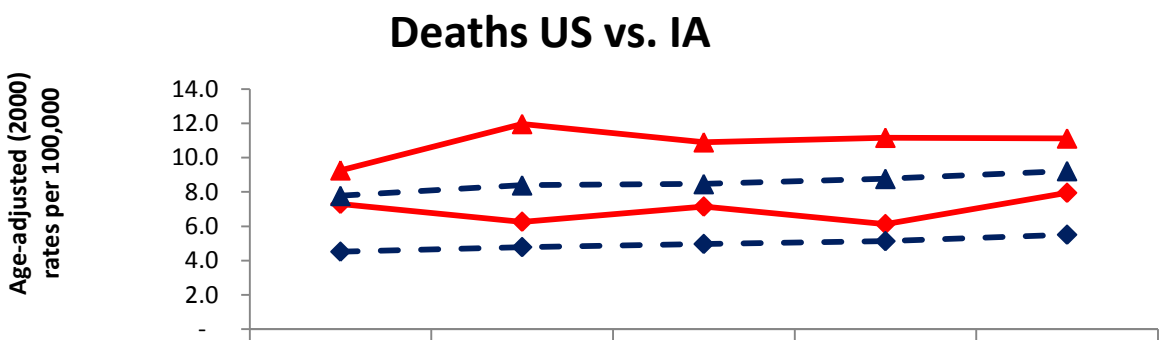
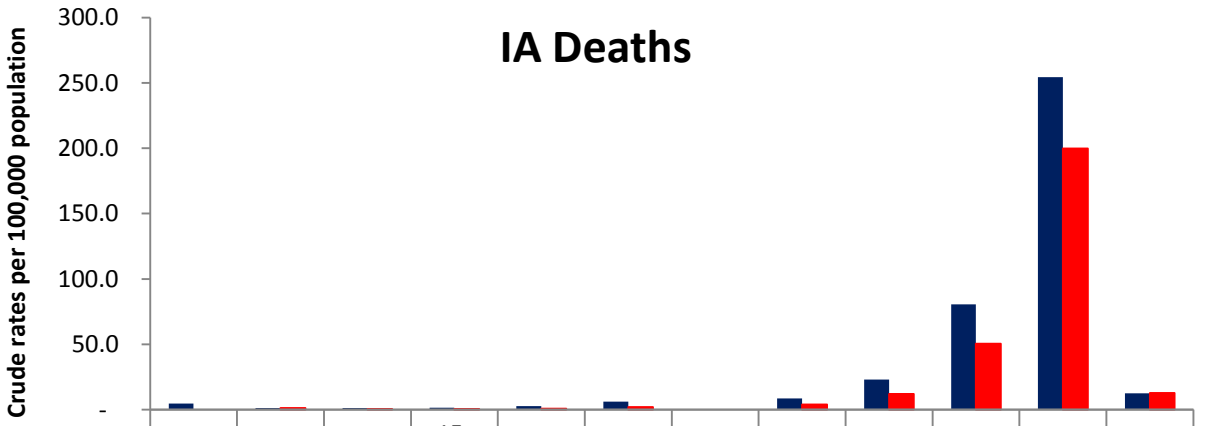
UNINTENTIONAL FALL INJURIES

- The 5-year (2003-2007) age-adjusted death rates due to unintentional fall in Iowa (8.6 per 100,000) were greater than the national average (6.5 per 100,000), (WISQARS, 2011 (CDC)). The rates (age-adjusted to the 2000 census) showed that Iowa males and females had higher risk than their US counterparts. While the rates are steadily increasing in the US, unintentional fall-related deaths were fluctuating in Iowa.
- In Iowa, unintentional fall deaths occurred at higher rates after the age of 65 and increased with age, highest among the 85 years and older. Consistently across all age groups, Iowa males had a higher rate than females.



	2003	2004	2005	2006	2007
IA_Female	7.3	6.3	7.1	6.1	8.0
IA_Male	9.3	12.0	10.9	11.2	11.1
US_Female	4.5	4.8	5.0	5.1	5.5
US_Male	7.8	8.4	8.5	8.8	9.2

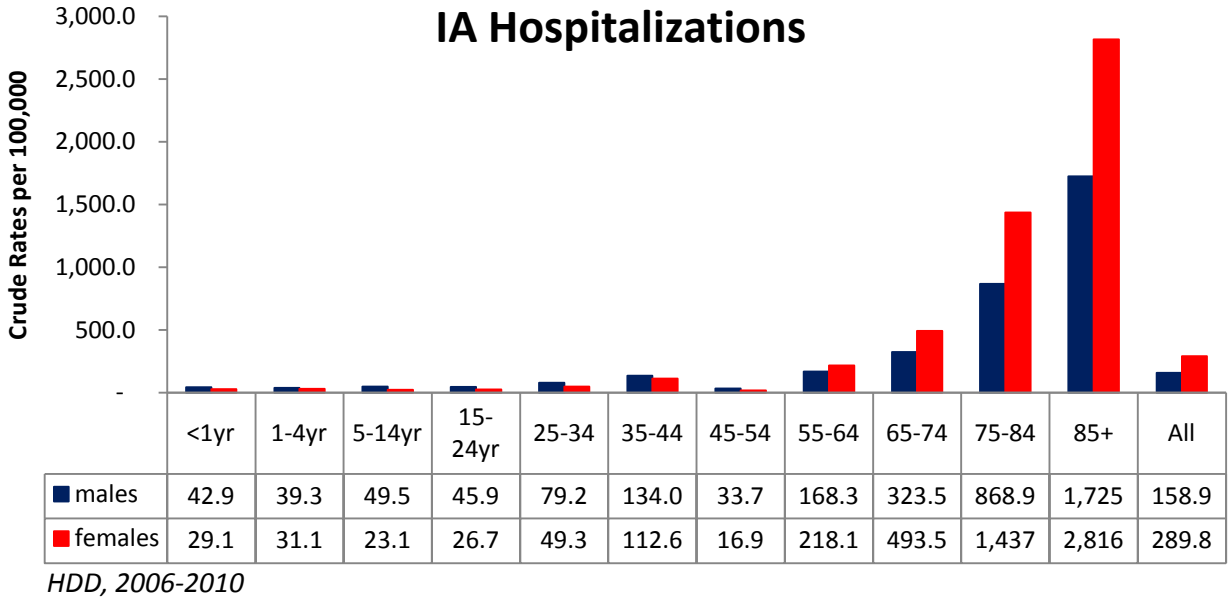
WISQARS, 2003-2007



	<1yr	1-4yr	5-14yr	15-24yr	25-34	35-44	45-54	55-64	65-74	75-84	85+	All
males	4.8	1.2	1.3	1.5	2.7	6.1	0.5	8.7	23.1	80.7	254.3	12.5
females	-	1.3	0.5	0.5	0.7	2.1	-	3.9	12.1	50.5	199.8	12.8

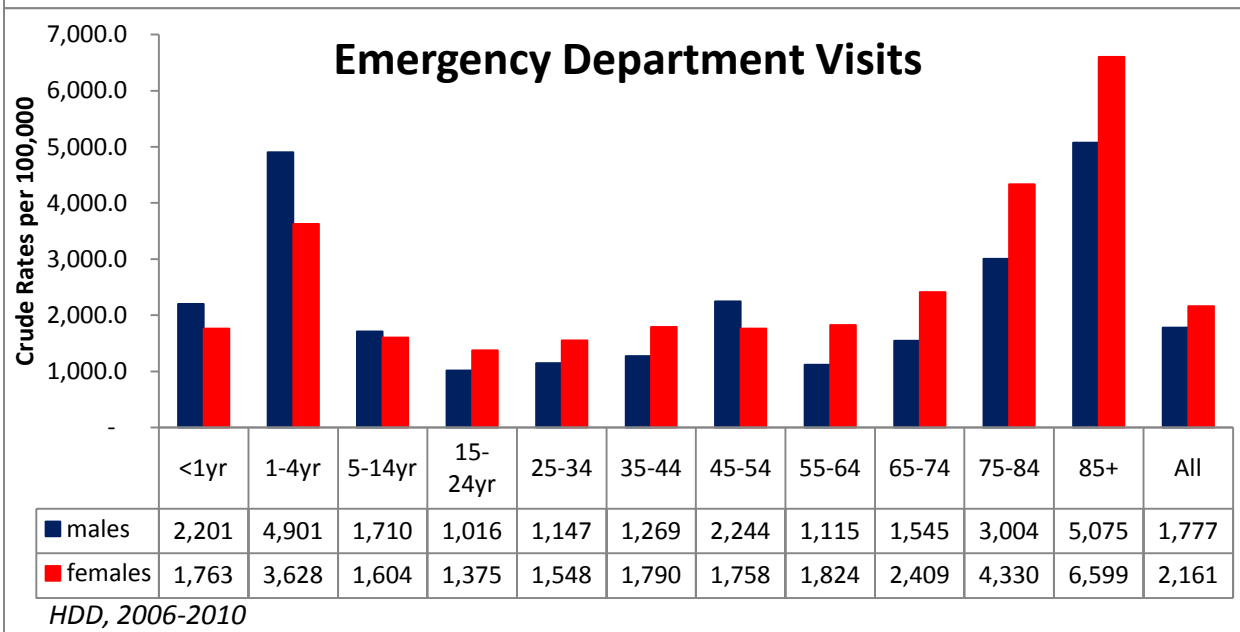
Vital records, 2006-2010

- In Iowa from 2006 to 2010, there were on average more than 15,500 hospitalizations and over 206,000 emergency department visits due to injuries every year. Unintentional Falls were the leading causes, representing 44% of all injury hospitalizations and 28% of all injury ED visits.
- The percent of unintentional falls hospitalization was 51% among females compared to 34% among males. The percent significantly decreased with regards to ED visits to 35% among females and 24% among males.
- The rates of hospitalizations and ED visits were significantly higher in females across most age groups, particularly after the age of 55 compared to males; except for the younger ages (<55) for hospitalizations and (<5) for ED visits.



	<1yr	1-4yr	5-14yr	15-24yr	25-34	35-44	45-54	55-64	65-74	75-84	85+	All
males	42.9	39.3	49.5	45.9	79.2	134.0	33.7	168.3	323.5	868.9	1,725	158.9
females	29.1	31.1	23.1	26.7	49.3	112.6	16.9	218.1	493.5	1,437	2,816	289.8

HDD, 2006-2010



	<1yr	1-4yr	5-14yr	15-24yr	25-34	35-44	45-54	55-64	65-74	75-84	85+	All
males	2,201	4,901	1,710	1,016	1,147	1,269	2,244	1,115	1,545	3,004	5,075	1,777
females	1,763	3,628	1,604	1,375	1,548	1,790	1,758	1,824	2,409	4,330	6,599	2,161

HDD, 2006-2010

- On average, there were from 2006 to 2010 more than 1600 injury deaths, of which unintentional Falls constituted the second leading cause (375 per year), following Motor Vehicle Crashes (396). Compared to earlier 5-year averages (*Burden of Injury Report*, IDPH,2007), the number of unintentional fall deaths has increased 20%. Falls are the first leading cause of injury hospitalizations and ED visits with a respective magnitude of 6,700 and 59,000, which constituted a net decrease in the number of hospitalization associated with an increase in ED visits.

- The overall unintentional-fall death rates were identical among males (12.5) and females (12.8). The risk was however differently distributed. With age, females had a higher death rate than males. Among the 55 and over age groups, the risk ratio decreased with age. Among the 55-64, males (8.7 per 100,000) had twice the risk compared to females (3.9). Among the 65-74, the male (23.1 per 100,000) risk decreased to 1.9 compared to females (12.1 per 100,000). The risk for males decreased to 1.59 and 1.27 in the 75-84 and 85 and older age groups. Among the younger age groups, the number of deaths was smaller, ruling out any viable comparison.

- The overall unintentional fall hospitalizations were greater among females (289.8 per 100,000) than males (158.9 per 100,000), corresponding to a ratio 1.89. The unintentional hospitalization rates were greater among females after the age of 55. The rate ratios comparing females versus males were 1.3 (218.1 vs.168.3) among the 55-64; 1.53 (493.5 vs. 323.5) for the 65-74; and stay identical for the 74-85 and 85 and older with a respective ratios of 1.65 (1437.4 vs. 868.9) and 1.63 (2816.9 vs. 1725.2).

    - Among the younger than 55 age groups, the rates were higher in males. The rate ratios comparing males and females peaked among the 5-14 years old males with a magnitude of two (49.5 vs. 23.1). Under the age of 5 years, males had different risk compared to females. Among the less than one year of age, the risk was 48% higher (42.9 vs. 29.1) while only 26% higher for the 1-4 years of age (39.3 vs. 31.1). Over the age of 15 until the age of 44, the ratios decreased from higher 1.72 among the 15-24 (45.9 vs. 26.7), to 1.69 among the 25-34 (79.2 vs. 49.3), and to a much lower ratio of 1.19 among the 35-44 (134.0 vs. 112.6). Though in term of risk, the 45-54 males presented a higher risk at 1.9 than the females, that age group had the lowest magnitude in terms of rates among males and females alike with respective rates of 33.7 and 16.9 per 100,000.

- The overall emergency department visit rates were higher among females than males with a 22% increased risk (2,161.5 vs. 1,777.3). The plot of ED visit rates across age groups followed a U-shape with rate higher in the extreme. Stratified by gender, the ED visit rates were differently distributed across the age groups.
    - The unintentional ED visit rate were higher among females in most age groups, except for the youth (<15) and the 45-54 age group. Among the 55-64 old, the rate ratio was 69% higher among females than males (1,115.2 vs. 1,824.0). The rate ratios decreased consistently to 1.30 among the 85 and older (5,075.0 vs. 6,599.1). Among the less than 5 years of age, males had on average 25 to 35 % higher rates than females. Likewise among the 45-54 years of age, male rate was 28% higher than the females (2,244.2 vs. 1,758.8).

- Compared to the period 2002-2006, it can be understood that unintentional falls are increasing among Iowans, and more so among the elderly. Furthermore, there are significant disparities associated with gender. Males seem to have more severe unintentional injuries (death and hospitalizations) and females are more likely to utilize the ED services. Finally, it can be hypothesized that severity of injuries in sports and work-related activities may explain the inverse association of hospitalization and ED visits rates among males and females in the 15-44 age groups.