



## Psychiatry & Behavioral Sciences Section – 2009

### I5 Unintentional Injuries Mortality Trends in Puerto Rico, 1999 - 2007

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After attending this presentation, attendees will be able to study and assess the mortality trends of unintentional injuries in Puerto Rico from 1999 to 2007.

This presentation will impact the forensic community by showing the profile of fatal unintentional injuries for the general population in Puerto Rico. This information allowed the identification of at-risk groups that could most benefit from effective interventions. Prevention effort decisions should be based on data on non-fatal and fatal injuries to better understand the scope of the injury problem and its potential effect on society.

Fatal injuries are an important public health problem in the United States. However, the information about the mortality trends of unintentional injuries in Puerto Rico (PR) is limited. This study assessed the mortality trends of unintentional injuries in PR from 1999 to 2007. The data presented were obtained from the unintentional injuries investigated by the Puerto Rico Institute of Forensic Sciences. For this study, total injuries included deaths related to motor-vehicle traffic, accidental poisoning, falls, drowning, electrocution, and burning.

Descriptive statistics were used to characterize the study population. Mortality rates were age-adjusted to the 2000 standard PR population. Census population estimates were used as denominators in death rate calculations. Mortality rates and trends were stratified by sex and age. Joinpoint regression was performed to determine statistically significant changes in trends from 1999 to 2007. The Annual Percent Change (APC) from 1999 to 2007 in death rates were calculated for overall unintentional injuries and for the three most common injuries categories: motor-vehicle traffic, accidental poisoning, and falls.

From 1999 to 2007, 11,386 people died from unintentional injuries in Puerto Rico. The annual mean of unintentional injuries was 1,265 cases per year. The overall unintentional injury annual mortality rate decreased from 34.1 in 1999 to 28.8 per 100,000 population in 2007 representing a significant decrease of 5.3%. During the study period, 49.7% of all unintentional injury mortality were caused by motor vehicle traffic; followed by poisoning (25.7%), falls (16.1%), drowning (4.8%), electrocution (1.4%), burning (1.4%), and others (0.9%). For all categories of unintentional injuries men had higher rates as compared with women. During 2007, the unintentional injury mortality rate for males was 4 times the rate for females (46.9 per 100,000 population versus 11.9, respectively).

During the study period the mortality rates caused by motor-vehicle traffic annually decreased 2% (APC statistically different from zero). For both males and females, the motor-vehicle traffic mortality rate was highest among persons aged 15-24 years and people older than 75 years. From 1999 to 2007, the accidental poisoning mortality rate declined (APC: -8.95%, statistically different from zero), while falls mortality rate increased (APC: 13.14%, statically different from zero). For both males and females, the poisoning mortality rate was highest among persons aged 20-54 years.

The falls mortality rates increase proportionally with age. Falls mortality rates tended to increase exponentially in people older than 54 years. This study showed the profile of fatal unintentional injuries for the general population in Puerto Rico. This information allowed the identification of at-risk groups that could most benefit from effective interventions. Prevention effort decisions should be based on data on nonfatal and fatal injuries to better understand the scope of the injury problem and its potential effect on society. Further research is needed to identify risk factors that can decrease the unintentional injuries mortality rates. Integrated prevention programs (e.g., monitoring the risk factors of motor-vehicle traffic crashes, the prevention of falls in older people, and social support services to help people with drug abuse problems) might help reduce the unintentional injuries mortality rates of in Puerto Rico.

#### **Injuries, Mortality, Trends**