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In the Drink: A Review of Morbidity and Mortality Associated with Water-Related Activities in the Top End region, Northern Territory, Australia

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Study/Objective: A 10-year descriptive analysis of morbidity and mortality associated with water-related activities in the Top End, Northern Territory (NT), Australia.

Background: An outdoor, water-orientated lifestyle characterises the Top End due to its tropical climate, lengthy coastline, many inland-waterways, and common domestic-pool ownership. However, the water holds many dangers: from drowning to the prospect of crocodile attacks.

Methods: Data were retrospectively collected from two sources: the Trauma Registry (TR), Royal Darwin Hospital, NT and the National Coronial Information System. Inclusion criteria: all mortality or injury with an Injury Severity Score (ISS) ≥ 9 from water-related activity in the Top End. Exclusion criteria: envenomation. Data included: demographics,

geographical location, time/mechanism of injury, injury narrative/outcome, alcohol consumption, ISS, and Indigenous race.

Results: Ninety-five deaths occurred from 1/1/2005–12/31/2014; 87 prehospital (92%). The leading three mechanisms of injury for the 138 TR admissions were drowning (40%), falling/diving (35%), and watercraft events (14%). Median age 27 (0-90); 78% males. There were 74 children (<16 years) including 20 deaths. Indigenous Australians represent 30% of the NT population, but had 43% of deaths and 12% of admissions. Deaths from crocodile attacks are increasing with 14 deaths from 2005-2014, compared to 10 deaths from 1971-2004 (Caldicutt). Alcohol was recorded in 31% of admissions and 52% of deaths in those age >16. The Top End's crude rate of drowning averaged over 10 years was 4.36/100,000/annum, compared to 1.31/100,000/annum in Australia.

Conclusion: Alcohol plays a major role in the Top End's water-related harm, associated with all mechanisms and over one-half of adult deaths. Also striking is increasing crocodile fatalities, possibly caused by population recovery from endangered to plentiful, since hunting ceased in 1971. Local authorities/advocates push water-safety and crocodile-awareness programs. However, the lure of tropical waters combined with alcohol remains a risk to life and limb. Further public health campaigns focusing on these issues are called for.

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