917
PENETRATING INJURY TO EXTREMITY PROXIMAL TO ELBOW AND KNEE	227
PENETRATING INJURY TO HEAD	153
TWO OR MORE PROXIMAL LONG-BONE FRACTURES	79
PENETRATING INJURY TO NECK	58
PELVIC FRACTURES	47
PARALYSIS	22
OPEN AND DEPRESSED SKULL FRACTURE	20
FLAIL CHEST	19
COMBINATION TRAUMA WITH BURNS	16
AMPUTATION PROXIMAL TO WRIST AND KNEE	6
MAJOR BURNS	1
<b>TOTAL</b>	<b>2846</b>

**Note: Total number of Triage Criteria = 26394**  
**The Triage Criteria field allows for multiple entries of triage criteria for each patient.**

**\*Prior to data conversion some hospitals only had the ability to select the five major categories (i.e. mechanism of injury, anatomical, physiological, co-morbidity, and other). In this figure and table, the Anatomical Criteria is the highest frequency. The frequency of this category is not a total of the more specific criteria.**

### TRIAGE CRITERIA - PHYSIOLOGICAL 2005

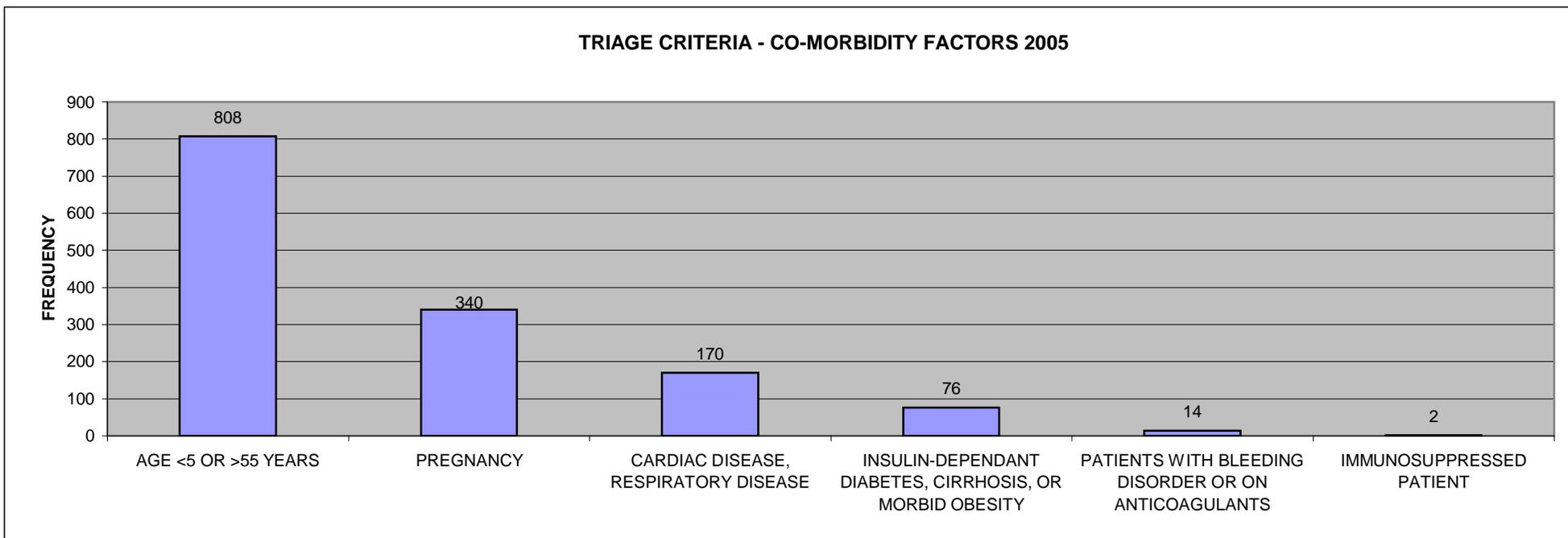


TRIAGE CRITERIA	FREQUENCY
PHYSIOLOGICAL CRITERIA *	1553
GLASGOW COMA SCALE <14	436
SYSTOLIC BLOOD PRESSURE <90	114
RESPIRATORY RATE <10 OR >29	75
REVISED TRAUMA SCORE <11	7
<b>TOTAL</b>	<b>2185</b>

**Note: Total number of Triage Criteria = 26394**  
**The Triage Criteria field allows for multiple entries of triage criteria for each patient.**

**\*Prior to data conversion some hospitals only had the ability to select the five major categories (i.e. mechanism of injury, anatomical, physiological, co-morbidity, and other). In this figure and table, the Physiological Criteria is the highest frequency. The frequency of this category is not a total of the more specific criteria.**

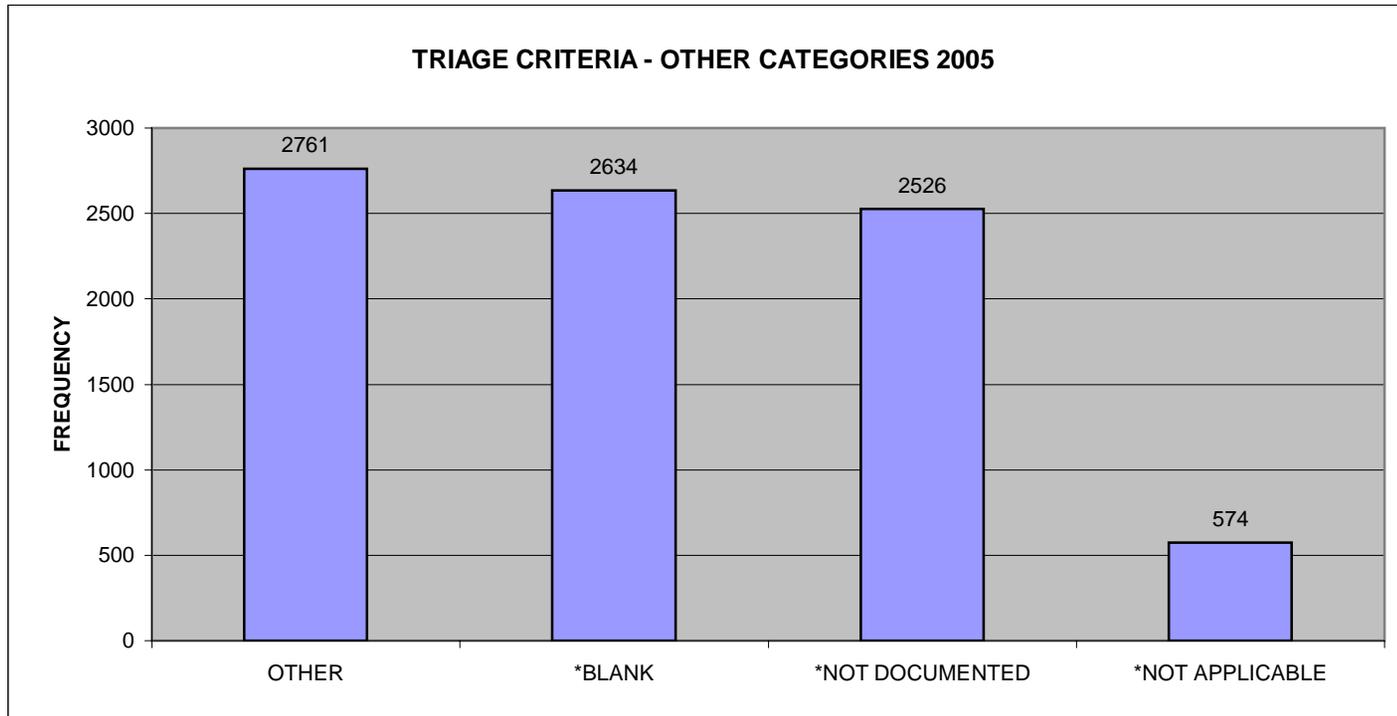
**TRIAGE CRITERIA - CO-MORBIDITY FACTORS 2005**



TRIAGE CRITERIA	FREQUENCY
AGE <5 OR >55 YEARS	808
PREGNANCY	340
CARDIAC DISEASE, RESPIRATORY DISEASE	170
INSULIN-DEPENDANT DIABETES, CIRRHOSIS, OR MORBID OBESITY	76
PATIENTS WITH BLEEDING DISORDER OR ON ANTICOAGULANTS	14
IMMUNOSUPPRESSED PATIENT	2
<b>TOTAL</b>	<b>1410</b>

**Note: Total number of Triage Criteria = 26394**  
**The Triage Criteria field allows for multiple entries of triage criteria for each patient.**

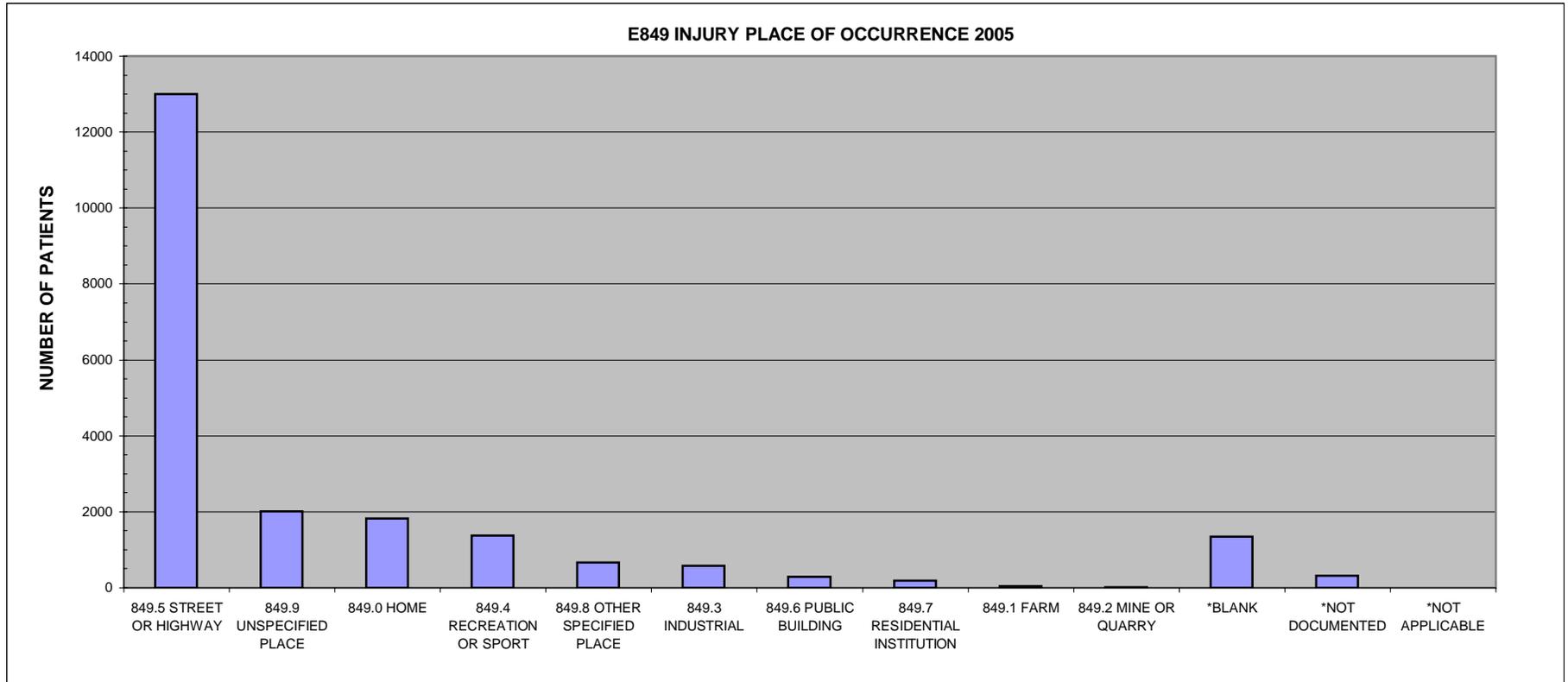
### TRIAGE CRITERIA - OTHER CATEGORIES 2005



TRIAGE CRITERIA	FREQUENCY
OTHER	2761
*BLANK	2634
*NOT DOCUMENTED	2526
*NOT APPLICABLE	574
<b>TOTAL</b>	<b>8495</b>

**Note: Total number of Triage Criteria = 26394**  
**The Triage Criteria field allows for multiple entries of triage criteria for each patient.**

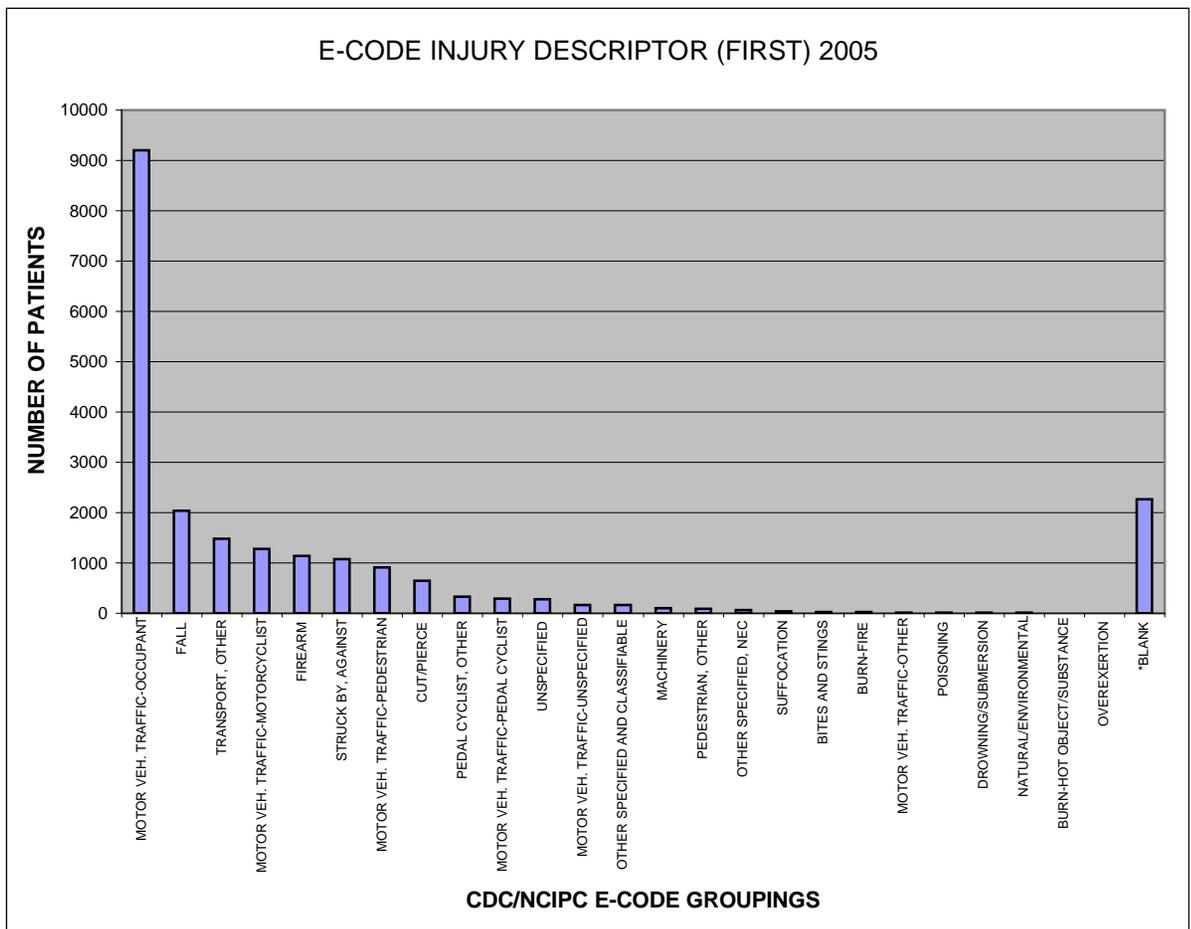
## INJURY PLACE OF OCCURRENCE 2005



<b>E849 INJURY PLACE OF OCCURRENCE</b>	<b>NUMBER</b>	<b>PERCENTAGE</b>
<b>849.5 STREET OR HIGHWAY</b>	13002	60.02
<b>849.9 UNSPECIFIED PLACE</b>	2016	9.31
<b>849.0 HOME</b>	1820	8.40
<b>849.4 RECREATION OR SPORT</b>	1372	6.33
<b>849.8 OTHER SPECIFIED PLACE</b>	673	3.11
<b>849.3 INDUSTRIAL</b>	582	2.69
<b>849.6 PUBLIC BUILDING</b>	290	1.34
<b>849.7 RESIDENTIAL INSTITUTION</b>	185	0.85
<b>849.1 FARM</b>	38	0.18
<b>849.2 MINE OR QUARRY</b>	15	0.07
<b>*BLANK</b>	1349	6.23
<b>*NOT DOCUMENTED</b>	313	1.44
<b>*NOT APPLICABLE</b>	7	0.03
<b>TOTAL</b>	<b>21662</b>	<b>100.00</b>

ICD-9-CM E-CODE INJURY DESCRIPTOR 2005

CDC/NCIPC E-CODE MECHANISM GROUPINGS *	NUMBER
MOTOR VEH. TRAFFIC-OCCUPANT	9198
FALL	2033
TRANSPORT, OTHER	1476
MOTOR VEH. TRAFFIC-MOTORCYCLIST	1278
FIREARM	1141
STRUCK BY, AGAINST	1075
MOTOR VEH. TRAFFIC-PEDESTRIAN	910
CUT/PIERCE	651
PEDAL CYCLIST, OTHER	326
MOTOR VEH. TRAFFIC-PEDAL CYCLIST	288
UNSPECIFIED	281
MOTOR VEH. TRAFFIC-UNSPECIFIED	169
OTHER SPECIFIED AND CLASSIFIABLE	165
MACHINERY	105
PEDESTRIAN, OTHER	93
OTHER SPECIFIED, NEC	67
SUFFOCATION	35
BITES AND STINGS	27
BURN-FIRE	22
MOTOR VEH. TRAFFIC-OTHER	17
POISONING	15
DROWNING/SUBMERSION	10
NATURAL/ENVIRONMENTAL	7
BURN-HOT OBJECT/SUBSTANCE	6
OVEREXERTION	4
*BLANK	2263
<b>TOTAL **</b>	<b>21662</b>



\*Groupings based on the CDC/National Center for Injury Prevention and Control's *Recommended framework of E-code groupings for presenting injury mortality and morbidity data (February 16, 2005)*, <http://www.cdc.gov/ncipc/whatsnew/matrix2.htm>.

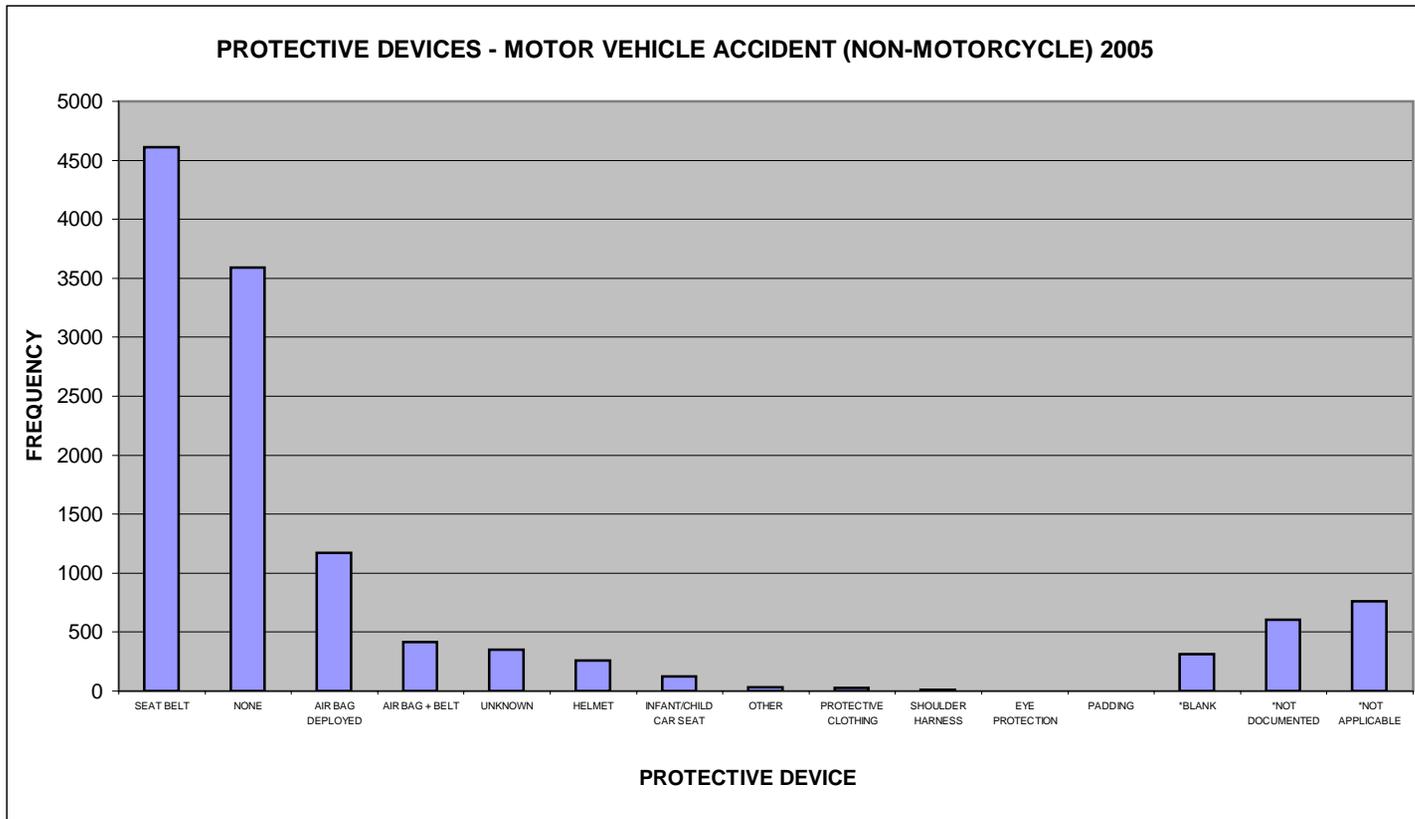
\*\*NOTE: This report is based on the first E-code entered per patient. Total 2005 E-codes in ASTR system = 21911. ASTR system currently only downloads one E-code per patient, and registrars are instructed to enter the primary external cause of injury first.

ICD9-CM INJURY DIAGNOSIS 2005

ICD-9-CM INJURY DIAGNOSIS	FREQUENCY
910-919 SUPERFICIAL INJURY	6740
920-924 CONTUSION WITH INTACT SKIN SURFACE	6383
870-879 OPEN WOUND OF HEAD, NECK, AND TRUNK	5423
805-809 FRACTURE OF NECK AND TRUNK	5032
850-854 INTRACRANIAL INJURY, EXCLUDING THOSE WITH SKULL FRACTURES	4622
800-804 FRACTURE OF SKULL	3829
860-869 INTERNAL INJURY OF CHEST, ABDOMEN, AND PELVIS	3498
810-819 FRACTURE OF UPPER LIMB	2638
820-829 FRACTURE OF LOWER LIMB	2527
840-848 SPRAINS AND STRAINS OF JOINTS AND ADJACENT MUSCLES	1783
880-887 OPEN WOUND OF UPPER LIMB	1369
890-897 OPEN WOUND OF LOWER LIMB	814
830-839 DISLOCATION	618
900-904 INJURY TO BLOOD VESSELS	394
958-959 CERTAIN TRAUMATIC COMPLICATIONS AND UNSPECIFIED INJURIES	342
950-957 INJURY TO NERVES AND SPINAL CORD	240
940-949 BURNS	213
925-929 CRUSHING INJURY	68
990-995 OTHER AND UNSPECIFIED EFFECTS OF EXTERNAL CAUSES	31
996-999 COMPLICATIONS OF SURGICAL AND MEDICAL CARE, NOT ELSEWHERE CLASSIFIED	13
960-979 POISONING BY DRUGS, MEDICINAL, AND BIOLOGICAL SUBSTANCES	4
930-939 EFFECTS OF FOREIGN BODY ENTERING THROUGH ORIFICE	3
905-909 LATE EFFECTS OF INJURIES, POISONINGS, TOXIC EFFECTS, AND OTHER EXTERNAL CAUSES	3
980-989 TOXIC EFFECTS OF SUBSTANCES CHIEFLY NON-MEDICINAL AS TO SOURCE	2
*BLANK	8221
*NOT DOCUMENTED	2069
Total **	56879

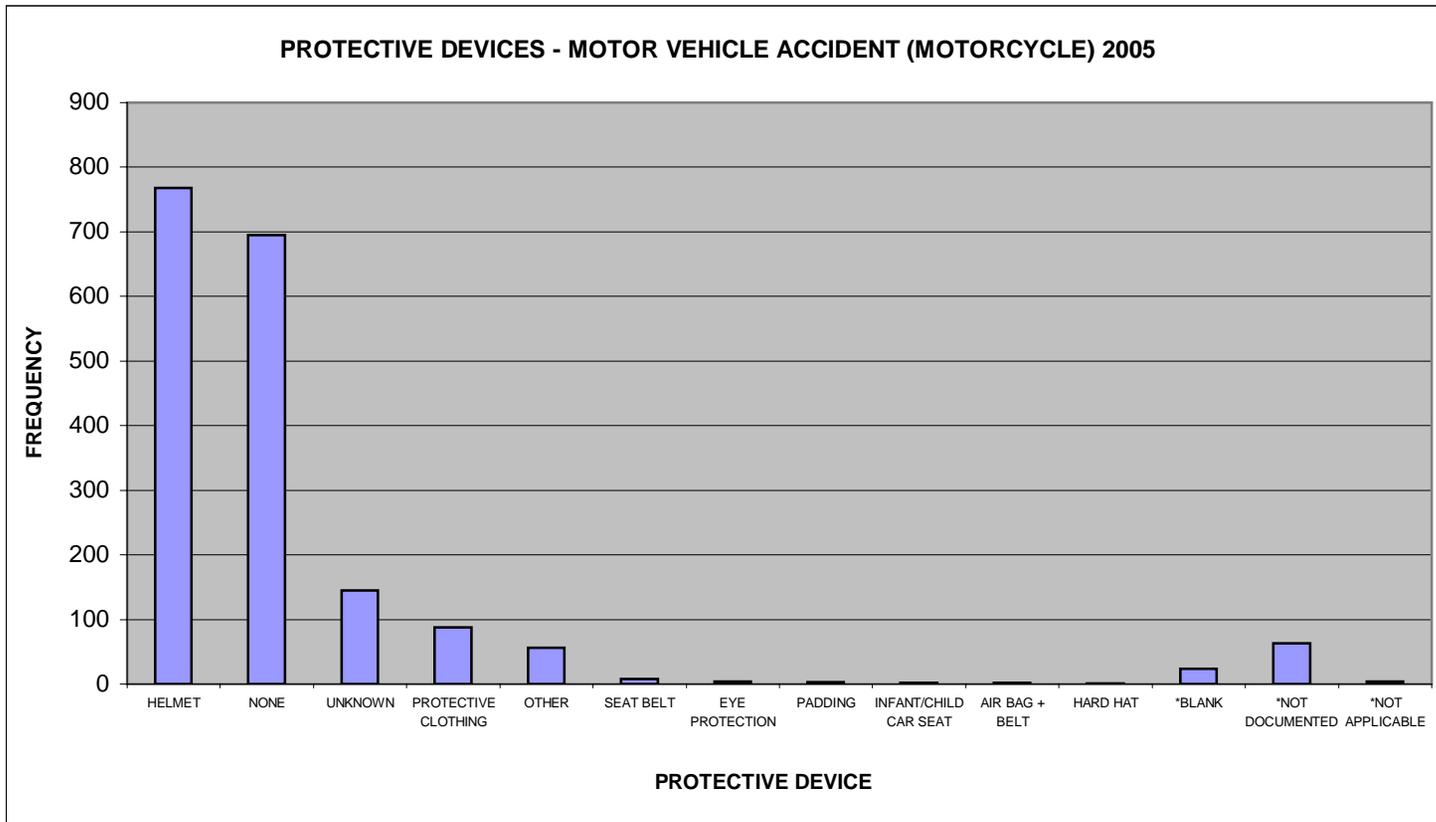
\*\* Note: The ICD9-CM diagnosis field allows for entry of multiple diagnoses per patient. The total in this report is based on the occurrence of the ICD-9-CM diagnosis and is not a total patient count.

**PROTECTIVE DEVICES MOTOR VEHICLE ACCIDENTS (NON-MOTORCYCLE) 2005**



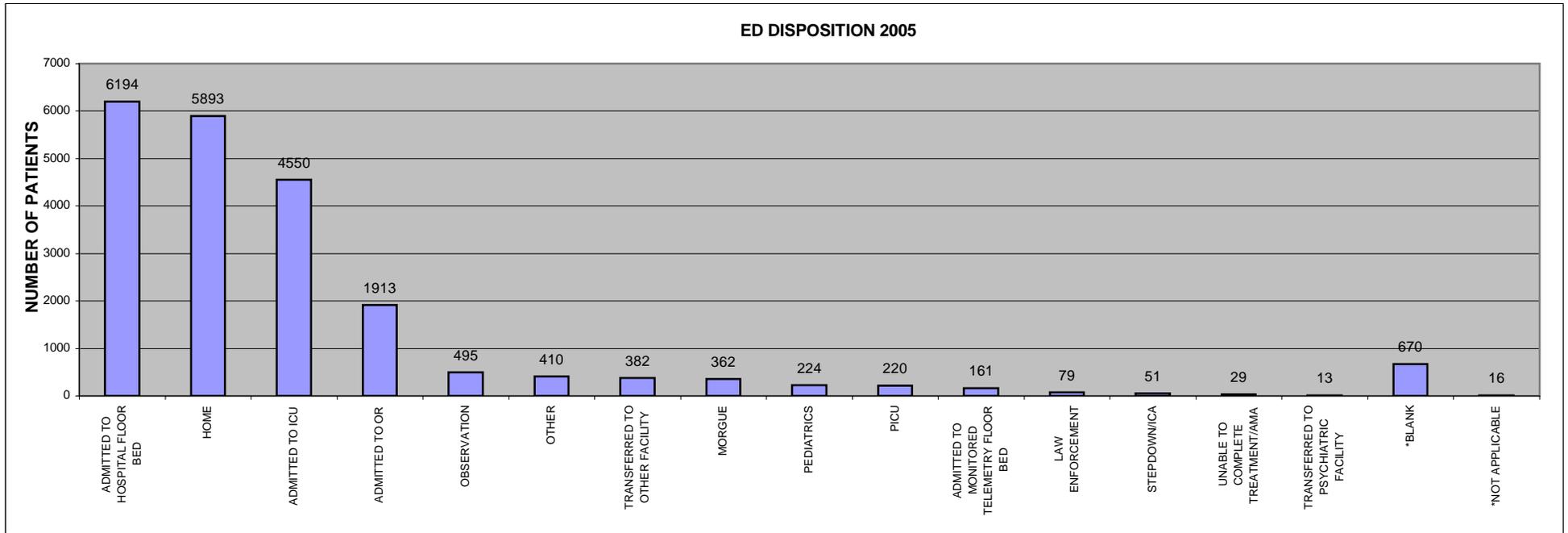
PROTECTIVE DEVICE	FREQUENCY
SEAT BELT	4609
NONE	3589
AIR BAG DEPLOYED	1171
AIR BAG + BELT	414
UNKNOWN	353
HELMET	261
INFANT/CHILD CAR SEAT	125
OTHER	33
PROTECTIVE CLOTHING	25
SHOULDER HARNESS	9
EYE PROTECTION	2
PADDING	2
*BLANK	312
*NOT DOCUMENTED	607
*NOT APPLICABLE	763
<b>TOTAL</b>	<b>12275</b>

**PROTECTIVE DEVICES MOTOR VEHICLE ACCIDENTS (MOTORCYCLE) 2005**



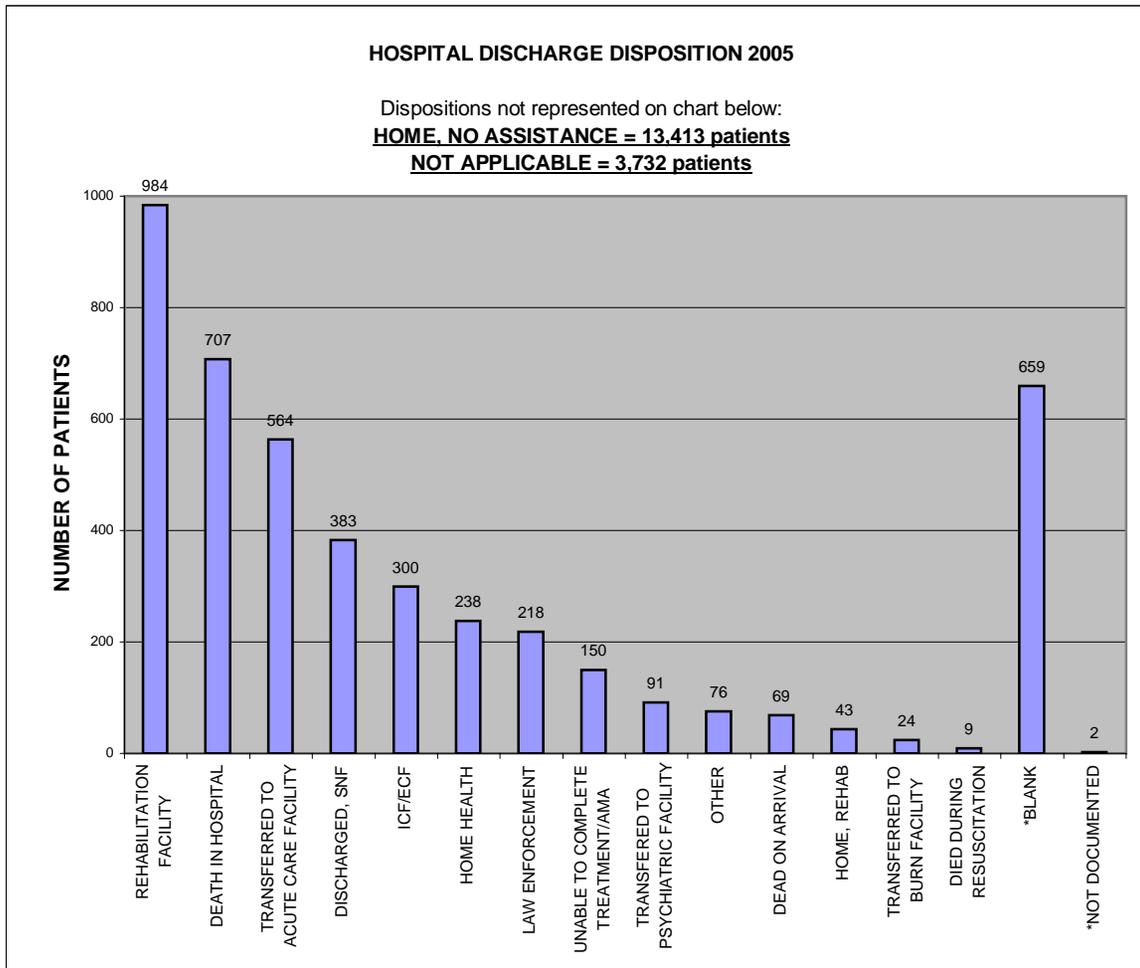
PROTECTIVE DEVICE	FREQUENCY
HELMET	768
NONE	695
UNKNOWN	145
PROTECTIVE CLOTHING	88
OTHER	56
SEAT BELT	8
EYE PROTECTION	4
PADDING	3
INFANT/CHILD CAR SEAT	2
AIR BAG + BELT	2
HARD HAT	1
*BLANK	24
*NOT DOCUMENTED	63
*NOT APPLICABLE	4
<b>TOTAL</b>	<b>1863</b>

## EMERGENCY DEPARTMENT DISPOSITION 2005



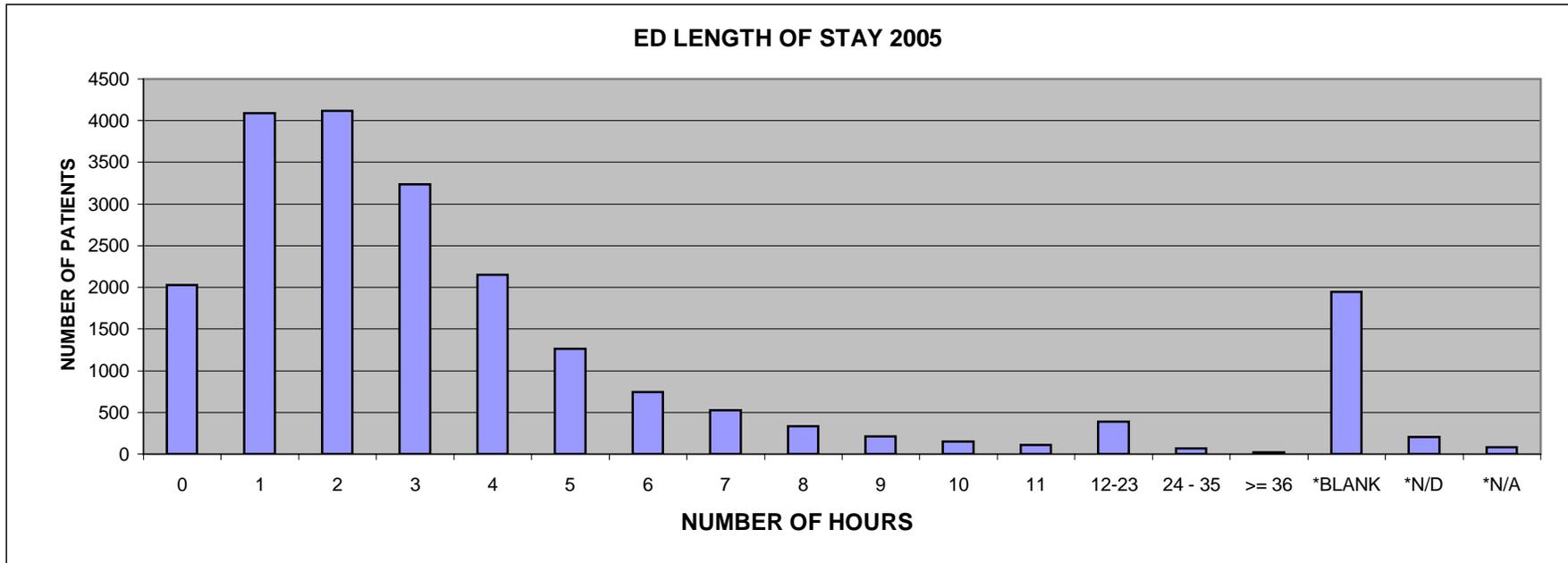
ED DISPOSITION	NUMBER	PERCENTAGE
ADMITTED TO HOSPITAL FLOOR BED	6194	28.59
HOME	5893	27.20
ADMITTED TO ICU	4550	21.00
ADMITTED TO OR	1913	8.83
OBSERVATION	495	2.29
OTHER	410	1.89
TRANSFERRED TO OTHER FACILITY	382	1.76
MORGUE	362	1.67
PEDIATRICS	224	1.03
PICU	220	1.02
ADMITTED TO MONITORED TELEMETRY FLOOR BED	161	0.74
LAW ENFORCEMENT	79	0.36
STEPDOWN/ICA	51	0.24
UNABLE TO COMPLETE TREATMENT/AMA	29	0.13
TRANSFERRED TO PSYCHIATRIC FACILITY	13	0.06
*BLANK	670	3.09
*NOT APPLICABLE	16	0.07
<b>TOTAL</b>	<b>21662</b>	<b>100.00</b>

## HOSPITAL DISCHARGE DISPOSITION 2005



DISCHARGE DISPOSITION	NUMBER	PERCENT
HOME, NO ASSISTANCE	13413	61.92
REHABILITATION FACILITY	984	4.54
DEATH IN HOSPITAL	707	3.26
TRANSFERRED TO ACUTE CARE FACILITY	564	2.60
DISCHARGED, SNF	383	1.77
ICF/ECF	300	1.38
HOME HEALTH	238	1.10
LAW ENFORCEMENT	218	1.01
UNABLE TO COMPLETE TREATMENT/AMA	150	0.69
TRANSFERRED TO PSYCHIATRIC FACILITY	91	0.42
OTHER	76	0.35
DEAD ON ARRIVAL	69	0.32
HOME, REHAB	43	0.20
TRANSFERRED TO BURN FACILITY	24	0.11
DIED DURING RESUSCITATION	9	0.04
*BLANK	659	3.04
*NOT DOCUMENTED	2	0.01
*NOT APPLICABLE	3732	17.23
<b>TOTAL</b>	<b>21662</b>	<b>100.00</b>

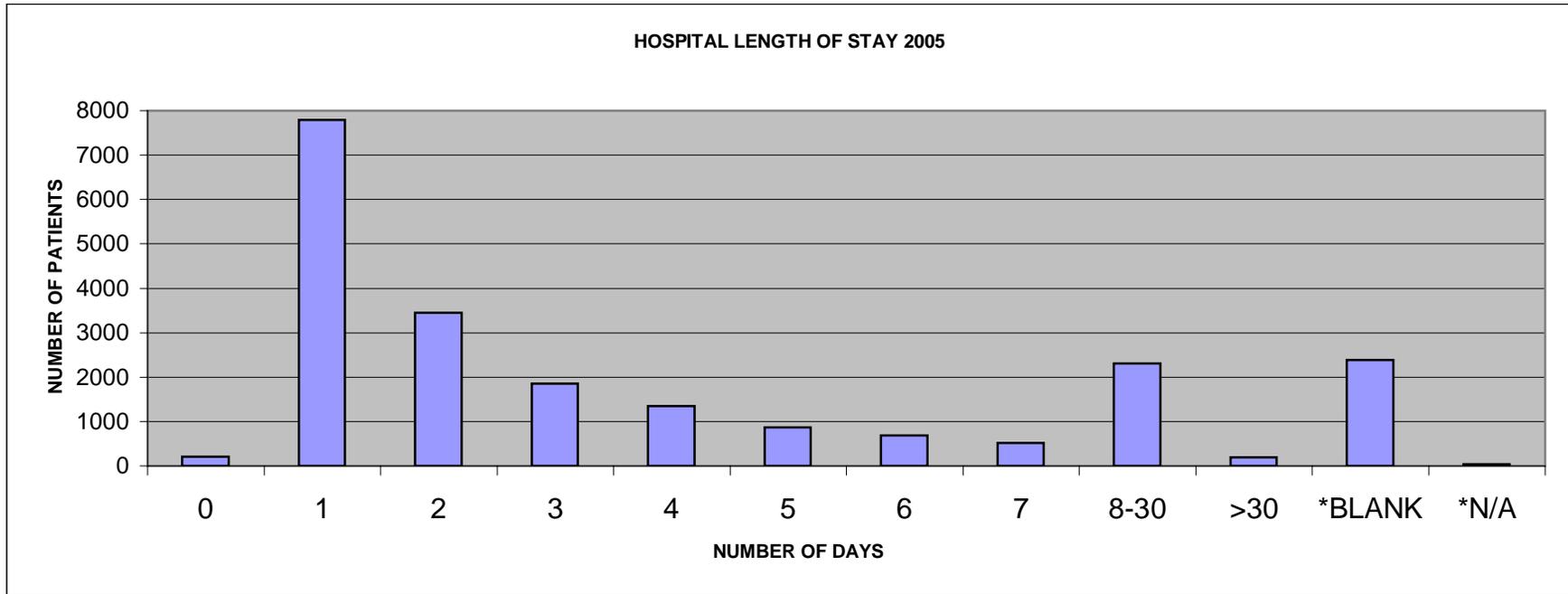
## LENGTH OF STAY (HOURS) IN EMERGENCY DEPARTMENT 2005



LENGTH OF STAY (HOURS) IN ED	NUMBER	PERCENTAGE
0	2025	9.35
1	4092	18.90
2	4116	19.01
3	3236	14.95
4	2153	9.94
5	1264	5.84
6	742	3.43
7	526	2.43
8	334	1.54
9	214	0.99
10	150	0.69
11	107	0.49
12-23	386	1.78
24 - 35	66	0.30
>= 36	22	0.05
*BLANK	1943	8.97
*N/D	203	0.94
*N/A	82	0.38
<b>TOTAL *</b>	<b>21661</b>	<b>100.00</b>

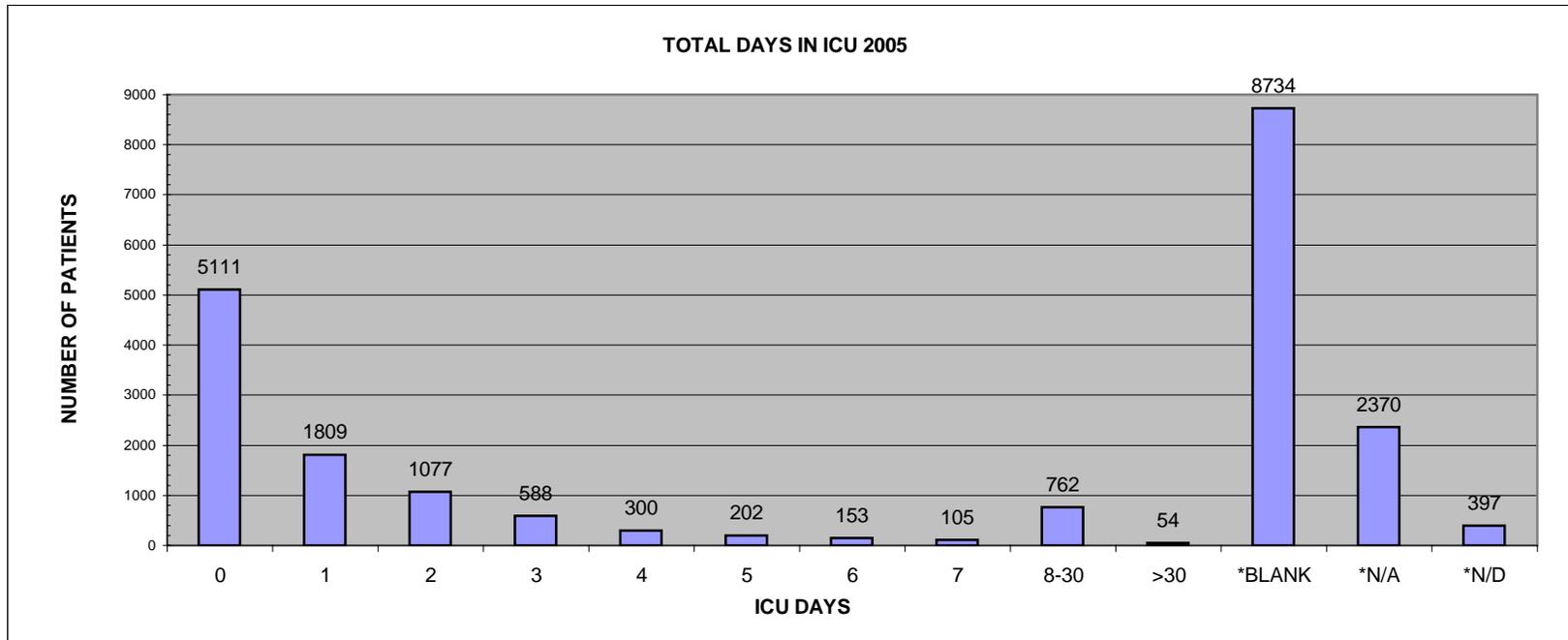
\*Note: This field needs further clean-up to address inconsistencies in the data. Values range from -22 to 8777 hours.

### HOSPITAL LENGTH OF STAY (DAYS) 2005



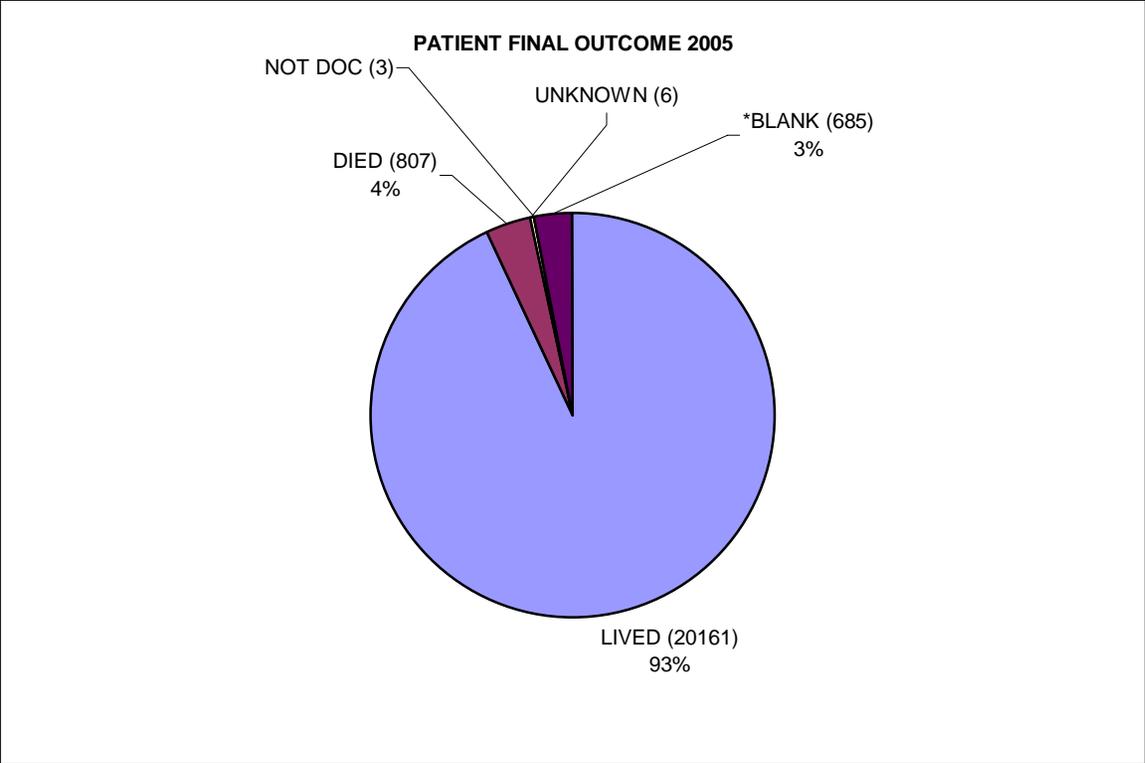
HOSPITAL LENGTH OF STAY (DAYS)	NUMBER	PERCENTAGE
0	207	0.96
1	7793	35.98
2	3448	15.92
3	1851	8.54
4	1353	6.25
5	873	4.03
6	683	3.15
7	523	2.41
8-30	2308	10.65
>30	199	0.92
*BLANK	2383	11.00
*N/A	41	0.19
<b>TOTAL</b>	<b>21662</b>	<b>100.00</b>

### TOTAL DAYS IN ICU 2005



TOTAL DAYS IN ICU	NUMBER	PERCENTAGE
0	5111	23.59
1	1809	8.35
2	1077	4.97
3	588	2.71
4	300	1.38
5	202	0.93
6	153	0.71
7	105	0.48
8-30	762	3.52
>30	54	0.25
*BLANK	8734	40.32
*N/A	2370	10.94
*N/D	397	1.83
<b>TOTAL</b>	<b>21662</b>	<b>100.00</b>

**PATIENT FINAL OUTCOME 2005**

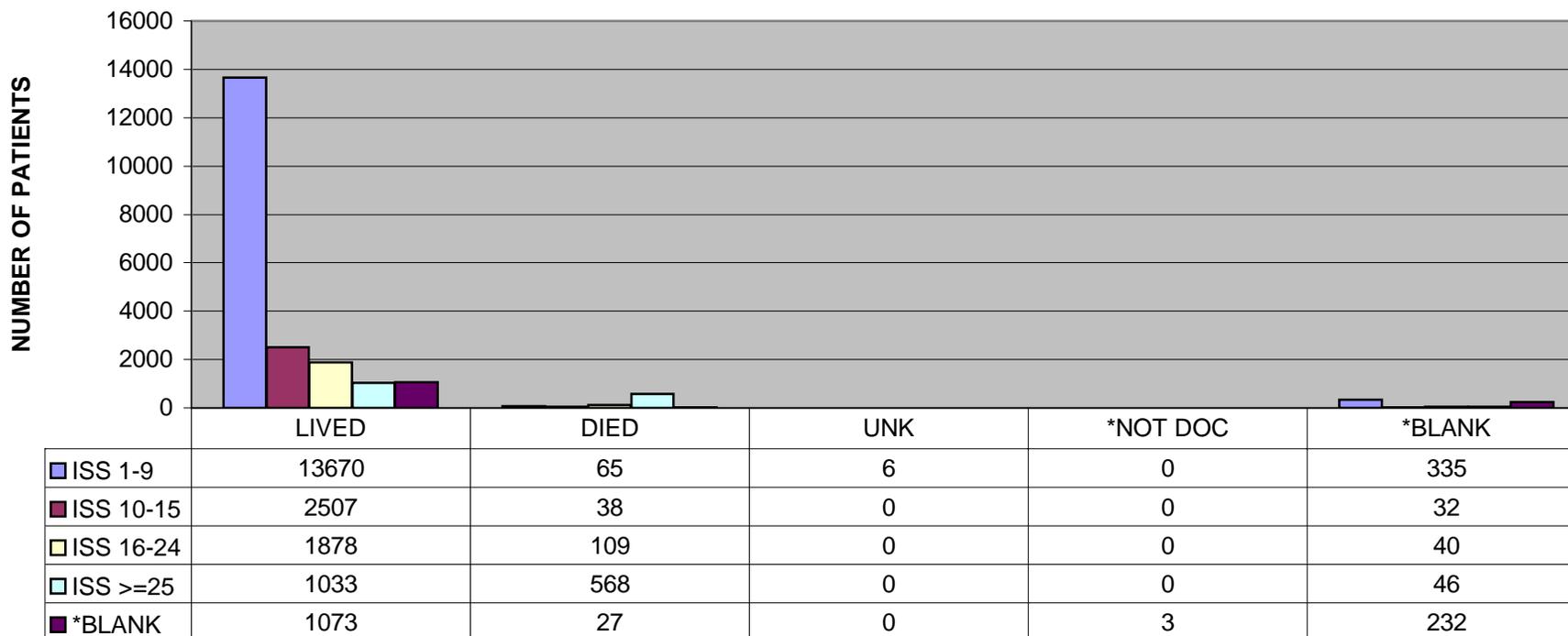


OUTCOME	NUMBER	PERCENT
LIVED	20161	93.07
DIED	807	3.73
UNKNOWN	6	0.03
*NOT DOC	3	0.01
*BLANK	685	3.16
<b>TOTAL</b>	<b>21662</b>	<b>100.00</b>

**Note: NOT DOC means Not Documented**

## INJURY SEVERITY SCORE BY PATIENT OUTCOME SUMMARY 2005

### ISS BY PATIENT OUTCOME SUMMARY 2005

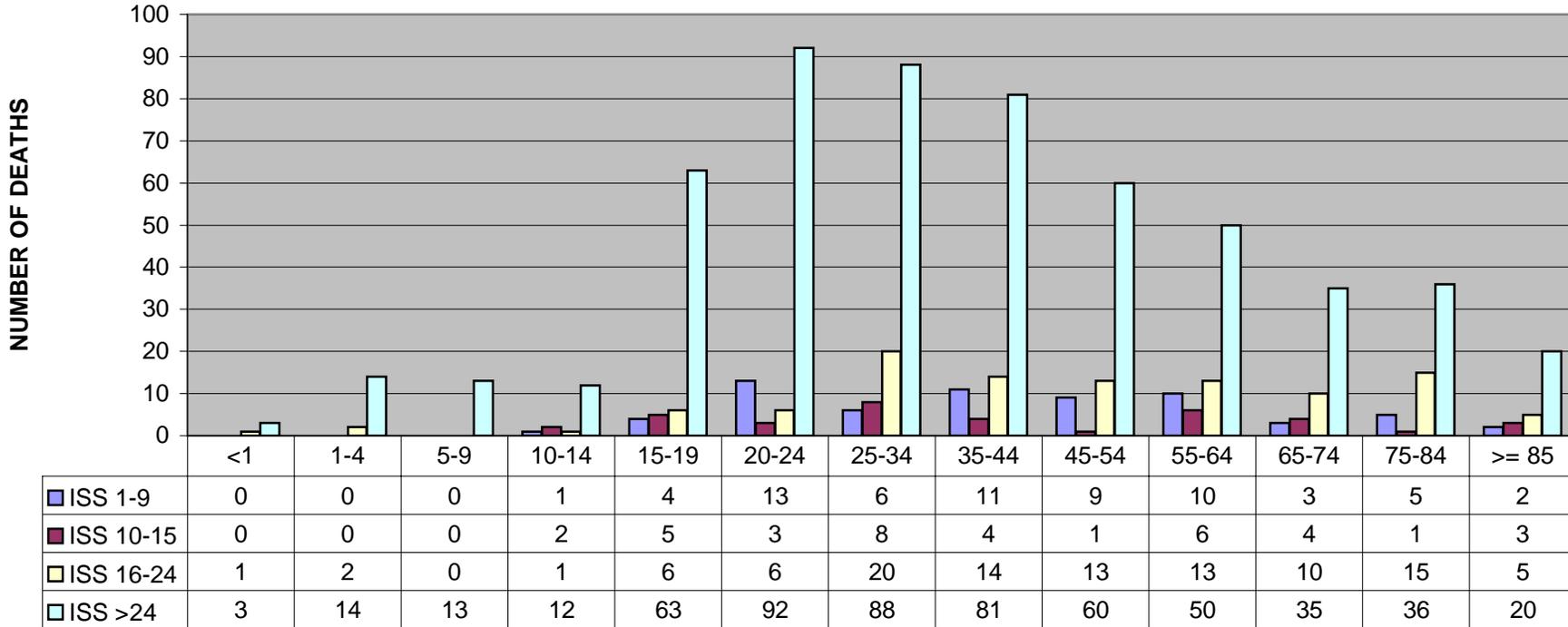


ISS	LIVED	DIED	UNK	*NOT DOC	*BLANK	TOTAL
ISS 1-9	13670	65	6	0	335	14076
ISS 10-15	2507	38	0	0	32	2577
ISS 16-24	1878	109	0	0	40	2027
ISS >=25	1033	568	0	0	46	1647
*BLANK	1073	27	0	3	232	1335
<b>TOTAL</b>	<b>20161</b>	<b>807</b>	<b>6</b>	<b>3</b>	<b>685</b>	<b>21662</b>

**Note: NOT DOC means Not Documented**

DEATHS BY ISS SCORE AND AGE 2005

DEATHS BY ISS SCORE AND AGE 2005



AGE	ISS 1-9	ISS 10-15	ISS 16-24	ISS >24	TOTAL
<1	0	0	1	3	4
1-4	0	0	2	14	16
5-9	0	0	0	13	13
10-14	1	2	1	12	16
15-19	4	5	6	63	78
20-24	13	3	6	92	114
25-34	6	8	20	88	122
35-44	11	4	14	81	110
45-54	9	1	13	60	83
55-64	10	6	13	50	79
65-74	3	4	10	35	52
75-84	5	1	15	36	57
>= 85	2	3	5	20	30
<b>TOTAL</b>	<b>64</b>	<b>37</b>	<b>106</b>	<b>567</b>	<b>774</b>

Note: Patient count = 807, Patients processed = 774