

NATIONAL TRAUMA DATA BANK

OVERVIEW

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OVERVIEW OF NTDB

- Start in 1983 as the Major Trauma Outcome Study
- Maintained by the American College of Surgeons
- Aggregation of US/Canadian trauma registry data
- Contains 5 million records
- Data abstracted by trauma registrars
- 2010: 722,824 admissions, 697 facilities

American College of Surgeons

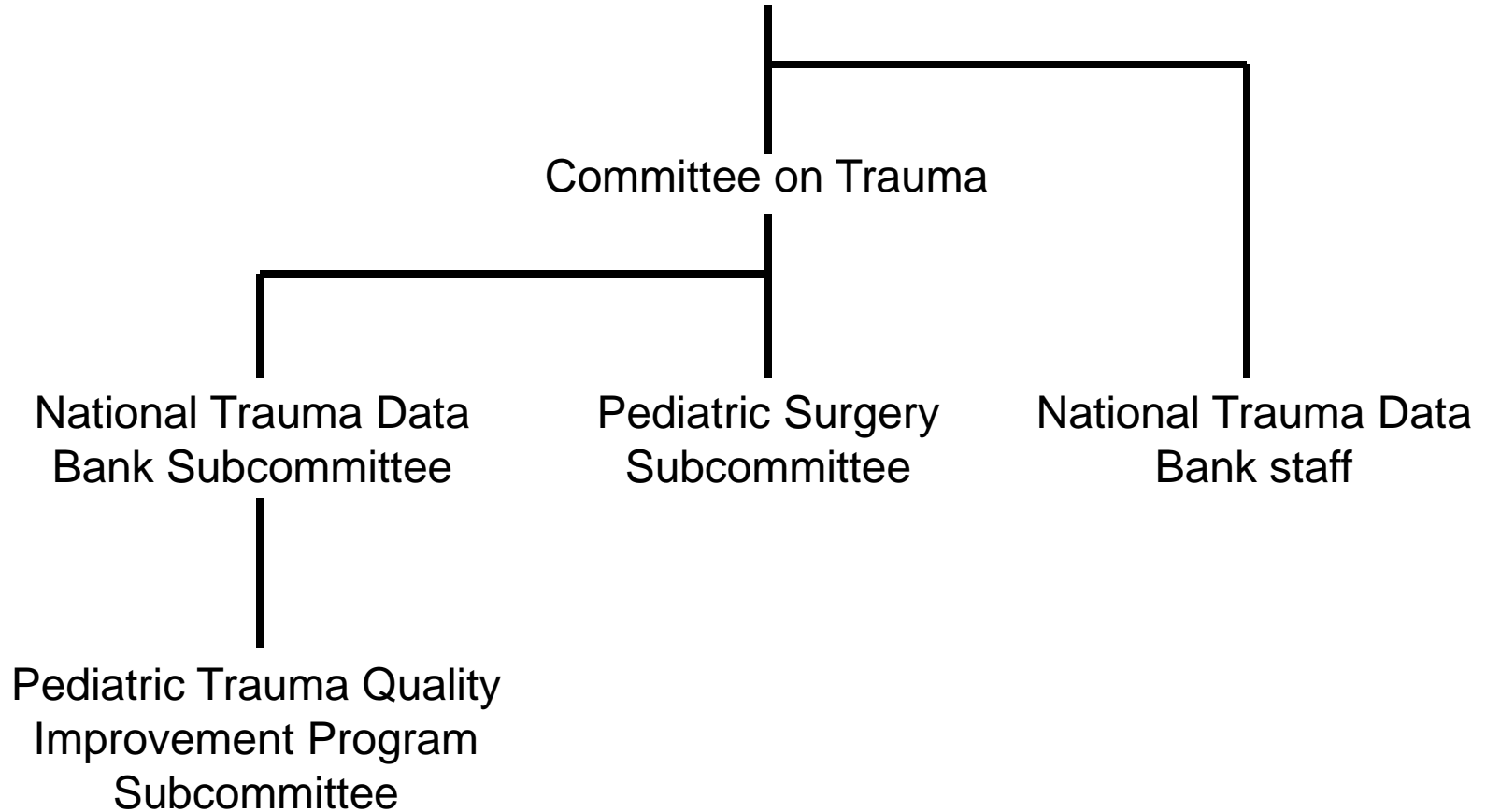
Committee on Trauma

National Trauma Data
Bank Subcommittee

Pediatric Surgery
Subcommittee

National Trauma Data
Bank staff

Pediatric Trauma Quality
Improvement Program
Subcommittee



MECHANISM OF INJURY

- Injury type
 - *Blunt*
 - *Penetrating*
 - *Crush*
 - *Other*
- E-code
 - *Location*
 - *Mechanism*

INJURY CODING

- ICD-9 (conversion to ICD-10 in 2013)
- AIS coding
 - Complete digit
 - Post-dot values

OUTCOME MEASURES

- Mortality
- LOS
- Disposition
- Complications
- Others indirect (e.g., intracranial monitoring)

STRENGTHS OF NTDB

- Data validation processes used
- Rapid, annual updates
- Contains data from most major US trauma centers
- Contains information about severely injured patients
- Use of National Trauma Data Standard

WEAKNESSES OF NTDB

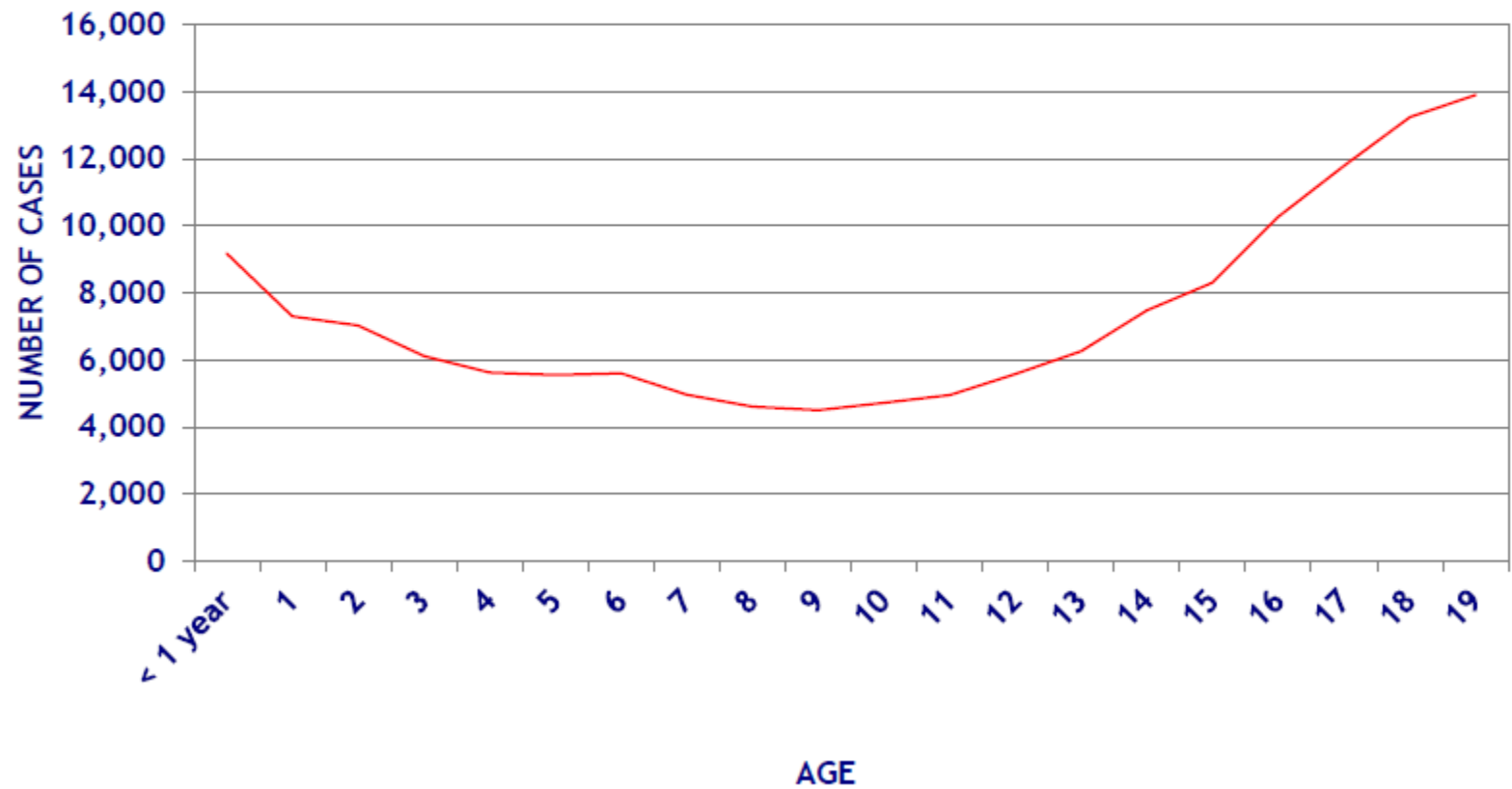
- Not a representative sample of hospitals
- Not representative sample of trauma centers
- Few prehospital variables
- Inpatient admissions only
- Few clinical variables (SBP, RR, GCS, temp)
- Persistent reporting inconsistencies (DOA, hip fractures)
- No validation of abstracting process
- Post admission data limited to site of disposition

INCIDENTS AND CASE FATALITY RATES BY AGE

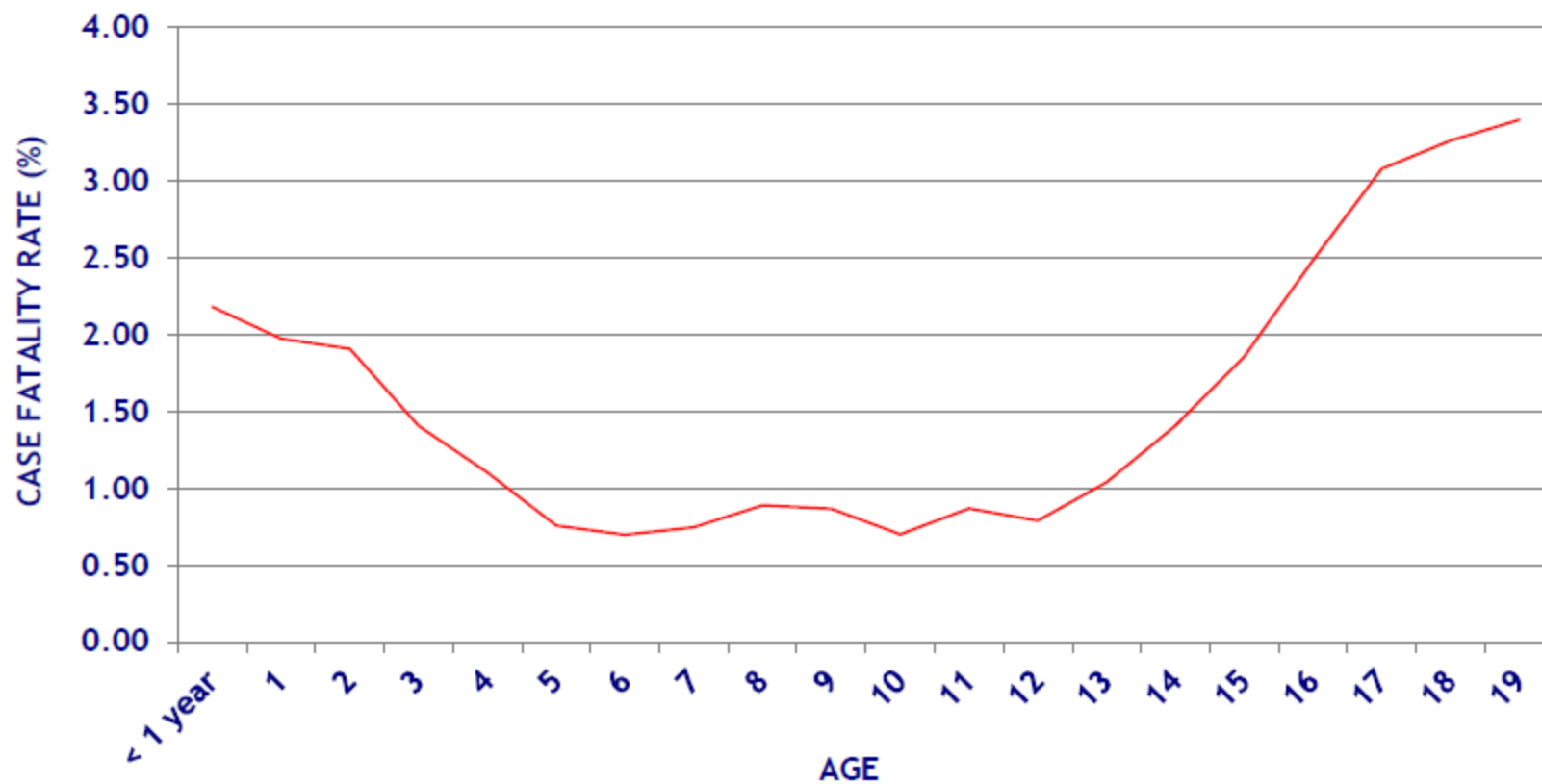
AGE	NUMBER	PERCENT	DEATHS	CASE FATALITY RATE
< 1 year	9,175	6.24	200	2.18
1	7,301	4.97	144	1.97
2	7,029	4.78	134	1.91
3	6,120	4.16	86	1.41
4	5,627	3.83	62	1.10
5	5,551	3.78	42	0.76
6	5,600	3.81	39	0.70
7	4,960	3.38	37	0.75
8	4,609	3.14	41	0.89
9	4,500	3.06	39	0.87
10	4,720	3.21	33	0.70
11	4,957	3.37	43	0.87
12	5,580	3.80	44	0.79
13	6,257	4.26	65	1.04
14	7,474	5.09	105	1.40
15	8,302	5.65	154	1.85
16	10,267	6.99	255	2.48
17	11,795	8.03	363	3.08
18	13,236	9.01	432	3.26
19	13,893	9.45	472	3.40
Total	146,953	100.00	2,790	

1.8%

Incidents by Age



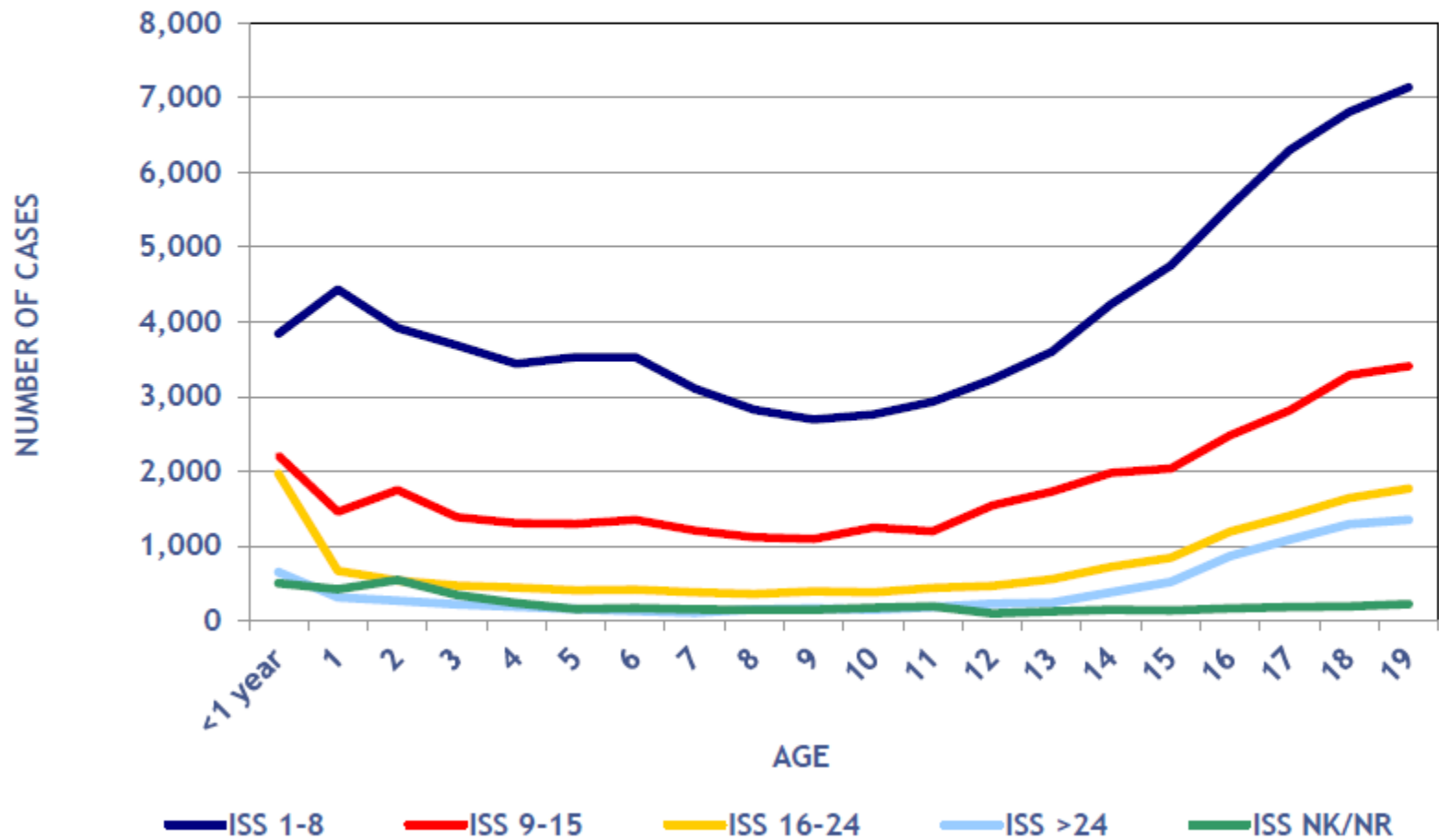
Case Fatality Rate by Age



Incidents and Case Fatality Rate by Mechanism of Injury

MECHANISM	NUMBER	PERCENT	DEATHS	CASE FATALITY RATE
Fall	46,312	31.51	100	0.22
Motor Vehicle Traffic	37,321	25.40	1,176	3.15
Struck by, against	15,945	10.85	68	0.43
Transport, other	10,853	7.39	129	1.19
Firearm	6,907	4.70	805	11.65
Cut/pierce	5,550	3.78	68	1.23
Pedal cyclist, other	5,250	3.57	11	0.21
Other specified and classifiable	4,873	3.32	249	5.11
Hot object/substance	4,229	2.88	5	0.12
Natural/environmental, Bites and stings	2,057	1.40	7	0.34
Unspecified	1,607	1.09	31	1.93
Fire/flame	1,578	1.07	28	1.77
Other specified, not elsewhere classifiable	870	0.59	5	0.57
Pedestrian, other	765	0.52	21	2.75
Overexertion	682	0.46	0	0.00
Natural/environmental, Other	662	0.45	4	0.60
Machinery	558	0.38	4	0.72
Suffocation	156	0.33	42	8.61
Drowning/submersion	140	0.11	24	15.38
Poisoning	99	0.10	1	0.71
NK/NR	488	0.07	11	11.11
Total	146,953	99.97	2,790	

Incidents by Injury Severity Score and Age



POTENTIAL USEFULNESS OF NTDB FOR NON-CRASH INJURIES

- Inpatient management
 - Treatments applied
 - Complications
- Outcome of severely injured children
 - Mortality
 - Disposition
 - Resource utilization