

# NSW PUBLIC HEALTH NETWORK REPORT

## LEAD

**W**hile overt childhood lead poisoning from environmental sources has been long recognised in Australia, concern over the more subtle effects of chronic low-level exposure to lead has arisen only over the past decade or so. Communities clearly at high risk in NSW are those near lead industries – such as Boolaroo in Newcastle and Broken Hill. In both these communities the Public Health Network has determined the proportion of children with a high blood level, and some of the risk factors. Children in older urban areas face risks from old lead-based paint and soil that has become contaminated from leaded petrol exhausts. The research by the Public Health Network has assessed the extent of risk among these children as well. Work is now addressing interventions to reduce children's blood lead level. In Broken Hill, the Environment Protection Authority (EPA) and Western NSW Public Health Unit are collaborating to evaluate these efforts. In Sydney, Public Health Units look forward to working with the EPA's recently upgraded Lead Reference Centre to develop interventions and conduct further research to reduce lead poisoning among urban children. The following list describes the action of the NSW Public Health Network to address lead problems since 1991.

### Publications and reports

- Title:** **Community prevalence survey of children's blood lead levels and environmental contamination in inner Sydney**  
**Authors:** Fett M, Mira M, Smith J, Alperstein G, Causer J, Brokenshore T, Gulson B, Cannata S.  
**Publication:** *Med J Aust* 1992; 157: 441-445  
**Contact:** CS PHU
- Title:** **Mort Bay, Balmain pilot study of blood lead in children**  
**Authors:** Smith J, Mira M, Fett M, Alperstein G, Gulson B, Brokenshore T, Cannata S.  
**Publication:** *Central Sydney Public Health Unit* 1992  
**Contact:** CS PHU
- Title:** **Living near a lead smelter: an environmental health risk assessment in Boolaroo and Argenton, New South Wales**  
**Authors:** Galvin J, Stephenson J, Wlodarczyk J, Loughran R, Waller G.  
**Publication:** *Aust J Public Health* 1993; 17: 373-8  
**Contact:** HUN PHU
- Title:** **The Newcastle lead study: how straight is the critical path for a multisectoral approach towards a public health outcome?**  
**Authors:** Galvin J, Stephenson J.  
**Publication:** Conference Proceedings, Public Health Association Conference, Canberra, 1992  
**Contact:** HUN PHU

- Title:** **Tackling childhood lead poisoning: The Newcastle lead study**  
**Authors:** Galvin J, Stephenson J, Corbett S.  
**Publication:** *NSW Public Health Bulletin* 1991; 2:98-99  
**Contact:** HUN PHU
- Title:** **Blood lead levels in 1-4 year old children attending child care centres in the Eastern Sydney Area**  
**Authors:** Cowie C, Black D, Ferson M, Fraser I.  
**Publication:** *NSW Public Health Bulletin* (Supplement) 1994; 5(S-1): 9  
**Contact:** ES PHU
- Title:** **Illawarra child blood lead study 1994**  
**Authors:** Kreis I, Calvert G, Gan I, Westley-Wise V, Willison R.  
**Publication:** *Illawarra Environmental Health Unit/Illawarra Public Health Unit* 1994.  
**Contact:** ILL PHU
- Title:** **Evaluation of possible environmental sources of lead affecting children in Port Kembla, Kemblawarra, Warrawong and Cringila**  
**Authors:** Williams C, Calvert GD, Gan I, Kacprzak J, Kreis I, Westley-Wise V, Willison R.  
**Publication:** *Illawarra Environmental Health Unit/Illawarra Public Health Unit*, 1995.  
**Contact:** ILL PHU
- Title:** **Risk factors for blood lead levels in preschool children in Broken Hill**  
**Authors:** Phillips A, Hall J.  
**Publication:** *Western NSW Public Health Unit*  
**Contact:** WN PHU

### Public health programs and research

- Title:** **1991 Prevalence study of blood lead levels in Broken Hill** (completed)  
**Contact:** WN PHU
- Title:** **1992 Cross-sectional study of blood lead levels in Broken Hill** (completed)  
**Contact:** WN PHU
- Title:** **Survey of blood lead level in children** (completed)  
**Contact:** CS PHU
- Title:** **1993 Broken Hill cross-sectional blood lead survey** (completed)  
**Contact:** WN PHU
- Title:** **Case control study of risk factors for elevated lead in Broken Hill** (completed)  
**Contact:** WN PHU
- Title:** **Case control study of environmental factors and high blood lead levels in the Port Kembla area** (in progress)  
**Contact:** ILL PHU



TABLE 4

## NSW PUBLIC HEALTH UNITS

Code	Unit	Address	Phone	Facsimile
CC PHU	Central Coast Public Health Unit	PO Box 361 GOSFORD 2250	043 20 4545	043 20 4550
CS PHU	Central Sydney Public Health Unit	PO Box 374 CAMPERDOWN 2050	02 550 6810	02 565 1690
CW PHU	Central West Public Health Unit	PO Box 143 BATHURST 2795	063 32 8505	063 32 8577
ES PHU	Eastern Sydney Public Health Unit	Locked Bag 88 RANDWICK 2031	02 313 8322	02 313 6291
HUN PHU	Hunter Public Health Unit	PO Box 11A NEWCASTLE 2300	049 29 1292	049 29 4037
ILL PHU	Illawarra Public Health Unit	PO Box 66 KEIRAVILLE 2500	042 26 4677	042 26 4917
NC PHU	North Coast Public Health Unit	PO Box 498 LISMORE 2480	066 21 7231	066 22 2151
ND PHU	Northern Districts Public Health Unit	PO Box 597 TAMWORTH 2340	067 66 2288	067 66 3003
NS PHU	Northern Sydney Public Health Unit	Hornsby Ku-ring-gai Hospital Palmerston Road HORNSBY 2077	02 477 9400	02 482 1650
SE PHU	South Eastern Public Health Unit	Locked Mail Bag 11 GOULBURN 2580	048 27 3428	048 27 3438
SS PHU	Southern Sydney Public Health Unit	PO Box 482 KOGARAH 2217	02 350 3377	02 350 3474
SW CPH	South West Centre for Public Health	PO Box 503 ALBURY 2640	060 58 1700	060 58 1701
SWS PHU	South Western Sydney Public Health Unit	Locked Bag 17 LIVERPOOL 2170	02 828 5944	02 828 5955
WN PHU	Western NSW Public Health Unit	PO Box M61 EAST DUBBO 2830	068 81 2235	068 84 7223
WS PHU	Western Sector Public Health Unit	13 New Street NTH PARRAMATTA 2151	02 840 3603	02 840 3608

(Compiled by the South West Centre for Public Health on behalf of the Public Health Network)

### Lead exposure at a school

#### ► Continued from page 125

As a consequence an environmental assessment of the child's new school was carried out. Subsequently, other students at the school were offered blood lead testing and public health action was taken to reduce lead exposure within the school grounds. The study highlighted the benefits of notification of elevated blood lead levels to public health authorities, following NHMRC recommendations. Public health action can then be taken to reduce exposures. The study also drew attention to the value of targeting children with developmental disabilities for lead screening, especially those in potentially contaminated environments and those who frequently engage in hand-to-mouth activity.

1. National Research Council. Measuring lead exposure in infants, children and other sensitive populations. Committee on Measuring Lead in Critical Populations. Board of Environmental Studies and Toxicology. Commission on Life Sciences. Washington DC: National Academy of Press, 1993.
2. Needleman H, Bellinger D. The health effects of low pressure to lead. *Ann Rev Pub Hlth* 1991; 12:111-140.
3. McMichael AJ, Baghurst PA, Wigg NR et al. Port Pirie cohort study: Environment exposure to lead and children's intelligence at the age of seven years. *N Engl J Med* 1992; 327:1279-84.
4. Needleman H, Schell A, Bellinger D, Leviton A, Allred EN. The long-term effects of exposure to low doses of lead in childhood. An 11-year follow-up report. *N Engl J Med* 1990, 322:82-88.
5. Sciarillo WG, Alexander G, Farrell KP. Lead exposure and child behaviour. *Am J Public Health* 1992; 82:1356-1360.
6. National Centre for Lead Safe Housing. Guidelines for the Evaluation of Lead-based Paint Hazards in Housing. February 1995.
7. Mira M, Bawden-Smith J, Causer J, Alperstein A, Karr M, Snitch P, Waller G, Fett J. Blood lead concentrations of urban Australian children. Submitted to *Am J Paed*.