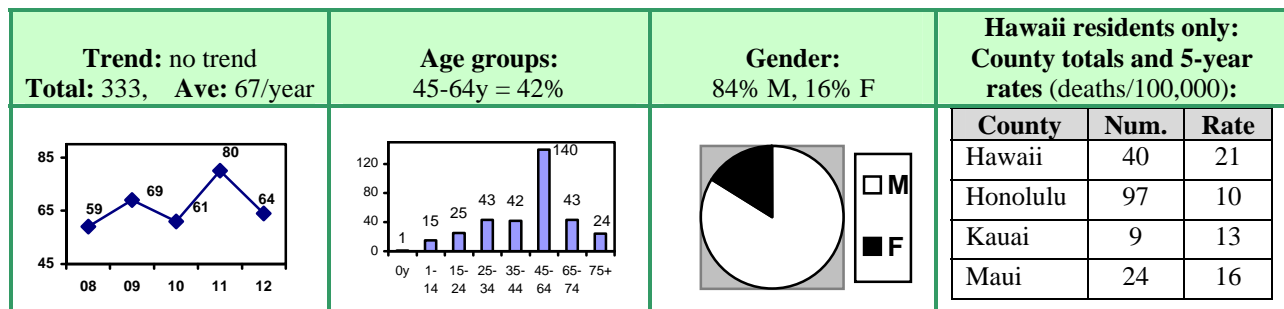


Drownings (residents and non-residents)

Fatal injuries

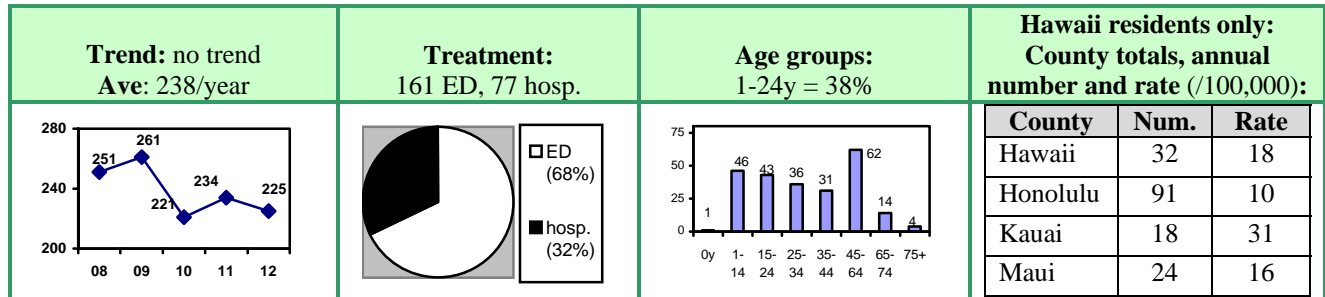
There was no clear trend in the annual number of drownings, although the 80 deaths in 2011 was the highest total since at least 1993. Most of the high total in 2011 was due to drownings on Honolulu and Maui counties. About half (51%) of the victims were Hawaii residents, 35% from the U.S. mainland, and 14% from foreign countries. The ages of the victims were widely distributed, although only 8% were under 18 years of age. Almost all (84%) were males. Almost half (46%) of all the victims drowned on Oahu. If only drownings among Hawaii residents were considered, Oahu residents had the lowest rates, significantly lower than rates for Neighbor Island residents as a whole. If non-residents are also included, the highest (unadjusted) rates were computed for Kauai and Maui counties, approximately three times as high as the rate for Honolulu County.



Most (80%, or 2666) of the victims drowned in the ocean or saltwater environments, almost all of whom (96%) were 18 years or older. Unintentional immersions led to 14% of these drownings, including 35 victims who fell in or were swept into the ocean. Other common activities were swimming (27% of victims), snorkeling (24%), and free diving (9%). According to autopsy records, intrinsic or personal factors contributed to over half (61%) of the saltwater drownings in Honolulu County from 2007 to 2010. The most common intrinsic factor was circulatory diseases, present among 46% of the victims of all ages, and 69% of those aged 50 years and older. Only 13% of the victims tested positive for alcohol, and only 7% had BAC levels of 0.08% or greater. Illicit drug use was considered a contribution to 12% of the drownings. Apart from ocean drownings, 36 drownings in swimming pools, 21 in rivers and streams, and 12 in bathtubs. Only 3 (8%) of the 36 victims who drowned in swimming pools were under 5 years of age, as victim age was widely distributed in this environment

Nonfatal injuries (near drownings)

There was no clear trend in the annual number of near drownings, which averaged 238 per year. Hawaii residents comprised a slight majority (54%) of all patients treated for near drownings, but only 40% of those who were hospitalized. ED patients were significantly younger on average than those who were hospitalized (31 vs. 40 years of age), with more than half (54%) in the 15 to 44 year age group. Among Hawaii residents, county-specific rate estimates were lowest among those living in Honolulu County.



Hospitalizations were of a relatively short number of days (4, on average), but because each hospitalization incurred over \$28,000 in charges, they comprised most (88%) of the total \$2.5 million in annual medical charges in the state. Swimming (40%) and “surfing, windsurfing and boogie boarding” (32%) were the most common activities for the patients overall, although swimming was a more likely cause among non-residents (45%), while the latter activities were more common among residents (39%).

EMS data

Almost all (94%) of the incidents EMS responded to occurred during day time hours, including 80% between 9:31 a.m. and 5:29 p.m. More than half (59%) of the patients were Hawaii residents. About 43% of the near drownings occurred in bodies of water, which could include both freshwater and saltwater environments. About one-third (30%) were in patient residences (10%), public buildings (12%), hotels (5%), and health care facilities (3%). Most (77%) of the patients were either transported in “serious” (46%) or “critical” (32%) condition, with no significant differences in the distribution of patient condition between residents and non-residents. Probable alcohol use was noted for only 4% of the patients. Near drownings that occurred during night time hours were significantly more likely to involve alcohol consumption than day time incidents, however (21% vs. 3%).

Hawaii Trauma Registry (toxicology data)

Only 8% of the adult-aged (18 years and older) HTR near drowning patients were positive for alcohol, and only 9% tested positive for illicit drugs, although there was no toxicological testing for about two-thirds of the patients. Substance use was somewhat higher among resident patients, although this comparison is limited by the small sample sizes and the lack of testing.