7. Injury & Violence

Injuries and violence have been major public health concerns in Indian Country for many years.[1] Generally, injuries are separated into two categories: unintentional injuries, which result from events such as motor vehicle crashes, falls, accidental poisoning, or drowning; and intentional injuries, which are caused deliberately by one person to another or to himself, such as physical abuse, homicide, or suicide.

According to the most recently available national data for 1999-2011, intentional injuries are the leading cause of death for American Indian and Alaska Natives (AI/AN) ages 1-44 and the third leading cause of death for AI/AN of all ages combined.[2] Homicide is among the top five leading causes of death for AI/AN ages 1-44.[2] A 2010 study found that AI/AN women have the highest reported lifetime rates of domestic violence among all racial and ethnic groups, at 46%[3].

Unintentional injuries were the third leading cause of death for AI/AN of all ages in Oregon from 2006-2010. The major causes of unintentional injury deaths were motor vehicle crashes, accidental poisonings (due to alcohol and drug overdoses), and falls. AI/AN hospitalizations for unintentional injuries from 2010-2011 were 1.2 times higher than for NHW in the state, and from 2006-2010, the mortality rate for unintentional injuries was1.6 times higher than NHW. AI/AN hospitalizations and mortality rates from homicide were nearly three times higher compared to NHW in the state.

This section presents hospitalization and mortality data for unintentional injury and homicide, as well as screening for domestic or intimate partner violence. Suicide-related data can be found in the chapter on Mental Health and Suicide.

1. Smith, R.J., and Robertson L.S. (2000). Unintentional Injuries and trauma. In Roades ER (ed.), American Indian Health, Baltimore, MD: Johns Hopkins University Press.

2. Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2013) [cited 2014 Sep 25]. Available from URL: www.cdc.gov/ncipc/wisqars

3.Black, M.C., Basile, K.C., Breiding, M.J., Smith, S.G., Walters, M.L., Merrick, M.T., Chen, J., & Stevens, M.R. (2011). The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 Summary Report. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Hospitalizations for Unintentional Injuries

From 2010 to 2011, 6.1% of AI/AN hospital discharges in Oregon were for unintentional injuries (Table 7.1). Overall, the percentage of hospitalizations for unintentional injuries for AI/AN was slightly lower than for NHW, though the percentage for AI/AN males was higher than that for NHW males (8.3% vs. 7.8%), while AI/AN females had a lower percentage than NHW females (4.7% vs. 6.2%). Men of both races had a higher proportion of unintentional injury hospitalizations than females. For both sexes combined and for females alone, the age-adjusted hospital discharge rate for unintentional injury was 21.7% higher for AI/AN than NHW (Figure 7.1).

Data Source: Oregon state hospital discharge data (Oregon Office for Health Policy and Research), 2010-2011, corrected for misclassified AI/AN race by the IDEA-NW Project.

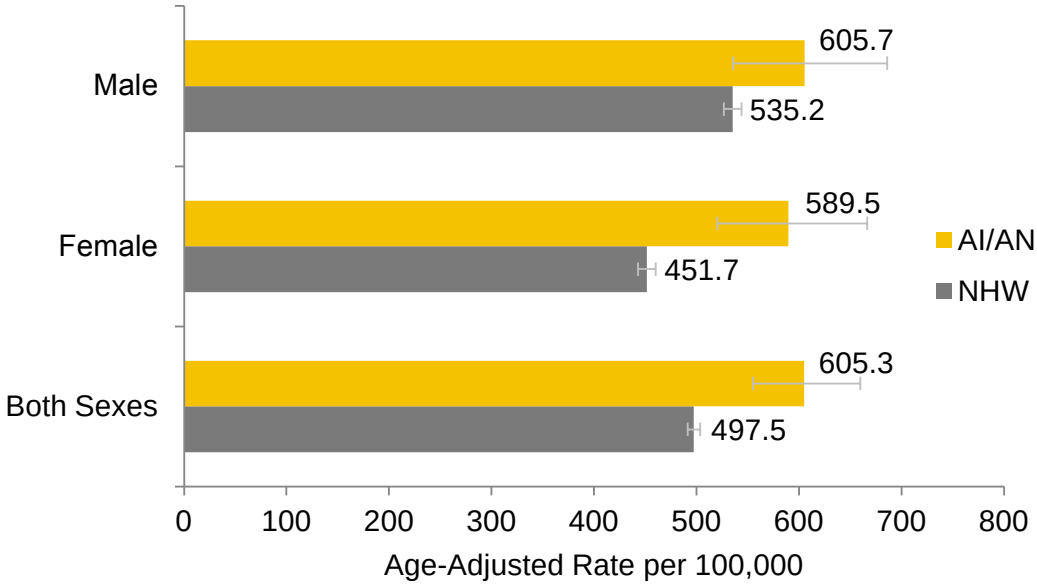
Data Notes: Injury manner and intent were determined using the External Cause of Injury Matrix developed for ICD-9 external cause codes, from the Centers for Disease Control and Prevention (CDC). ("ICD Injury Matrices," 2009)

Table 7.1: Inpatient hospital discharges for unintentional injury by race and sex, Oregon, 2010-2011.

Sex	AI/AN N† (%)	NHW N† (%)
Male	381 (8.3%)	17,541 (7.8%)
Female	328 (4.7%)	18,906 (6.2%)
Both Sexes	709 (6.1%)	36,447 (6.9%)

† N = number of hospitalizations. The percentages were calculated using the total inpatient hospitalizations for each group: AI/AN male (N=4,603), AI/AN female (N=7,015), AI/AN total (N=11,618), NHW male (N=225,270), NHW female (N=303,952), and NHW total (N=529,222).

Figure 7.1: Age-adjusted hospital discharge rates for unintentional injury by race and sex, Oregon, 2010-2011.



Mortality from Unintentional Injuries

Unintentional injury is the third leading cause of death for Oregon AI/AN. Figure 7.2 shows the age-adjusted death rates for unintentional injury among AI/AN and NHW in Oregon. Male AI/AN were 46% more likely to die from unintentional injury than females. Compared to NHW, AI/AN unintentional injury death rates were 56% higher. AI/AN of both sexes had statistically significantly higher death rates due to unintentional injury compared to their NHW counterparts. Among AI/AN in the Northwest region, those living in Oregon and Idaho had similar rates of unintentional injury deaths, which were below those seen in Washington AI/AN.

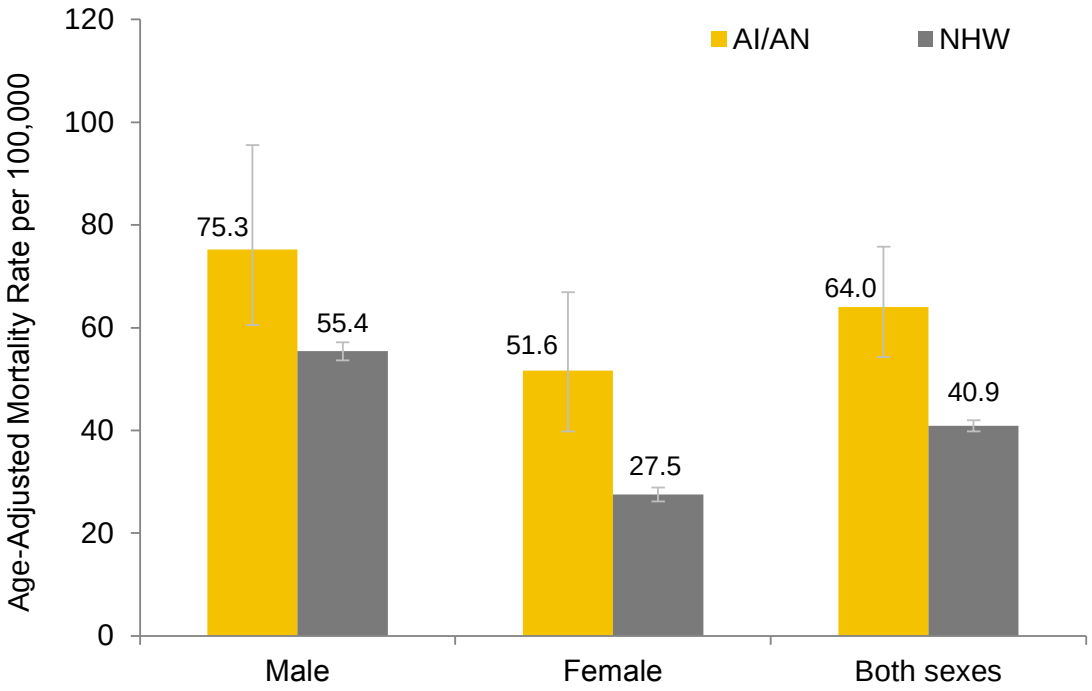
Data Source: Oregon state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Table 7.2: Age-adjusted unintentional injury mortality rates by race and sex, Oregon, 2006-2010.

Sex	AI/AN Rate (95% CI)	NHW Rate (95% CI)	AI/AN vs. NHW Rate Ratio (95% CI)
Male	75.3 60.5, 95.6)	55.4 (53.7, 57.1)	1.4 (1.1, 1.6) †
Female	51.6 (39.8, 66.9)	27.5 (26.2, 28.9)	1.9 (1.5, 2.4) †
Both Sexes	64.0 (52.2, 75.7)	40.9 (39.8, 42.0)	1.6 (1.4, 1.8) †

CI = confidence interval
† Indicates a statistically significant difference (p<.05).

Figure 7.2: Age-adjusted unintentional mortality rates by race and sex, Oregon, 2006-2010.

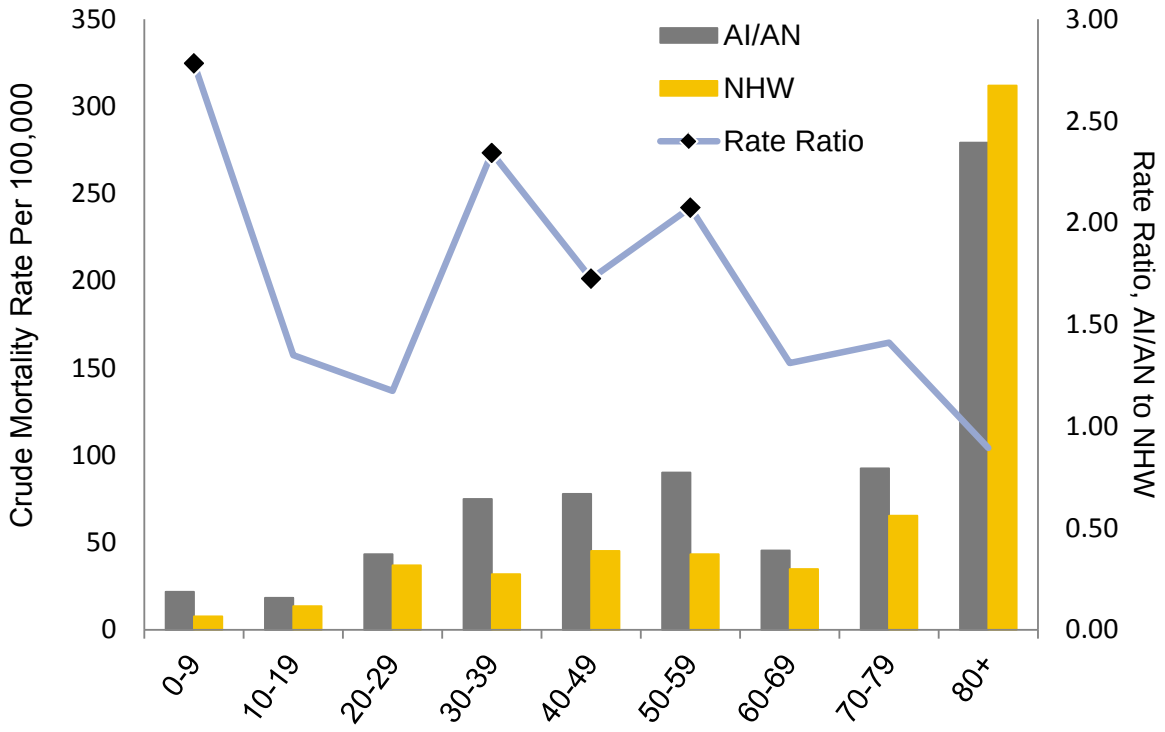


Unintentional Injury Mortality Across the Life Span

Figure 7.3 shows the death rates by age group for AI/AN and NHW. The blue line shows the rate ratio comparing the two populations. Among those younger than 79, AI/AN aged 30-59 years were at highest risk of death from unintentional injuries. These were also the ages at which disparities were seen in comparing AI/AN death rates to NHW. However, the largest disparity was seen in children under 10. For this group, AI/AN children 0-9 years were almost three times more likely to suffer an unintentional injury death than NHW children of the same ages.

Data Source: Oregon state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Figure 7.3: Age-specific unintentional injury death rates by race, Oregon, 2006-2010.



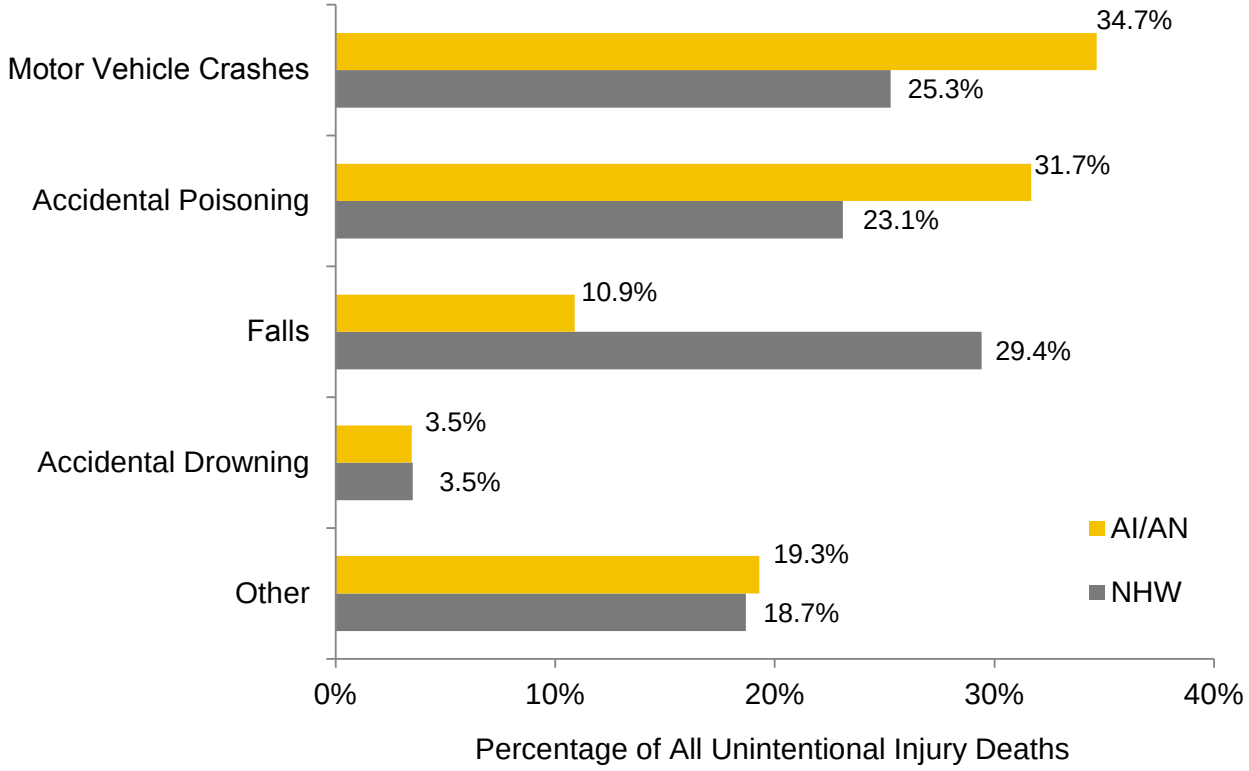
Note: Rate Ratio is a comparison of AI/AN to NHW rates; a value above 1 indicates AI/AN rates are higher than NHW. Black markers are shown for age groups in which the AI/AN rates are statistically significantly higher than NHW rates.

Causes of Unintentional Injury Deaths

The majority of unintentional injury deaths among both groups came from motor vehicle crashes (MVC) and accidental poisoning, although these two top causes accounted for about two thirds of all unintentional injury deaths among AI/AN, but only half for NHW (Figure 7.4). NHW had a much higher proportion of unintentional injury deaths due to falls than AI/AN. This is possibly related to the difference in age at death. AI/AN mortality occurs at younger ages from other causes while most fall deaths among NHW occur in those eighty years and older.

Data Source: Oregon state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Figure 7.4: Leading causes of unintentional injury mortality by race, Oregon, 2006-2010.



Homicide-Related Hospitalizations

In 2010-2011, 0.6% of AI/AN hospitalizations in Oregon were related to homicide (Table 7.3). AI/AN of both sexes had a significantly higher proportion of homicide-related hospitalizations compared to NHW, but the difference was larger for males (1.2% for AI/AN males vs. 0.3% for NHW males). Compared to their NHW counterparts, the age-adjusted hospitalization rates for homicide were 3.3 times higher for AI/AN females and 2.6 times higher for AI/AN males (Figure 7.5). Because of the overall small numbers of individuals, there is considerable uncertainty in these estimates - however, the associations were statistically significant.

Data Source: Oregon state hospital discharge data (Oregon Office for Health Policy and Research), 2010-2011, corrected for misclassified AI/AN race by the IDEA-NW Project.

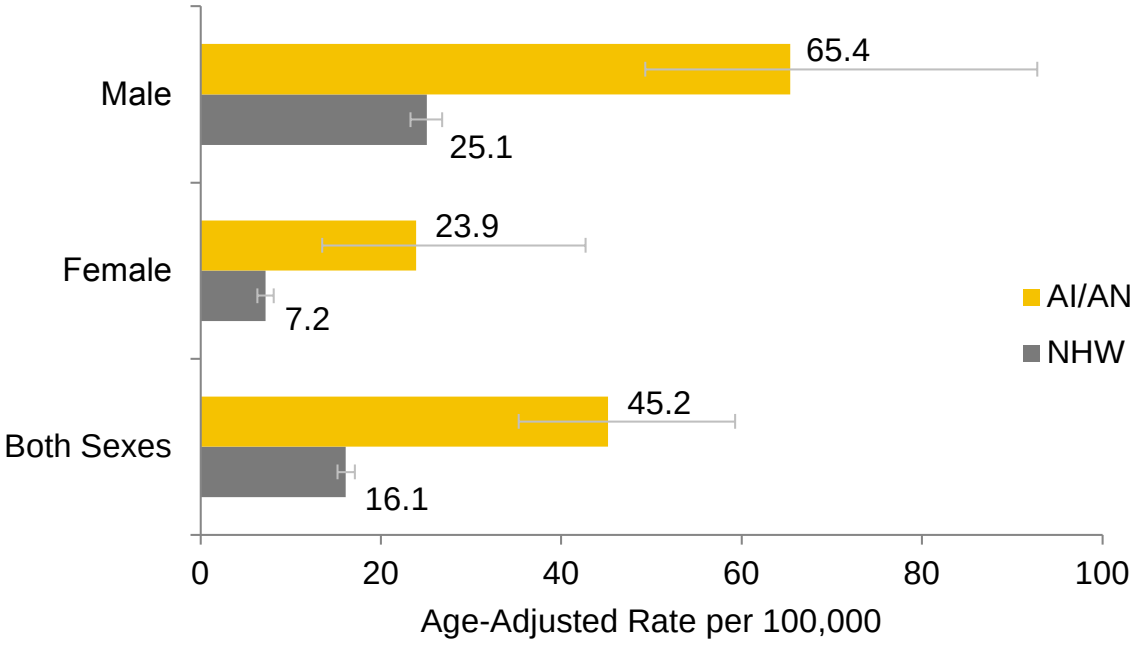
Data Notes: Injury manner and intent were determined using the External Cause of Injury Matrix developed for ICD-9 external cause codes, from the Centers for Disease Control and Prevention (CDC). ("ICD Injury Matrices," 2009)

Table 7.3: Inpatient hospital discharges for homicide by race and sex, Oregon, 2010-2011.

Sex	AI/AN N† (%)	NHW N† (%)
Male	57 (1.2%)	734 (0.3%)
Female	18 (0.3%)	211 (0.1%)
Both Sexes	75 (0.6%)	945 (0.2%)

† N = number of hospitalizations. The percentages were calculated using the total inpatient hospitalizations for each group: AI/AN male (N=4,603), AI/AN female (N=7,015), AI/AN total (N=11,618), NHW male (N=225,270), NHW female (N=303,952), and NHW total (N=529,222).

Figure 7.5: Age-adjusted hospital discharge rates for homicide by race and sex, Oregon, 2010-2011.



Mortality from Homicide

Table 7.4 and Figure 7.6 shows the age-adjusted homicide rates among AI/AN and NHW in Oregon from 2006-2010. Male AI/AN in Oregon were more than three times more likely to die through a homicide than AI/AN females. Compared to NHW, AI/AN homicide rates were nearly three times higher. Rates of homicide death among Oregon AI/AN fell in the middle for the region; they were higher than Idaho AI/AN homicide rates, but lower than those seen in Washington.

It should be noted that, due to small numbers, the rates presented here may be unstable (as seen in the wide confidence intervals). Statistical tests take into account this level of uncertainty, and thus the rate ratio comparisons with NHW shown in Table 7.4 can be interpreted as reflecting a true disparity, while differences in the actual rate estimates alone may not.

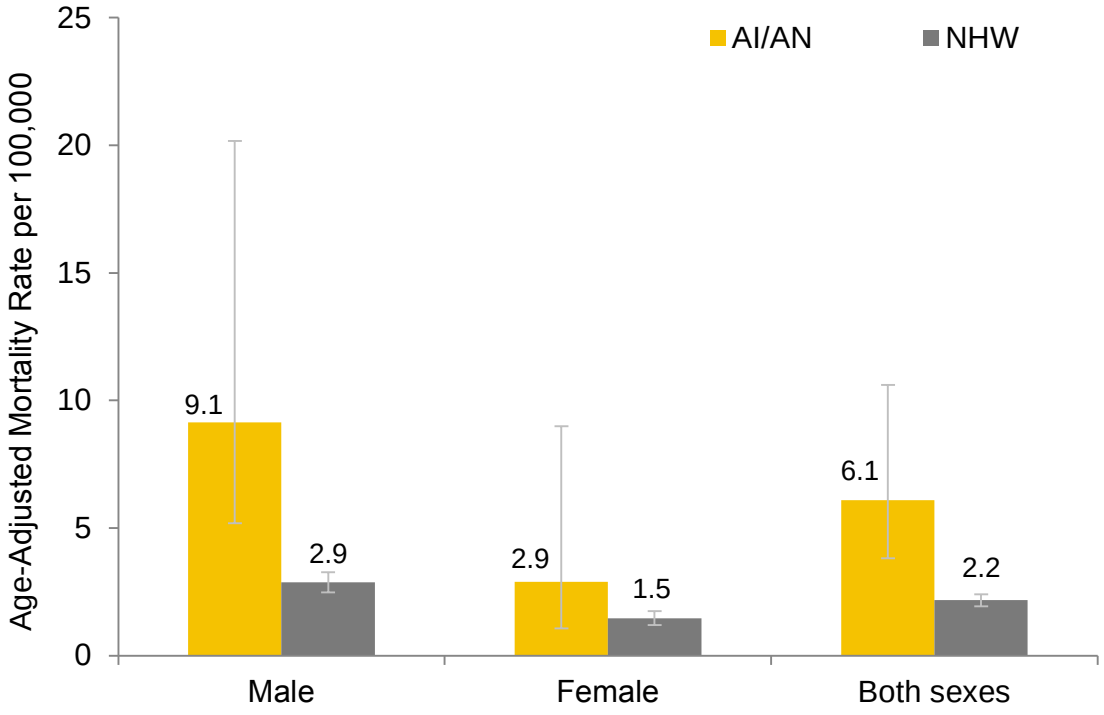
Data Source: Oregon state death certificates, 2006-2010, corrected for misclassified AI/AN by the IDEA-NW Project.

Table 7.4: Age-adjusted homicide mortality rates by race and sex, Oregon, 2006-2010.

Sex	AI/AN Rate (95% CI)	NHW Rate (95% CI)	AI/AN vs. NHW Rate Ratio (95% CI)
Male	9.1 (5.2, 20.2)	2.9 (2.5, 3.3)	3.2 (2.0, 5.2) †
Female	2.9 (1.1, 9.0)	1.5 (1.2, 1.7)	2.0 (0.9, 4.5)
Both Sexes	6.1 (3.8, 10.6)	2.2 (1.9, 2.4)	2.8 (1.9, 4.3) †

CI = confidence interval
† Indicates a statistically significant difference (p<.05).

Figure 7.6: Age-adjusted homicide mortality rates by race and sex, Oregon, 2006-2010.



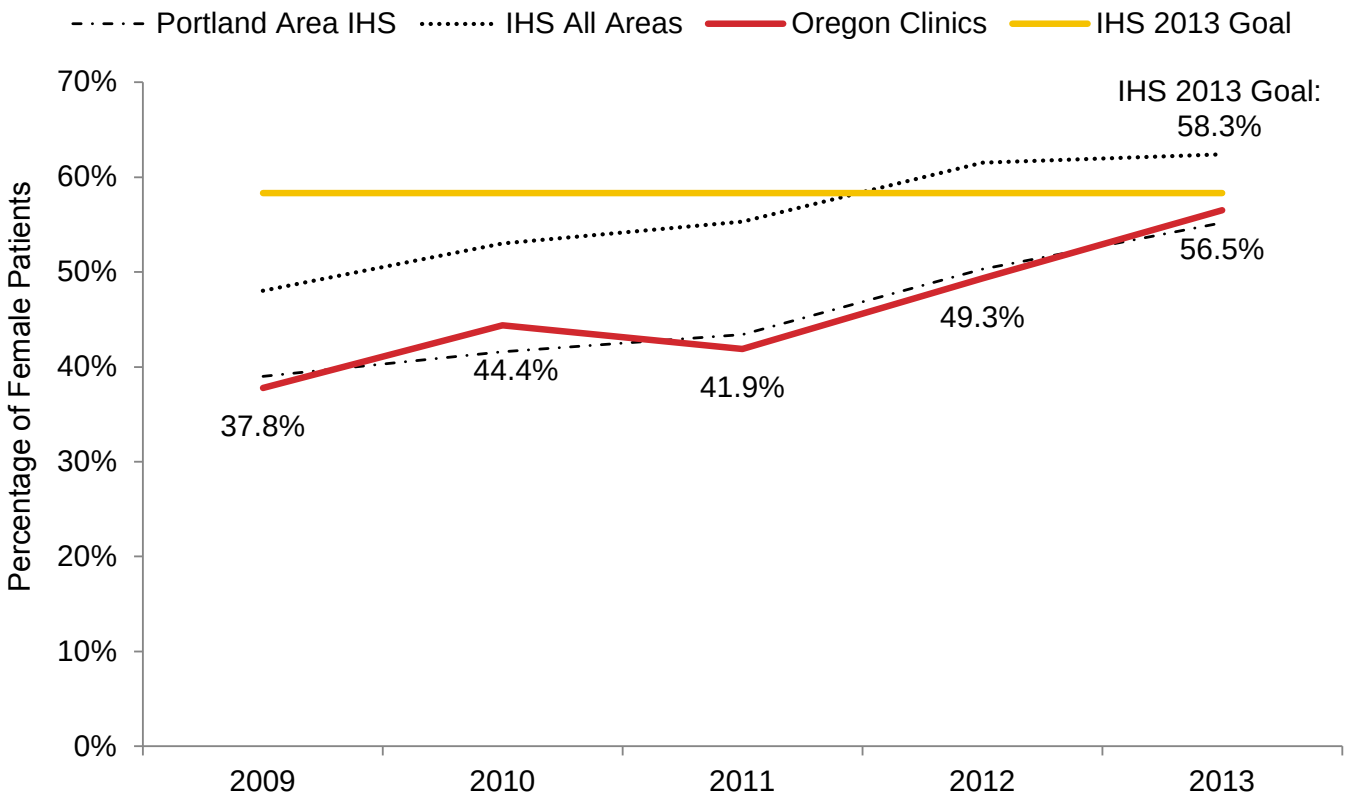
Domestic and Intimate Partner Violence Screening

IHS tracks the percentage of AI/AN female patients ages 15-40 who were screened for domestic or intimate partner violence in the past year. The domestic violence screening rate has steadily increased for Oregon clinics, the Portland Area IHS, and the national IHS since 2009 (Figure 7.7). The screening rate for Oregon clinics has consistently been lower than the rates for the national IHS, but on par with those for the Portland Area IHS. In 2013, neither the screening rates for Oregon clinics nor the Portland Area IHS met the 2013 goal of 58.3%.

Data Source: Portland Area Indian Health Service.

Data Notes: Data labels only shown for Oregon clinics. Oregon clinics include non-urban federal and tribal Indian health facilities in Oregon. Portland Area IHS clinics include non-urban federal and tribal Indian health facilities in Idaho, Oregon, and Washington.

Figure 7.7: Domestic violence screening rates for IHS female patients, 2009-2013.



Program Spotlight: Injury Prevention Program

The Injury Prevention Program (IPP) works to develop and implement effective injury prevention strategies across the 43 Northwest Tribes. The IPP coordinates a Northwest Tribal Injury Prevention Coalition, whose members represent Northwest tribes, transportation safety organizations, and other key stakeholders. The IPP and Coalition members completed a 5-year Tribal Injury Prevention Plan in 2012, and are now working on implementing injury prevention and education strategies, with an emphasis on motor vehicle safety and elder falls prevention. The IPP also contributes to the collection, analysis and interpretation of injury data. The IPP is funded through a cooperative agreement with the Indian Health Service.

The IPP's goals are to:

- Provide a central location for coordination and dissemination of injury prevention resources and expertise for Northwest tribes.
- Collaborate with Northwest tribes to provide information, technical assistance and training for injury prevention, and to increase IP-related activities at the tribal level.
- Collect and evaluate community-specific data on injuries among American Indians in the Northwest, and support development of reducing injuries in targeted communities.

For more information, contact:

Luella Azule (Yakama/Umatilla)
Program Coordinator
lazule@npaihb.org
503-416-3263

http://www.npaihb.org/epicenter/project/injury_prevention_program