Supplement
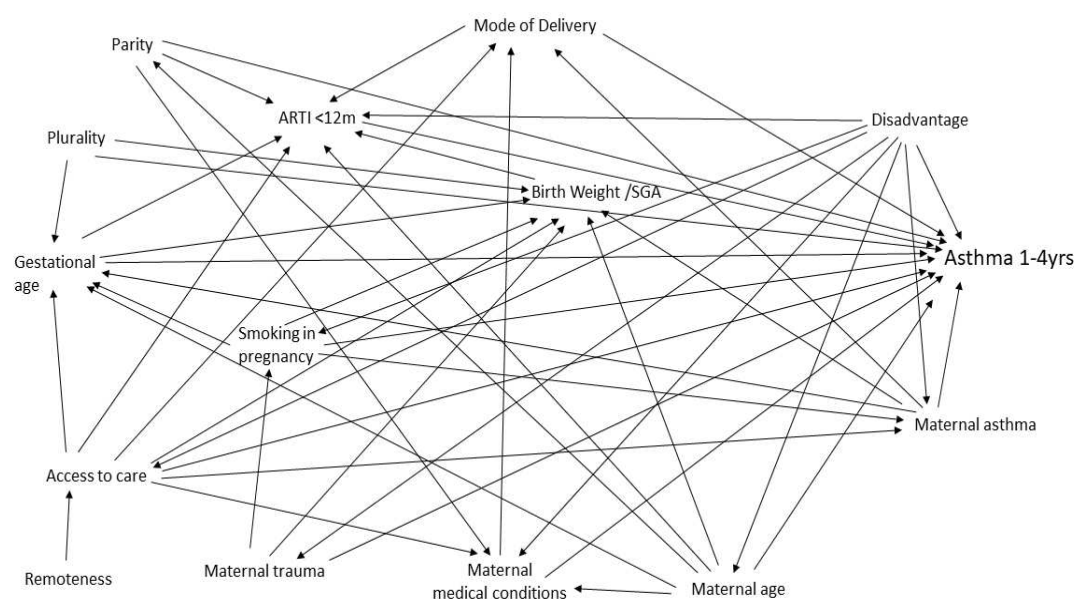
Identifying preventable risk factors for hospitalised asthma in young Aboriginal children: a whole-population cohort study.

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Table S1. ICD-10-AM codes

Asthma	J45 J46
Bronchiectasis	J47
Wheeze Symptoms	R06.2
Acute Respiratory Tract Infection	J00-J04, J06, J09-J18, J21, J22
Maternal Psychological Trauma:	
Mental health	F00-F09, F20-F48, F60-F69
Assault	X85-X99, Y00-Y09
Alcohol or Drug abuse	F10-F19, T40, T41, R780-R785, Z714, Z721, T411, T423, T424, T507, T509, X41-X44, X64, Y10, Y11, Y14, X45, X65, Y15, Y90, Y91

Figure S1. Directed Acyclic Graph

Table S2. Sensitivity Analysis. Associations between risk factors and asthma (broad definition) in Aboriginal children 1-4 years (Odds Ratios and 95% Confidence Intervals).

Risk Factors	ASTHMA-BROAD Adjusted OR (95% CI)	Potential confounders used in adjusted models (see Figure S1)
Maternal age (years)		
≤19	0.99 (0.82, 1.20) p=0.92	*Disadvantage*
20-24	0.95 (0.80, 1.14) p= 0.60	
25-29	1.06 (0.88, 1.27) p=0.55	
≥ 30	Reference	
Plurality		
Singleton	Reference	*Gestational age, birth weight*
Multiples	0.77 (0.52, 1.14) p=0.20	
Parity		
0	Reference	*Maternal age*
≥ 1	0.95 (0.81, 1.11) p=0.54	
Gestational age (weeks)		
Very preterm <33	3.39 (2.66, 4.31) p<0.0001	*Maternal age, smoking in pregnancy, maternal asthma, remoteness, plurality*
Preterm 33-36	1.40 (1.12, 1.74) p= 0.003	
Early term 37-38	1.03 (0.88, 1.20) p=0.67	
At term 39-40	Reference	
Post-term >40	1.04 (0.83, 1.30) p=0.75	
Birth weight (g)		
Very low (<1500)	1.88 (1.17, 3.01) p=0.009	*Maternal age, smoking in pregnancy, maternal trauma, maternal asthma, gestational age, remoteness, plurality*
Low (1500-2499)	1.19 (0.93, 1.52) p= 0.16	
Normal (2500-4000)	Reference	
High (>4000)	0.88 (0.68, 1.14) p=0.33	
Small for gestational age	1.03 (0.87, 1.23) p=0.71	*Maternal age, smoking in pregnancy, maternal trauma, maternal asthma, remoteness*
Maternal smoking in pregnancy	1.05 (0.92, 1.20) p=0.46	*Maternal trauma, disadvantage*
Maternal asthma	1.51 (1.27, 1.79) p<0.0001	*Disadvantage, smoking in pregnancy, remoteness*

Maternal medical conditions	1.07 (0.88, 1.31) p=0.50	*Disadvantage, parity, maternal age, remoteness*
Mode of delivery		
Vaginal	Reference	*Maternal asthma, maternal medical conditions, remoteness*
Elective caesarean section	0.97 (0.76, 1.22) p=0.77	
Emergency caesarean section	1.15 (0.97, 1.37) p=0.11	
Maternal trauma	1.28 (1.05, 1.57) p=0.02	*Disadvantage*
Disadvantage		
Q5 (least)	Reference	*Maternal age*
Q4	1.06 (0.73, 1.55) p=0.76	
Q3	1.18 (0.83, 1.67) p=0.35	
Q2	1.06 (0.76, 1.49) p=0.72	
Q1 (most)	1.17 (0.85, 1.61) p=0.34	
Area level remoteness of residence at Birth		
Major cities	Reference	*Disadvantage*
Inner regional	0.89 (0.70, 1.12) p=0.32	
Outer regional	1.11 (0.93, 1.34) p=0.24	
Remote	0.97 (0.81, 1.18) p=0.79	
Very remote	0.82 (0.67, 1.00) p=0.05	
ARTI <1 year	3.75 (3.24, 4.28) p<0.0001	*Delivery method, disadvantage, birthweight, maternal age, parity, gestational age, remoteness*

Supplemental material

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Table S3. Sensitivity Analysis Population attributable fractions for potentially preventable risk factors for asthma (broad definition- including wheeze and bronchiectasis as main diagnosis).

Risk Factor	Population attributable fraction % (95% CI)*
ARTI < 1 year	28.2 (26.5, 29.4)
Disadvantage (lowest quintile)	7.4 (-8.9, 19.2)
Very preterm <33 weeks	7.0 (6.2, 7.7)
Preterm 33-36 weeks	3.3 (1.2, 4.9)
Very low birth weight < 1500g	2.6 (0.8, 3.7)
Low birth weight 1500-2500g	2.3 (-1.1, 4.9)
Maternal trauma	2.4 (0.5, 4.0)
Maternal smoking in pregnancy	2.2 (-4.0, 7.7)
Emergency caesarean section	2.1 (-0.5, 4.3)

*Population attributable fractions based on adjusted odds ratios