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## IMMERSION INCIDENTS & DROWNING DEATHS IN ORANGE COUNTY

ORANGE COUNTY HEALTH CARE AGENCY  
RESEARCH & PLANNING



Drowning consistently remains the leading cause of death for children 1-4 years of age, and among the top five leading causes for those under the age of 18 years, both in California and in Orange County. This report utilizes 2011 through 2013 emergency department (ED) and hospital patient discharge (PD) data, as well as death certificate information for County residents who drowned during the same time period. The goal of this report is to better guide prevention efforts aimed at reducing the number of immersion incidents and drowning deaths in Orange County.

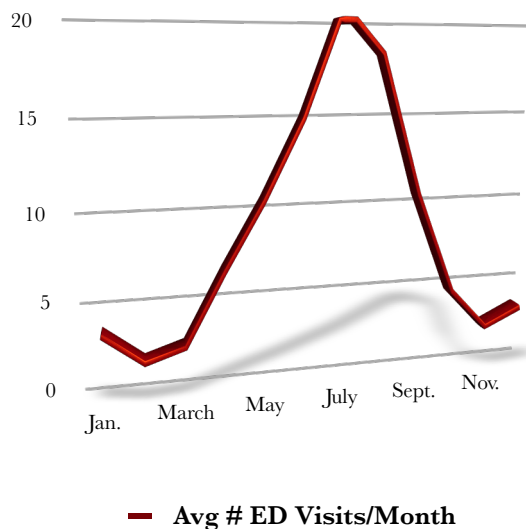
### KEY FINDINGS OF THE STUDY

Each year there are over 100 immersion incidents to residents who are injured seriously enough to require medical care in an ED and about 35 die annually. Indeed, between 2011 and 2013, 105 residents drowned - including 15 children and 90 adults.

the second highest percentage of all ED visits with 21% of all ED visits resulting from immersions in natural bodies of water (e.g., ocean/lake) and 15% in pools. For children 5-17 years, most incidents took place in natural bodies of water (12%) such as the ocean, and 8% in pools.

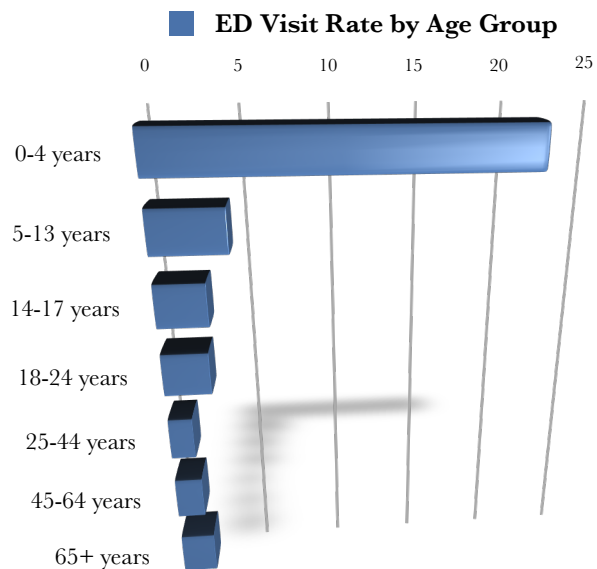
### IMMERSION INCIDENTS

Immersion incidents resulting in an ED visit peaks during the summer months, averaging 15 to 21 ED visits per month.



The majority (27%) of all immersion incidents (where the location was specified) were to children under age 5 years in swimming pools/spas. Adults 18+ years accounted for

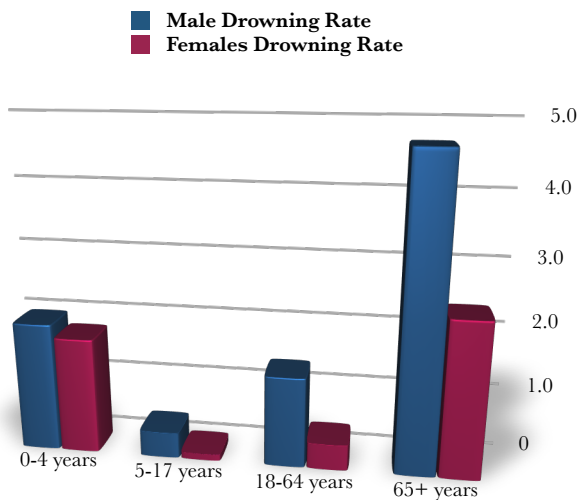
Toddlers (0-4 years) were the most at risk age group with a rate of immersion related-ED visits of 21.6 per 100,000 population – over 6.5 times higher than the county-wide rate of 3.3 per 100,000 population.



Please see the ABC's of Pool Safety at <http://www.ocfa.org/Content/SafetyEducation/WaterSafetyTip.aspx>

## DROWNING DEATHS

The County's overall drowning death rate was 1.1 per 100,000 between 2011 and 2013. Seniors (65+ years), especially older males, were the most at risk for drowning in comparison to all other age-groups, with a drowning death rate of 4.7 per 100,000 population.



Other factors may have contributed to the drowning deaths of several adult victims. For example, diseases of

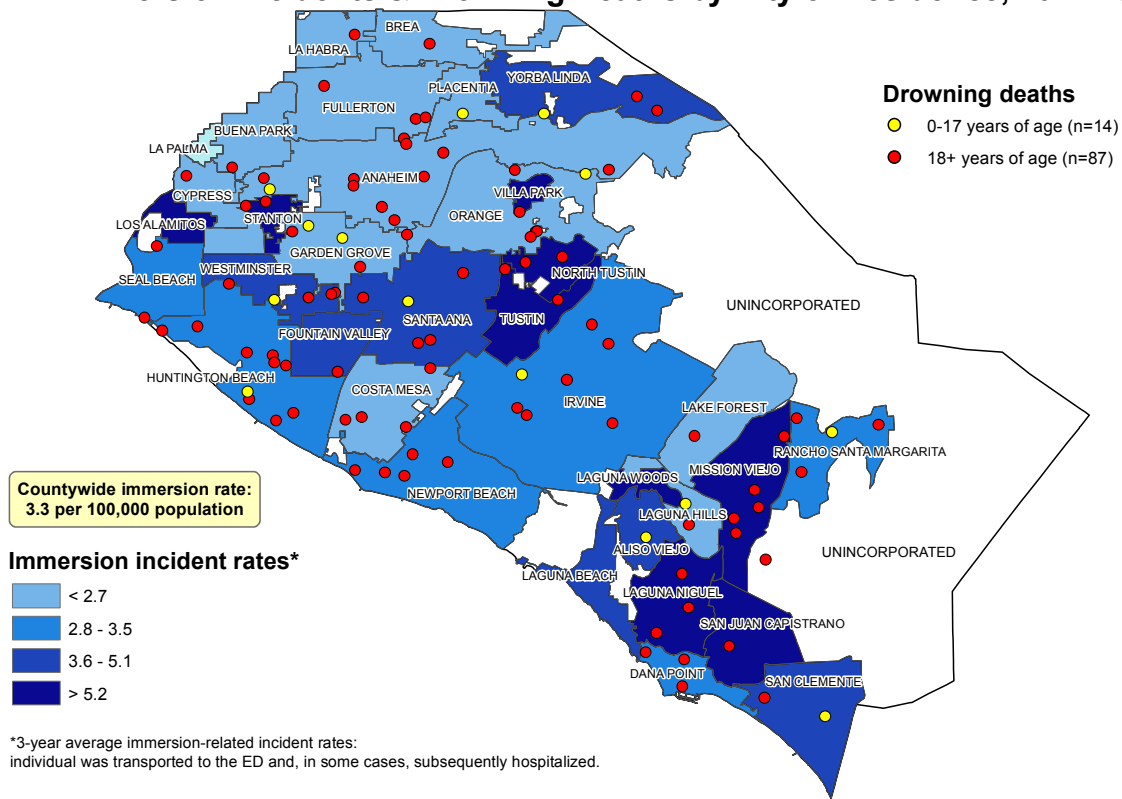
the heart (e.g., atherosclerosis, cardiomegaly) were listed as significant conditions for some adult cases. Similarly, alcohol and/or drugs may have been a contributing factor for some adult cases.

The next age-group most at risk for drowning were children under the age of 5, with a drowning rate of 1.9 per 100,000. Overall, males were over two times more likely to drown than females, with the exception of the youngest children (0-4 years) who were equally likely to be victims of drowning death.

## GEOGRAPHIC PATTERN OF DROWNING DEATHS AND IMMERSION INCIDENTS

The geographic distribution of drowning deaths and immersion incidents are shown in the map with colored dots representing drowning death victims' residential location (not necessarily where the incident occurred). The map also shows immersion incident rates by city of residence. The 19 cities with immersion incident rates higher than the county-wide rate of 3.3 per 100,000 are colored in the two darker shades of blue. The 15 cities with immersion incident rates lower than the county-wide rate are shown in lighter shades of blue.

### Immersion Incidents & Drowning Deaths by City of Residence, 2011-2013



Source: Emergency Department (ED), Patient Discharge (PD), and Death Statistical Master File (SMF) (2011-2013)

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