

## Poor birth outcomes among Aboriginal Western Australians and smoking, alcohol and substance misuse, and assault

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### Introduction

On average, Aboriginal neonates in Western Australia (WA) weigh 200g less than non-Aboriginal infants and are 2-3 times more likely to be preterm, stillborn, or die neonatally. They are also more likely to be exposed in utero to maternal behaviour risks like smoking, due to factors such as intergenerational trauma.

### Objectives and Approach

We aimed to estimate the proportion of small for gestational age (SGA) births, preterm births, and perinatal deaths of Western Australian Aboriginal infants from 1998-2010 attributable to maternal smoking, alcohol misuse, drug misuse, and assault against the mother. We used linked birth, hospital, mental health, and death records of all Aboriginal singletons and their parents. Using logistic regression with a generalized estimating equation approach, associations between birth outcomes and the four risk factors of interest were estimated after adjusting for maternal age, height and health. Using coefficients from these models, we estimated adjusted population attributable fractions (PAFs).

### Results

Of 28,119 births, 16% of infants were SGA, 13% were preterm and 2% died perinatally. 51% of infants were exposed to maternal smoking, alcohol misuse, drug misuse, and/or assault, and 37% [95% CI: 35%, 40%] of SGA births, 16% [95% CI: 14%, 19%] of preterm births and 20% [95% CI: 12%, 28%] of perinatal deaths were attributable to these factors, predominantly smoking. The PAFs for alcohol misuse (for example, for SGA, 3% [95% CI: 2%, 3%]) are likely to be underestimates as it is difficult to identify alcohol misuse using administrative data.

### Conclusion/Implications

While smoking rates have dropped considerably, reduction measures have been less successful among Aboriginal women than non-Aboriginal women. Significant improvements in perinatal health are possible with identification and support of effective risk reduction approaches for Aboriginal women, as well as their communities and families.

