

Traumatic brain injury (TBI) in California

How many Californians have a TBI?

No one knows precisely how many people currently live with the effects of a TBI in California. Unlike many diseases, TBI is difficult to count, because symptoms range from severe disability to very minor effects. From scores of studies, we do know that TBI is exceedingly common. I will discuss California TBI patient data reported to the Office of Statewide Health Planning and Development. Some proportion of these TBI patients will experience minor or severe disability for months or years post injury.

What is a TBI?

Here we will not consider brain injuries from stroke, infections, toxic exposures, or oxygen deprivation. We will consider brain damage caused by trauma, including brain lesions, bleeding, and skull fractures. Brain trauma results from a mechanical force when the head is struck or strikes against an object, or from extreme movement (as in high speed car rollovers and shaken baby syndrome).

Why is TBI a public concern?

CDC (Centers for Disease Control and Prevention) has made TBI a priority injury. TBI is both common and severe. Victims often die, and many survivors require long and difficult rehabilitation. Disabling TBI carries a high price tag. Most of the acute care costs are borne by public programs.

- In 2007, Patients with TBI treated in California emergency departments totaled 142,139. Of these, 5 percent were transferred to another care facility. Government programs were billed for the costs in 65 percent of the cases. Of the government programs billed, the main ones were Medi-Cal (17 percent) and Medicare (27 percent.)
- There were 29,354 hospitalization of patients with TBI, of which 7 percent died. Twenty-five percent were sent to another care facility. Government programs were billed for the costs in 56 percent of the cases. The main government payers billed were Medi-Cal (17 percent) and Medicare (11 percent).

What causes TBI?

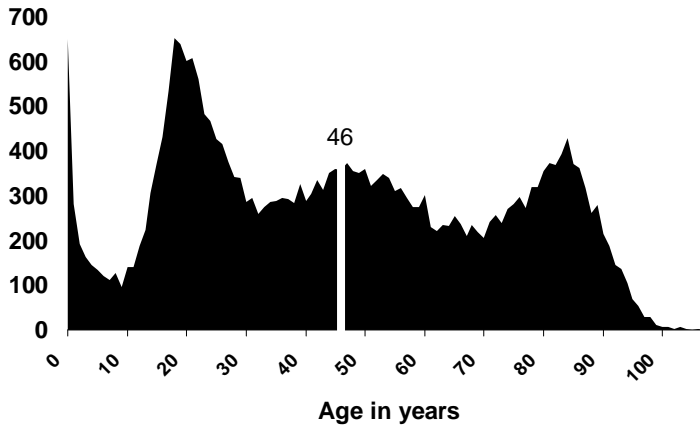
Most people who are treated for an acute TBI in California hospitals have suffered a fall, a traffic accident, or violence. But these causes vary by age. Let's consider the top two causes for different age groups.

- Among children under 10, the two main causes are falls, at 55 percent and traffic accidents at 20%
- Among adolescents and adults, from age 10 to 40, the main cause is traffic accidents, at 49 percent, followed by violence, 18 percent.
- Among adults over age 40, falls predominate, at 59 percent, followed by traffic accidents at 23 percent.

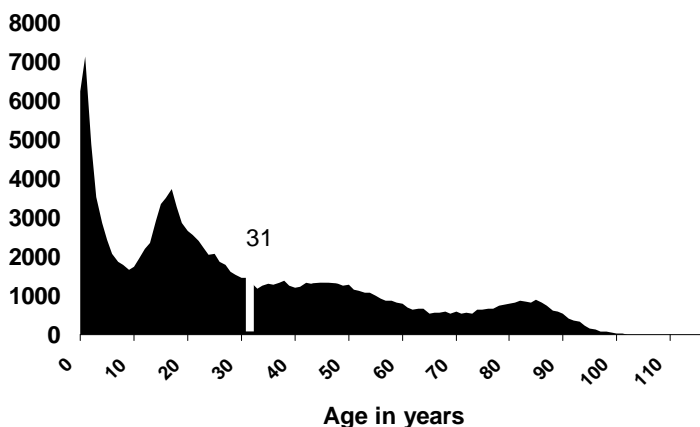
At what ages do people experience a TBI?

Large numbers of Californians from infants to the very old suffer TBIs. Peak ages for TBI are infancy, the early 20s, and over 60. The following graphs show that most people experience a TBI during their years of growth and development and productive work.

Hospitalized traumatic brain injury in California
Average (mean) age is 46 years.



Emergency department treated traumatic brain injury in
California
Average (mean) age is 31 years.



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