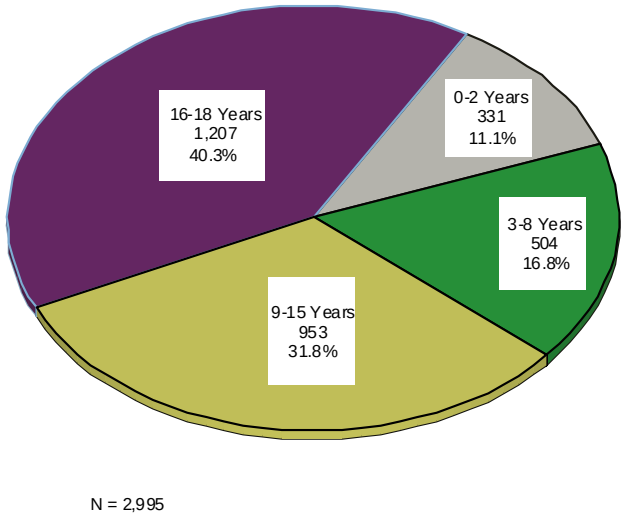
PEDIATRIC TRAUMA

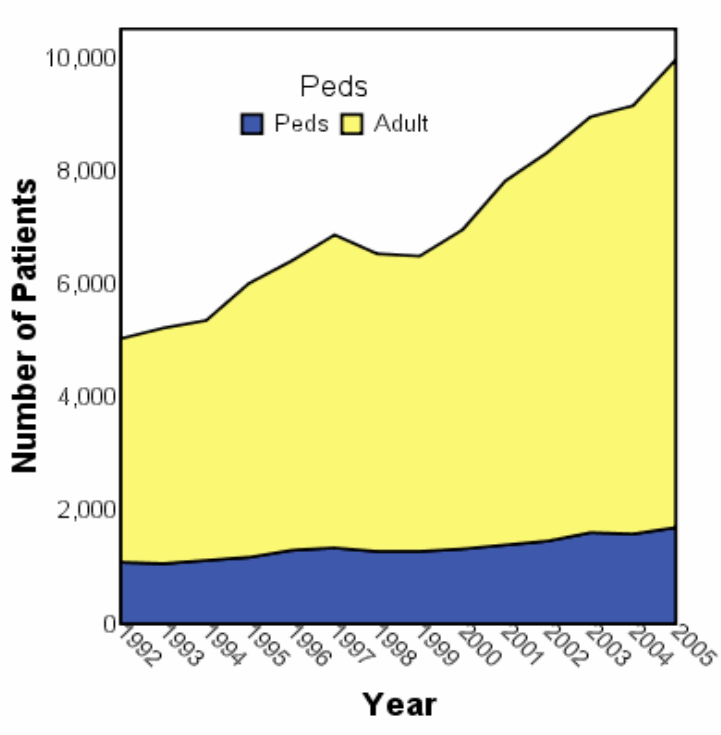
Figure 55 shows the age groups of the 2,995 pediatric patients who used the services of the Oregon trauma system. Five percent were age one year or less and 40.3% were in the driving years between 16-18 years of age.

Figure 55: Ages of Pediatric Trauma



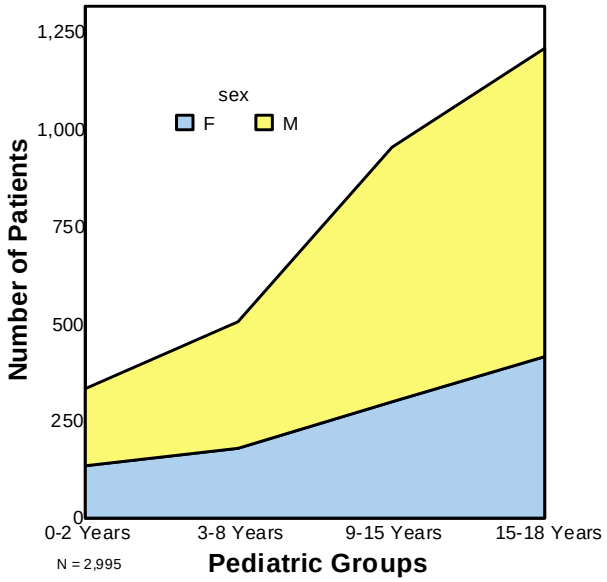
While adult trauma injuries have been rising, pediatric trauma injuries have remained fairly steady since 1992.

Figure 56: Trend of Pediatric and Adult Trauma Volume



Male children suffer traumatic injuries at a 2:1 rate compared to females until age 4, at which time the rate climbs to a 3:1 ratio. The ratio of male to female injuries continues to increase into young adulthood.

Figure 57: Pediatric Trauma Volume by Age Group



The most frequent causes of pediatric trauma are motor vehicle crashes (50%) and falls (17.7%). The most lethal mechanisms were suffocation and drowning, with mortality rates of 30.0% and 29.4%, respectively.

Table 4: Pediatric Trauma Injuries by Highest Mechanism of Injury

Mechanism of Injury	Alive	Dead	Total
MV Occupant	1135	20	1155
Fall	527	3	530
Transport, other	287	6	293
Struck by, against	199	4	203
MV Pedestrian	185	7	192
Pedal Cyclist, other	142	0	142
Cut/Pierce	87	3	90
MV Pedal Cyclist	82	1	83
Firearm	52	7	59
Other specified	47	0	47
MV Motorcyclist	39	0	39
Natural/Environment	24	1	25
Pedestrian, other	24	0	24
MV NEC	17	0	17
Unspecified	15	2	17
Drowning	12	5	17
Machinery	11	1	12
Suffocation	7	3	10
Hot Object	8	0	8
Fire	7	0	7
MV Unspecified	8	1	9
Other specified, NEC	5	0	5
Bites & Stings	3	0	3
Overexertion	3	0	3
Motor Vehicle	1	0	1
Poisoning	2	0	2
Totals	2929	64	2993

Table 5: Injury Detail for Pediatric Traumatic Falls

Type of Fall	Number	Percent
INTENTIONAL:		
Assault by pushing from high place	1	0.2
ACCIDENTAL:		
Fall on same level		
….Fall from non-motor scooter	3	0.6
….Fall from roller skates	7	1.3
….Fall from skateboard	33	6.2
….Fall from skis	3	0.6
….Fall from snowboard	16	3
….Fall on same level from slipping, tripping and stumbling	26	4.9
….Fall in sports	29	5.5
Fall from one level to another		
….Fall on stairs/steps NEC	23	4.3
….Fall from ladder	10	1.9
….Fall from scaffolding	1	0.2
….Fall from building	104	19.6
….Diving accident	8	1.5
….Fall into other hole	1	0.2
….Fall from playground equipment	34	6.4
….Fall from cliff	8	1.5
….Fall from chair	12	2.3
….Fall from bed	7	1.3
….Fall from other furniture	7	1.3
….Fall from one level to another NEC	142	26.8
Fall strike head on sharp object	4	0.8
Fall strike head on other object	17	3.2
Other/Unspecified fall	31	5.9
SELF-INFLICTED:		
Jump from residence	1	0.2
Jump from structure NEC	1	0.2
UNDETERMINED:		
Undetermined fall from structure NEC	1	0.2
Total	530	100

NEC = Not elsewhere classified
NOS = Not otherwise specified

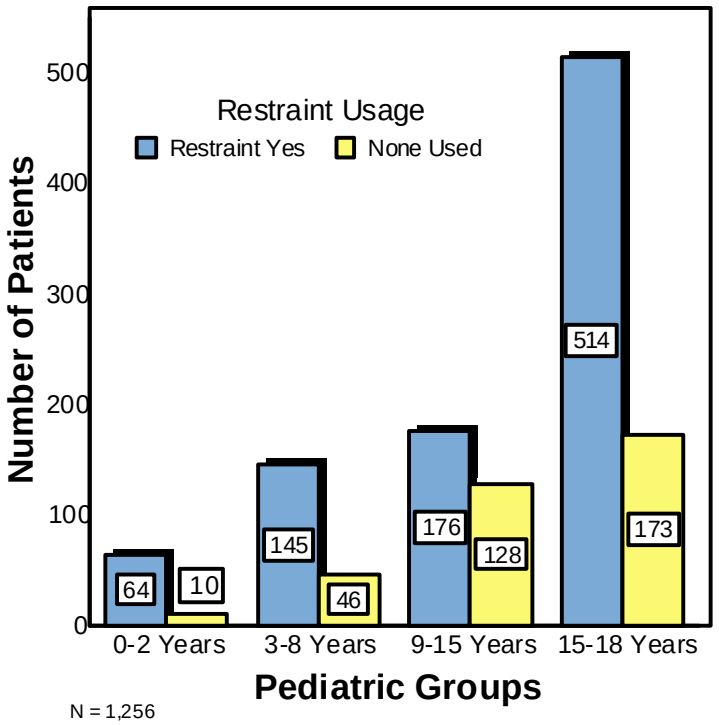
Table 5 provides specific detail for pediatric trauma patients who received hospital care for their fall injuries. The largest category of injuries are unspecified falls from one level to another (26.8%). Of those injuries where the location is specified, falls from buildings and other structures such as balconies, walls and bridges are the largest group (19.6%), followed by playground equipment (6.4%) and skateboards (6.2%).

The three pediatric fatalities that resulted from falls included one fall from skis, one fall from a snowboard, and one fall on stairs.

Overall restraint use (lap belts, shoulder harnesses, and child safety seats) for pediatric patients injured in motor vehicle crashes was 71.6%. This is an increase from 66% in 2002-03.

The highest restraint use was in the 0-2 year age group (86.5%) and the lowest was in the School age group (57.9%). About three quarters of the 3-8 and 15-18 year olds used restraints (75.9% and 74.8%, respectively).

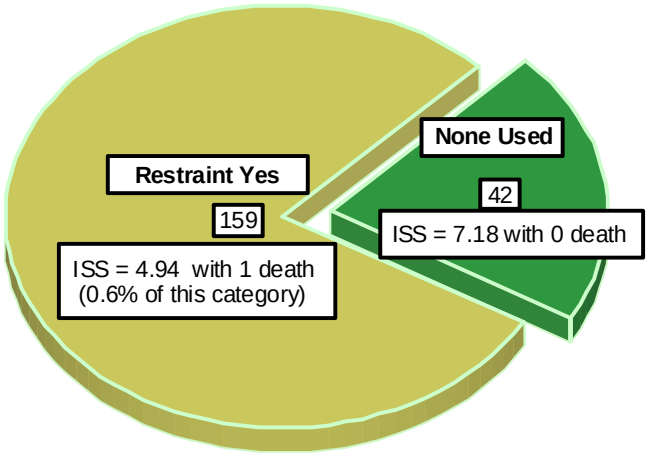
Figure 58: Pediatric Safety Device Use in Motor Vehicle Crashes



N = 1,256

Children under 4 years of age and under 40 pounds are required by Oregon law to be properly secured with a child safety system. As of January 1, 2002, children between 4 and 6 years of age, or who weigh 40-60 pounds, are required to ride in booster seats. Of the 201 trauma patients under the age of 6 who required trauma center care after a motor vehicle crash, 79.1% were restrained in the vehicle. That is an increase from 69% in 2002-03. The restrained pediatric passengers suffered a lower Injury Severity Score (average 4.9) compared to the patients who were not restrained (average 7.2).

Figure 59: Pediatric Restraint Use for Children Under 6 Years of Age

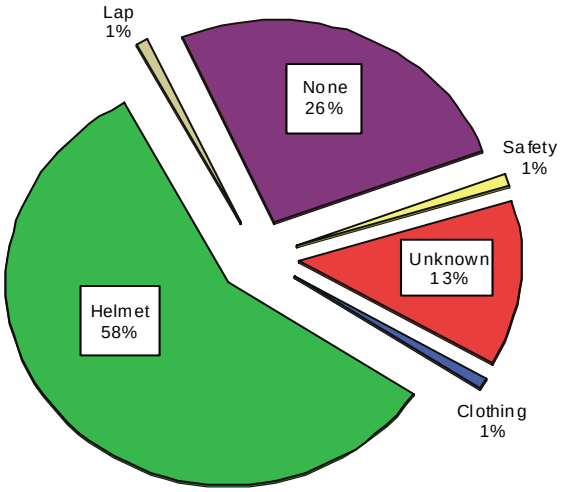


N = 201, ISS = Injury Severity Score.

All Terrain Vehicles (ATVs) are a growing recreational sport vehicle in Oregon. Fifty-eight percent of children injured when the ATV they were driving or riding on crashed were wearing helmets at the time. That is an increase from 38% in 2002-03.

"Lap" = Lap Belt
"Safety" = Other protective equipment

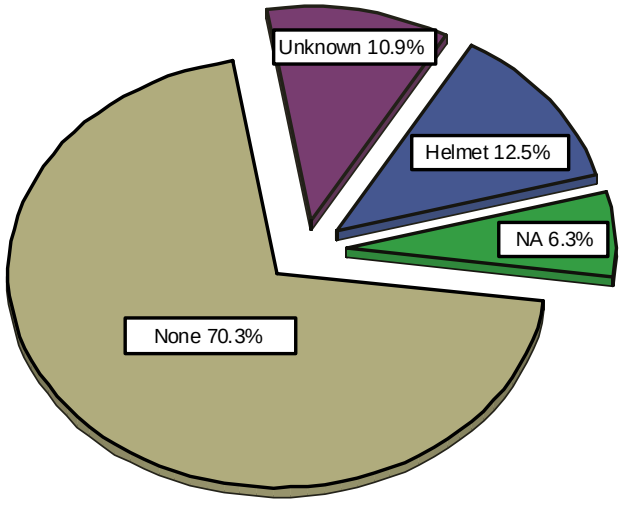
Figure 60: Use of Protective Equipment in Pediatric ATV Crashes



N = 107

Helmets were not used by 70.3% of pediatric patients who were injured while using roller skates, in-line skates, or skateboards and who required hospital care as a result.

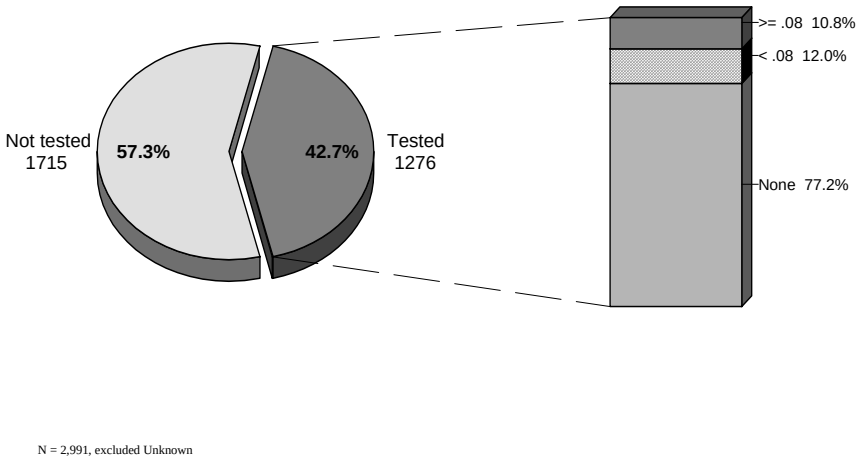
Figure 61: Helmet Use in Pediatric Skate and Skateboard Crashes



N = 64

Figure 62 shows that for 2,991 injured pediatric patients across the state, 42.7% were tested for alcohol use. Of those tested, 22.8% tested positive for blood alcohol levels: 12.0% had an alcohol level less than .08 gm/100cc, and 10.8% were positive at a level above the legal limit of .08 gm/100cc.

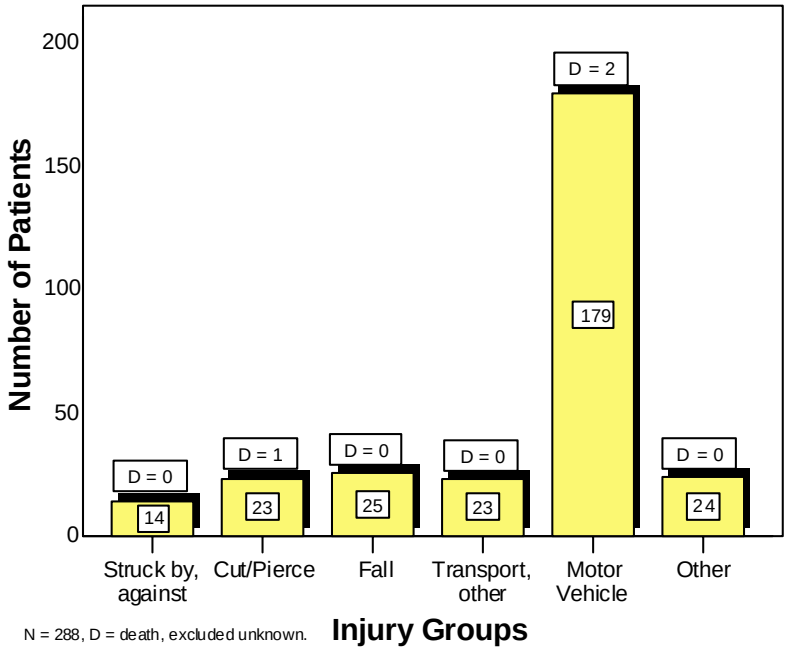
Figure 62: Alcohol Use Among Injured Pediatric Patients



N = 2,991, excluded Unknown

Of the 288 pediatric trauma patients who tested positive for alcohol, the majority (62%) were involved in a motor vehicle crash.

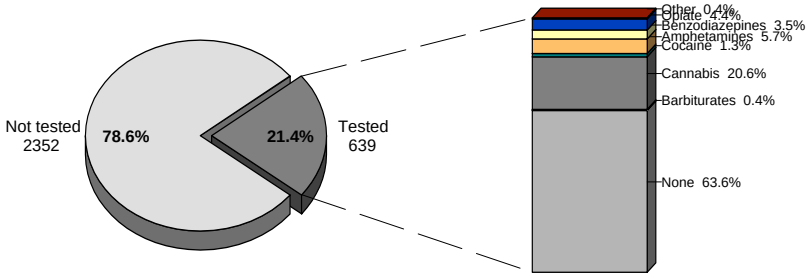
Figure 63: Positive Test for Alcohol in Pediatric Patients by Injury Group



N = 288, D = death, excluded unknown.

Figure 64 shows that for 2,991 injured pediatric patients, 21.4% underwent urine or blood testing for drug use. Of those tested, 36.4% tested positive for drugs of abuse. The most frequently reported drug was cannabis (20.6%). These tests are not mutually exclusive, and patients frequently have positive test results for more than one drug. In this group, 78.6% had one drug present; 20.0% had two drugs detected; and 1.4% tested positive for three or more drugs.

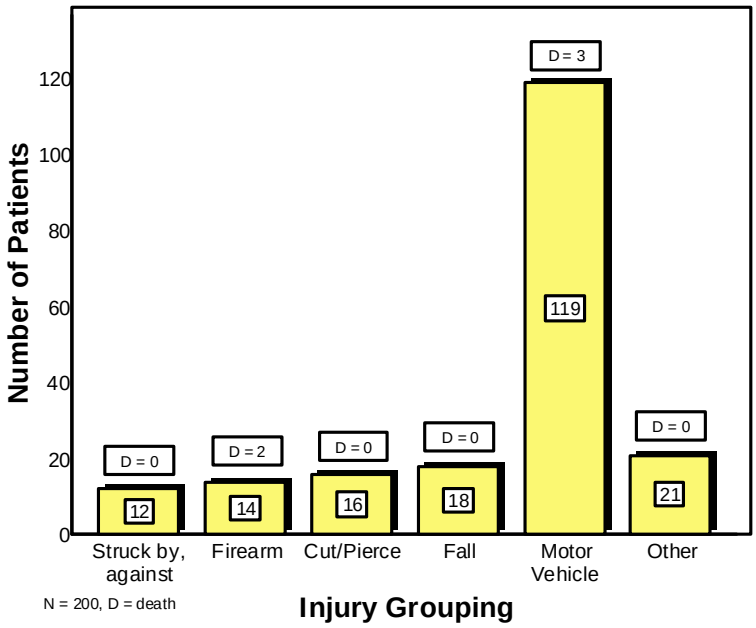
Figure 64: Drug Use Among Injured Pediatric Patients



N = 2,991. Excluded Unknown, not mutually exclusive

Of the 200 pediatric trauma patients who tested positive for drugs of abuse, the majority (59.5%) were involved in a motor vehicle crash.

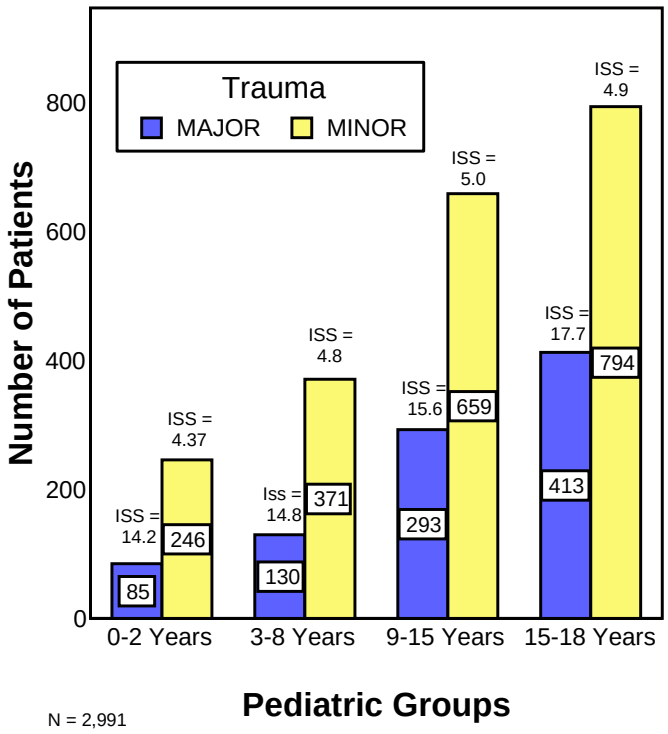
Figure 65: Positive Test for Drug Use in Pediatric Patients by Injury Group



N = 200, D = death

Figure 66 identifies the average Injury Severity Score (ISS) for pediatric patients suffering Major Trauma and Minor Trauma injury.

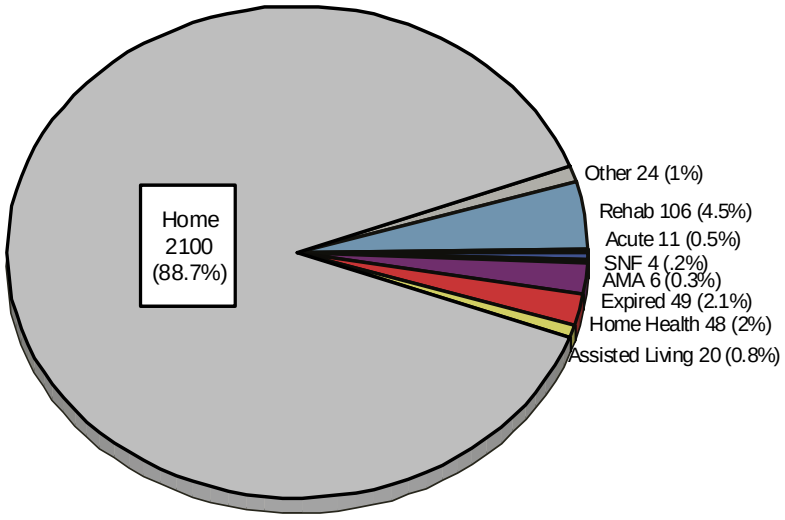
Figure 66: Major and Minor Pediatric Trauma by Age Group



N = 2,991

Figure 67 displays the disposition of pediatric trauma patients who were hospitalized for definitive care of their injuries. Almost eighty-nine percent of patients were able to return home, with an additional 2.0% requiring home health services. Nearly 5% continued their recovery in a rehabilitation center, while 2.1% died during their hospital stay. The remaining 2.8% either left the hospital against medical advice (AMA) or were discharged to an assisted living facility, a skilled nursing facility (SNF), another acute care facility, psychiatric facility, or law enforcement custody.

Figure 67: Pediatric Patient Disposition Following Hospitalization



N = 2,368, exclude unknown.