

CEMSIS-TRAUMA

TRAUMA

DATA

WAREHOUSE

Emergency Medical Services Authority



EMSA's Goal

Implement the California Emergency Medical Services Information System (CEMSIS) to include statewide data on Emergency Medical Services (EMS) and Trauma activities throughout the State. This data will be collected from each Local EMS Agency (LEMSA) and be linked with other statewide data systems, including hospital emergency department and discharge data (Office of Statewide Health Planning and Development-OSHDP), Statewide Integrated Traffic Records System (SWITRS), and Vital Statistics.

Purpose

A data warehouse has been created with the capability of matching data from LEMSAs and other state agencies using generalized application software specifically designed to perform the probabilistic matching necessary to link the data. With the addition of standardized data, the EMS Authority will use the internet as a mechanism to make the results available in the form of data files, as well as standardized and Ad hoc reports.

Definitions

Trauma Injury is any severe or life-threatening injury. The National Center for Health Statistics lists trauma among the five leading causes of death in the United States and the leading cause of death for people 1—44 years old.

Blunt Force Trauma, blunt trauma, blunt injury, or non-penetrating trauma refers to injuries from rapid forward deceleration (collision) and rapid vertical deceleration (falls) or energy transfer from blunt instrument (baseball bat, blackjack).

Penetrating Trauma is an injury that occurs when an object pierces the skin and enters a tissue of the body, creating an open wound.

Local EMS Agencies submitting Trauma data

Date Range: January 1, 2009—June 30, 2009

Participating Agencies:

Alameda
Los Angeles
Orange
Santa Clara

Contra Costa
Northern California
Santa Barbara
San Diego

The Center for Disease Control (CDC) states that in the United States, injuries are the leading cause of death and disability for people aged 1 to 44 years. Approximately 72% of all deaths among adolescents aged 10-24 years are attributed to injuries from only four causes: motor vehicle crashes (30%), all other unintentional injuries (15%), homicide (15%), and suicide (12%). Highly associated with these injuries are adolescent behaviors such as physical fights, carrying weapons, making a suicide plan, and not using seatbelts. In 2007, 36% of high school students had been in a physical fight in the past 12 months, 18% had carried a weapon in the past 30 days, 11% had made a plan about how they would attempt suicide in the past 12 months, and 11% never or rarely wore a seat belt when riding in a car.

The chart below indicates trauma injuries reported in the above five counties. The data indicates that of traumatic injuries blunt, more so than penetrating, is a leading cause of injuries in California. Age group 15 and older received 91% more injuries than the 0—14 age group.

Age	Blunt	Penetrating	TOTAL
0 -14	1193	25	1218
15 and Older	16509	1191	17700
TOTAL	17702	1216	18918

Table 1

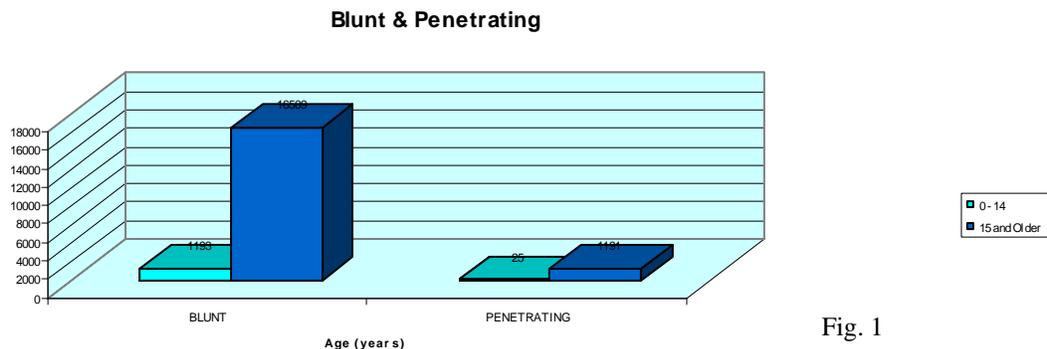


Fig. 1

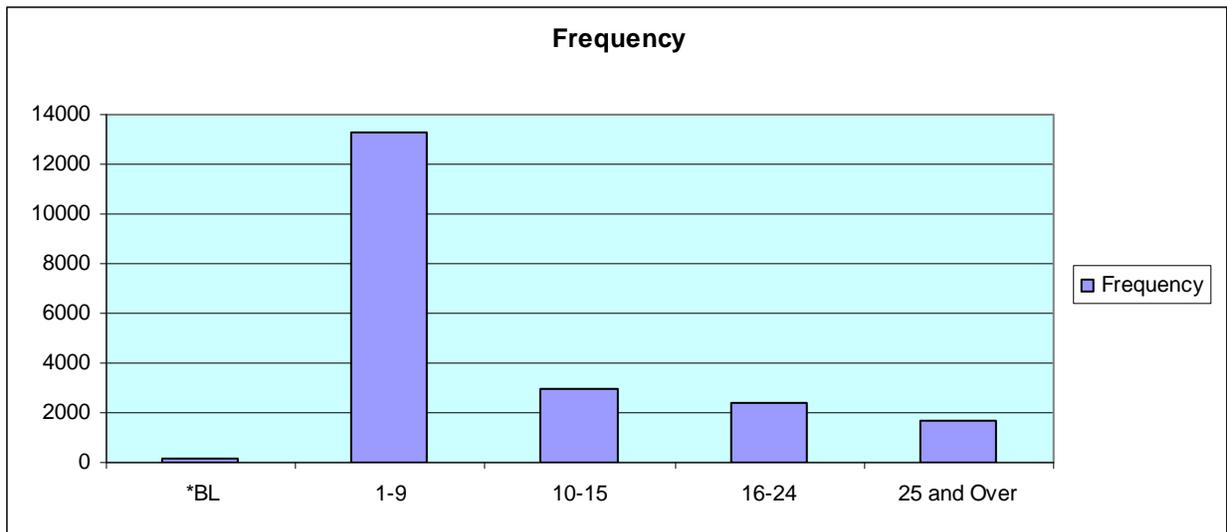
INJURY SEVERITY SCORE

Injury Severity Score (ISS) is an established medical score to assess trauma severity. It correlates with mortality, morbidity, and hospitalization time after trauma. The score means the sum of the squares of the Abbreviated Injury Scale score of the three most severely injured body region. ISS range from 1 to 75. If an injury is assigned an abbreviated injury score (AIS) severity of 6 (currently untreatable injury), the ISS score is automatically assigned 75. Each injury is allocated to one of six body regions based on the AIS score according to:

- Head or neck
- Face
- Chest
- Abdominal or Pelvic contents
- Extremities or pelvic girdle
- External

Injury Severity Score	Frequency	Percentage
*Blank	126	0.62
1-9	13285	64.97
10-15	2954	14.45
16-24	2397	11.72
25 and Over	1685	8.24

Table 2



Blunt vs. Penetrating Trauma

Who's at Risk



Initial data collected from LEMSAs reporting blunt vs. penetrating trauma data indicates that there are two high risk groups

1. Age group 1: 15—24 years of age
2. Age group 2: 45—65 years of age

In the first set of data for blunt trauma the total number of specified age was 13048. Blunt trauma in age group 1 was 26% and age group 2 was 23%.

Data collected for penetrating trauma reveals that age group 15—24 again received the highest percentage at 38% of the total 1167 reported.

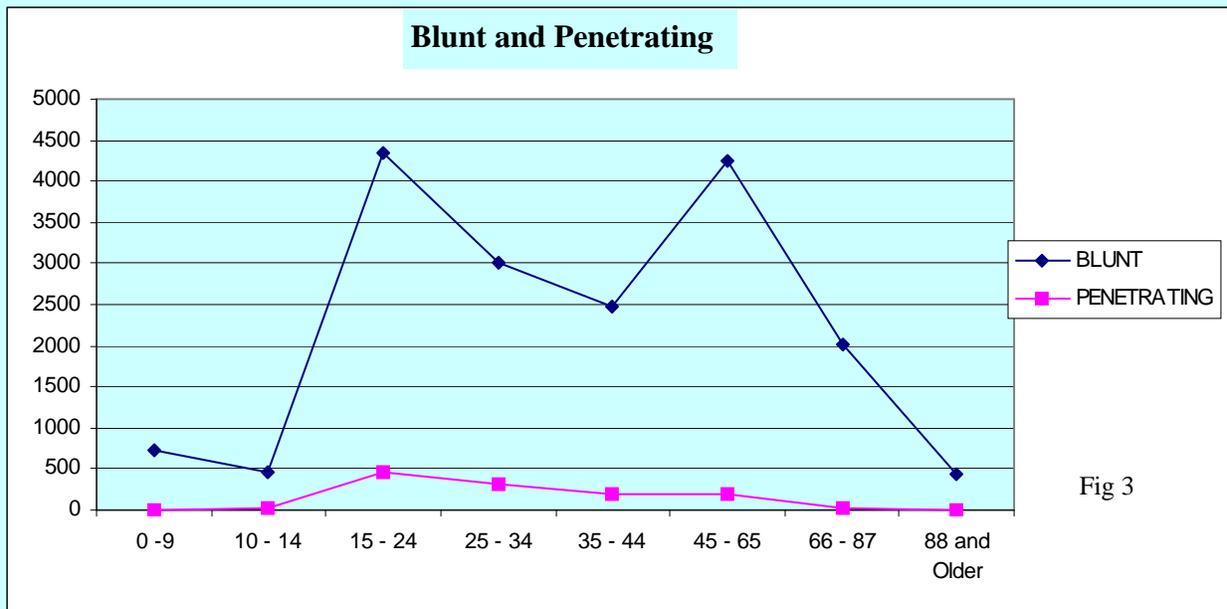


Fig 3