

8. State and territory management

Pre-school child blood lead levels in a population-derived Australian birth cohort: the Barwon Infant Study

Christos Symeonides, Peter Vuillermin, Peter D Sly, Fiona Collier, Victoria Lynch, Sandra Falconer, Angela Pezic, Nicole Wardrop, Terence Dwyer, Sarah Ranganathan and Anne-Louise B Ponsonby
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State/territory	Notifier	Legislation	Notification level/ additional details
NSW	Laboratories on diagnosis	Public Health Act 1991	Venous blood lead level of $\geq 5\mu\text{g/dL}$ http://www.health.nsw.gov.au/infectious/control/guidelines/Pages/lead.aspx
Queensland	Laboratories on diagnosis	Public Health Regulations 2005	Notifiable $\geq 5\mu\text{g/dL}$ in any person http://disease-control.health.qld.gov.au/Condition/720/lead-exposure
Tasmania	Laboratories	Public Health Act 1997	Notifiable $>5\mu\text{g/dL}$ http://www.dhhs.tas.gov.au/peh/communicable_diseases_prevention_unit/?a=53319
Victoria	Laboratories and medical practitioners on diagnosis	Public Health and Wellbeing Act 2008	Notifiable $> 5 \mu\text{g/dL}$ http://www.health.vic.gov.au/docs/doc/Notifiable-Conditions-Form
Western Australia	Medical practitioners after diagnosis of lead poisoning	Health Act 1911 Health (Notification of Lead Poisoning) Regulations 1985	Notifiable $\geq 5\mu\text{g/dL}$ high-risk groups and $\geq 10 \mu\text{g/dL}$ for everyone else http://www.public.health.wa.gov.au/3/50772/lead_poisoning_notifications.pm

Note: elevated blood lead levels are not currently notifiable conditions in South Australia, ACT and Northern Territory. Health authorities in these jurisdictions can follow up cases of lead exposure should a referral be made. The notification requirements in these jurisdictions can vary between regional public health authorities can advise on

Abstract

Objectives: To investigate blood lead levels in an Australian birth cohort of children; to identify factors associated with higher lead levels.

Design, setting: Cross-sectional study within the Barwon Infant Study, a population birth cohort study in the Barwon region of Victoria (1074 infants, recruited June 2010 – June 2013). Data were adjusted for non-participation and attrition by propensity weighting.

Participants: Blood lead was measured in 523 of 708 children appraised in the Barwon Infant Study pre-school review (mean age, 4.2 years; SD, 0.3 years).

Main outcome measure: Blood lead concentration in whole blood ($\mu\text{g/dL}$).

Results: The median blood lead level was $0.8 \mu\text{g/dL}$ (range, $0.2\text{--}3.7 \mu\text{g/dL}$); the geometric mean blood lead level after propensity weighting was $0.97 \mu\text{g/dL}$ (95% CI, $0.92\text{--}1.02 \mu\text{g/dL}$). Children in houses 50 or more years old had higher blood lead levels (adjusted mean difference (AMD), 0.13 natural log units; 95% CI, $0.02\text{--}0.24$ natural log units; $P = 0.020$), as did children of families with lower household income (per \$10 000, AMD, -0.035 natural log units; 95% CI, -0.056 to -0.013 natural log units; $P = 0.002$) and those living closer to Point Henry (inverse square distance relationship; $P = 0.002$). Associations between hygiene factors and lead levels were evident only for children living in older homes.

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