

## Indigenous Safety

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## 56 IMMERSION DEATHS OF INDIGENOUS PEOPLES IN CANADA – EPIDEMIOLOGY, CULTURE, PREVENTION

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**Background** Indigenous peoples in Canada live in a mix of rural and urban areas. Open bodies of water are often essential for subsistence and recreational transport, fishing, and hunting. Death rates are several times higher than nationally. The goal is preventing immersion deaths by implementing evidence-based interventions for main activities and risk factors in culturally appropriate programs.

**Methods** Annual Red Cross collection of 1991–2010 coroner data by structured questionnaire, including activity, purpose, personal, equipment, environment factors, and trends. Cultural factors pertinent to interventions were assessed by literature reviews, including anthropological surveys. Interventions were developed based upon risk factors for main activities, cultural values, and practical considerations. Logistic regression was used to assess flotation device wearing, controlling for other variables.

**Results** Surveillance identified 1213 immersion and 27 trauma deaths. Boating, including transport, fishing, and hunting, accounted for 37% (n = 444), non-aquatic activities such as walking or playing near water and on ice 21%, aquatic such as swimming or wading 17%, land ice and air transport 17%, bathing 3%, unknown 6%. 52% involved recreation, 34% daily life/subsistence, occupational 4%, rescue 2%, other 1%, unknown 8%. Main risk groups were males  $\geq 15$  years, 73%, and 1–4 year-olds, 9%. Swimming ability was reported for 26% of  $\geq 5$  years, including 23% non-swimmers, 12% weak, 45% average/intermediate/unspecified, 6% strong. Among  $\geq 15$  year-olds, alcohol was involved for  $\geq 60\%$  and illegal drugs  $\geq 10\%$ . Rivers and current were a factor for 35%. For 0–9-year-olds, 73% died without adults. Death rates were similar across Canada, much higher in the North. Boating death rates fell from 4.9 to 1.2/100,000/population/year between 1991–1995 and 2006–2010; for other activities, deaths fell during 1991–2000, but not 2001–2010. Main risks for boating included non-wearing of flotation, with only 5% wearing; for 40% none was aboard. Logistic regression showed 68% (p = 0.000) reduced odds of properly wearing flotation, compared with non-indigenous. Among 0–14-year-olds, 44% of known ethnicity were indigenous, 0% wearing, others 33% wearing; no indigenous youth wore PFDs, others 13%. Capsizing, falling overboard, and swamping accounted for 75%. Waves, wind, cold water and other cold factors were frequent. For aquatic activities, 15–40-year-old males were main victims, for non-aquatic 1–4-year-olds and  $\geq 15$  males. Rivers were the most frequent body of water. Ice transport victims were predominantly  $\geq 20$ -year-old males using snowmobiles, while both males and females  $\geq 15$  were victims of on-road into water deaths. Ice transport deaths mainly occurred in central and Prairie Provinces and northern territories. Most road transport immersions were in the Prairies.

**Conclusions** To avert immersions for all water-related activities, surveillance supports raising ability to swim and to survive in currents, especially for males, and reducing alcohol and illegal drug consumption among adult males. For children, especially 1–4-year-olds, constant adult supervision by families, and/or development of community nurseries, are essential. Internationally, mandatory flotation wearing is the most effective boating intervention. During boating and snowmobile travel on ice, wearing of flotation at all times is essential. It is encouraged by programs, which need reinforcement by legislation. Cold-protective clothing is frequently essential. Culturally sensitive safety promotion is being implemented and assessed for main activities and risk groups.

## 57 DRIVING CHANGE: IMPLEMENTATION OF A MULTI-SITE COMMUNITY LICENSING PROGRAM FOR ABORIGINAL PEOPLE

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**Background** In Australia, Aboriginal and Torres Strait Islander people experience higher rates of injury-related morbidity and mortality relative to the non-Aboriginal population. Aboriginal people are almost three times as likely to die from transport-related injury and 30% more likely to sustain serious transport-related injury. This disparity has been attributed to specific risk factors including unlicensed driving, which is considered to be prevalent in Aboriginal communities and is a significant risk factor for road trauma.

The ‘Driving Change’ program has been implemented in 12 NSW communities to reduce barriers to licence participation and increase safe and legal driving behaviour. This research presents a mixed-methods process evaluation of ‘Driving Change’.

**Methods** Triangulation of stakeholder interviews (n = 22), participant focus groups (n = 18) and program data (n = 720) collected April 2013 to October 2015. Descriptive and regression analyses of program data (demographics, service delivery and licensing outcomes). Framework analysis of qualitative data to gain a richer understanding of fidelity, dosage and the program context including barriers and facilitators to implementation.

**Results** Variation in delivery and outcomes between sites was found, but anticipated as the program is intended to adjust to meet local needs rather than be prescriptive. Interviewees reported strong support for the program, however maintaining long-term community engagement emerged as a significant implementation challenge; consequently the program intensified support for local field workers to broker collaborative relationships with communities.

**Conclusions** Driving Change is meeting community engagement priorities and reaching the target population. This evaluation highlights the value of involving community and government stakeholders to foster capacity building and ensure a culturally acceptable approach to reducing injury and promoting safety within Aboriginal communities.