



Childhood Immersion Incidents & Deaths in Orange County

ORANGE COUNTY HEALTH CARE AGENCY
RESEARCH AND PLANNING

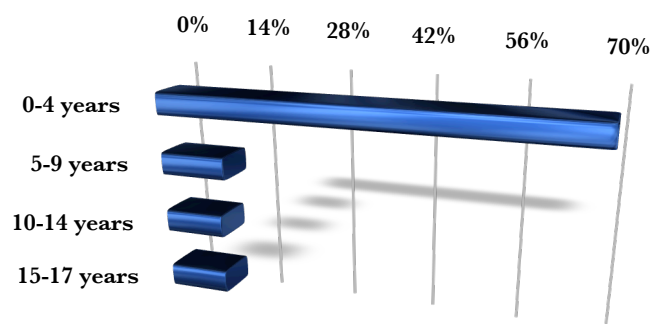
Drowning consistently remains the leading cause of death for children 1-4 years of age, both in California and in Orange County. Among 0-17 year olds, drowning remains among the top five leading causes of death. This report utilizes the 2005-2007 emergency department (ED) and hospital patient discharge (PD) data provided by the California Office of Statewide Health Planning and Development. The goal of this study was to identify and characterize all immersion related incidents involving Orange County (OC) residents 0-17 years of age, in order to better guide prevention efforts toward reducing childhood immersions and drowning deaths.

KEY FINDINGS OF THE STUDY INCLUDE:

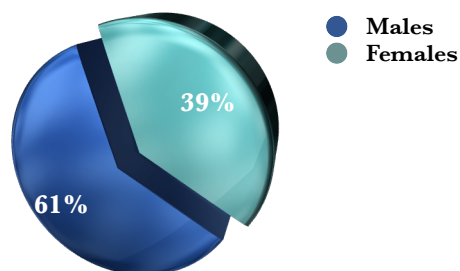
Between the years 2005 and 2007, there were **204** identified immersion incidents resulting in **25** deaths, among children 0-17 years of age living in Orange County. Over the three-year period, this translates into an average of 68 incidents and 8.3 deaths per year. Children 0-4 years of age are the highest risk group, representing **72%** of all child drowning deaths.

DEMOGRAPHICS:

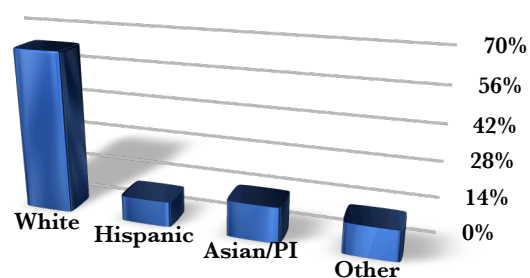
Age: More than two-thirds (**69%**) of immersion incidents occurred among children under age 5. Another **11%** occurred among 5-9 year olds. The 10-14 and 15-17 year old groups each comprised **10%** of all remaining immersion incidents.



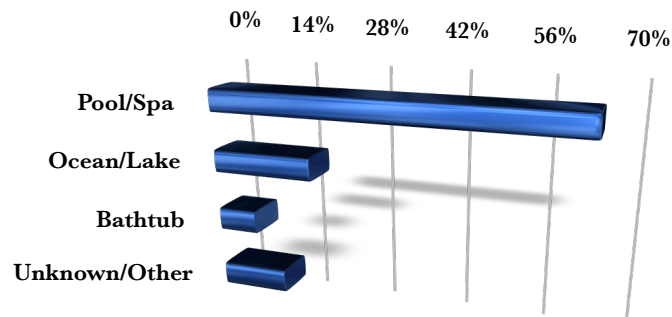
Sex: The majority of incidents occurred among males (**61%**) with an average of 41 immersion incidents per year, compared to females (**39%**) who averaged 26 incidents per year.



Race/Ethnicity: Non-Hispanic Whites accounted for **64%** of all immersion incidents, with Asian/Pacific Islanders representing **14%**. Hispanics made up an additional **10%** of all incidents; African Americans and the other/unknown group composed the remaining **12%**. There was only one African American and so this individual was combined with the other/unknown group.

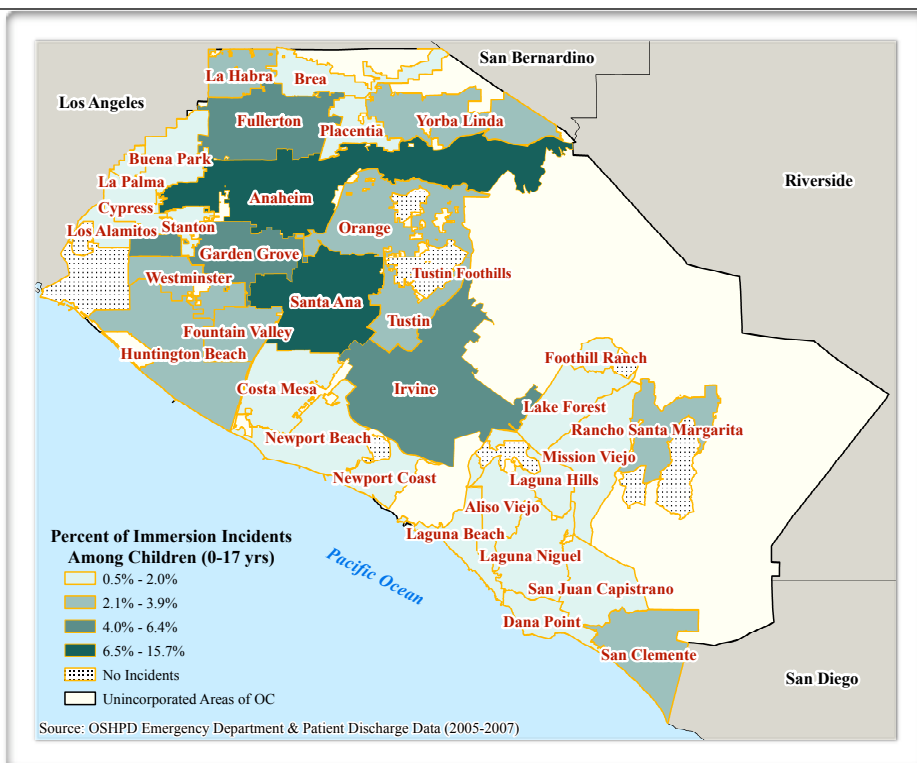


Location of Immersion Incidents: Most immersion incidents among 0-17 year olds occurred in pools/spas (**64%**) followed by natural bodies of water (**18%**; e.g. oceans). Immersion incidents in bathtubs accounted for **7%** of cases. In **12%** of cases the place of occurrence was unknown.

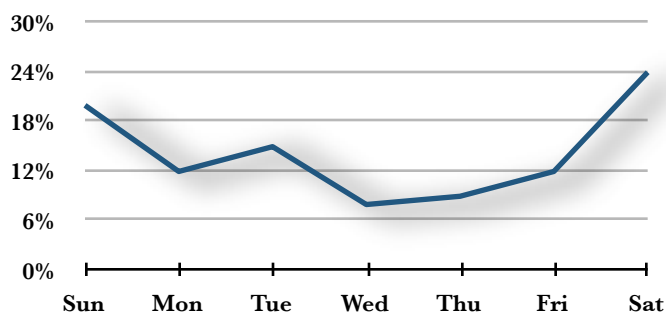


GEOGRAPHIC DISTRIBUTION OF IMMERSION INCIDENTS AMONG CHILDREN RESIDING IN ORANGE COUNTY:

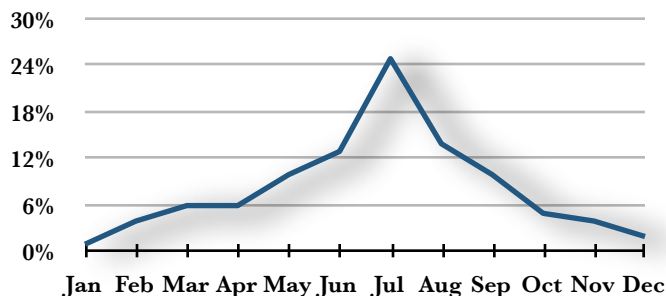
When examining the number of incidents across cities/communities, residents of the two most populous cities, Anaheim (**16%**) and Santa Ana (**13%**), had the highest percentage of immersion related incidents among children. Those children residing in the cities of Garden Grove, Fullerton, and Irvine each accounted for at least 5.4% of all immersion incidents that resulted in a visit to the emergency department. South Orange County and coastal areas had the lowest number of incidents.



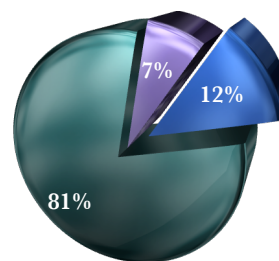
Time of occurrence: Nearly twice as many incidents (**44%**) occurred during the weekend.



More than half (**51%**) of all immersion incidents occurred between June and August, with 1-in-4 occurring in July.



57% of children who went to the ED were admitted to the hospital. The average length of stay was **2.7** days, with the majority (**86%**) staying **0-2** days. An additional **3%** of children remained in the hospital for more than 11 days. The average hospitalization cost per child was \$28,176 per incident.



● Died
● Released Home
● Alternative Care

12% of all children who had an immersion incident died (25 of 204). Approximately **81%** of all immersion incident victims were discharged home. The remaining **7%** of children were transferred to an alternative care facility due to serious injury requiring prolonged care.

Between 2004 and 2006, the drowning death rate among the highest risk group, children 0-4 years of age, was comparable to the statewide average (2.9 vs. 2.7 per 100,000) and the majority of surrounding counties. Only San Bernardino (5.7) and Riverside (5.6) were higher than Orange County.

Drowning Death Rate per 100,000 Children (Ages 0-4)

