

GREATER WESTERN AREA HEALTH SERVICE

**BLOOD LEAD TRENDS IN CHILDREN AGED LESS  
THAN 5 YEARS IN BROKEN HILL  
2008**

January 2009

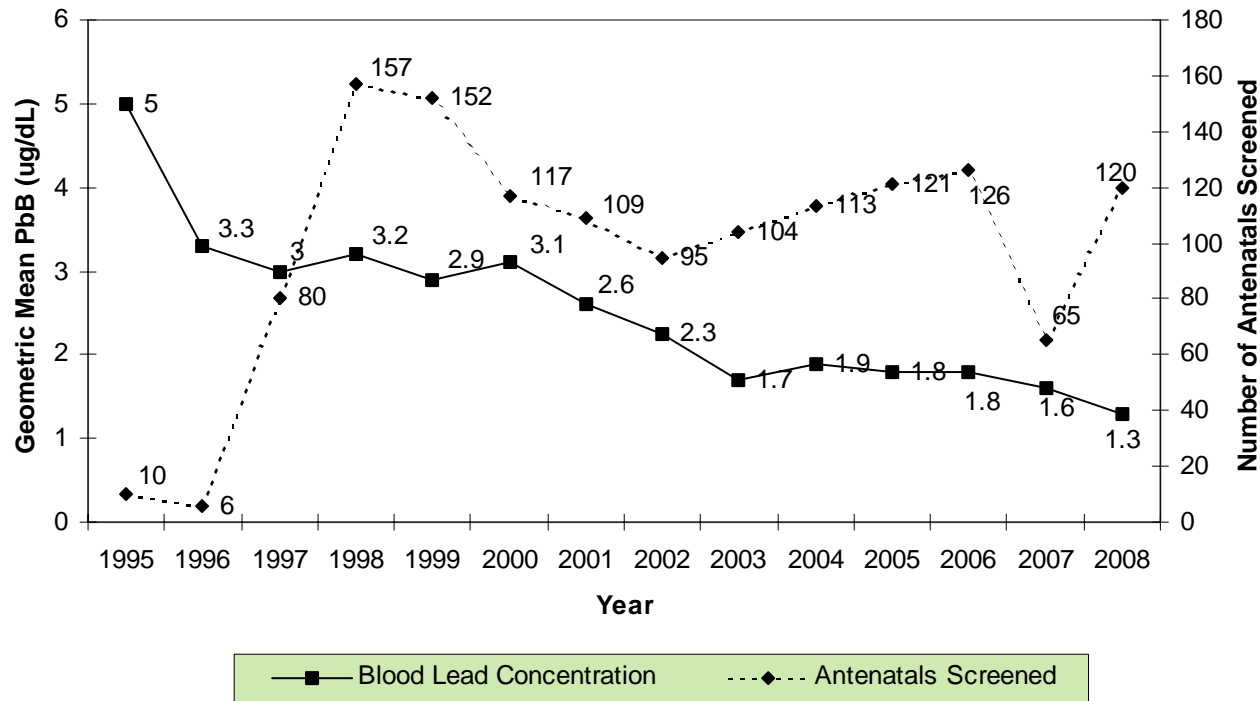
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## ANTENATAL SCREENING

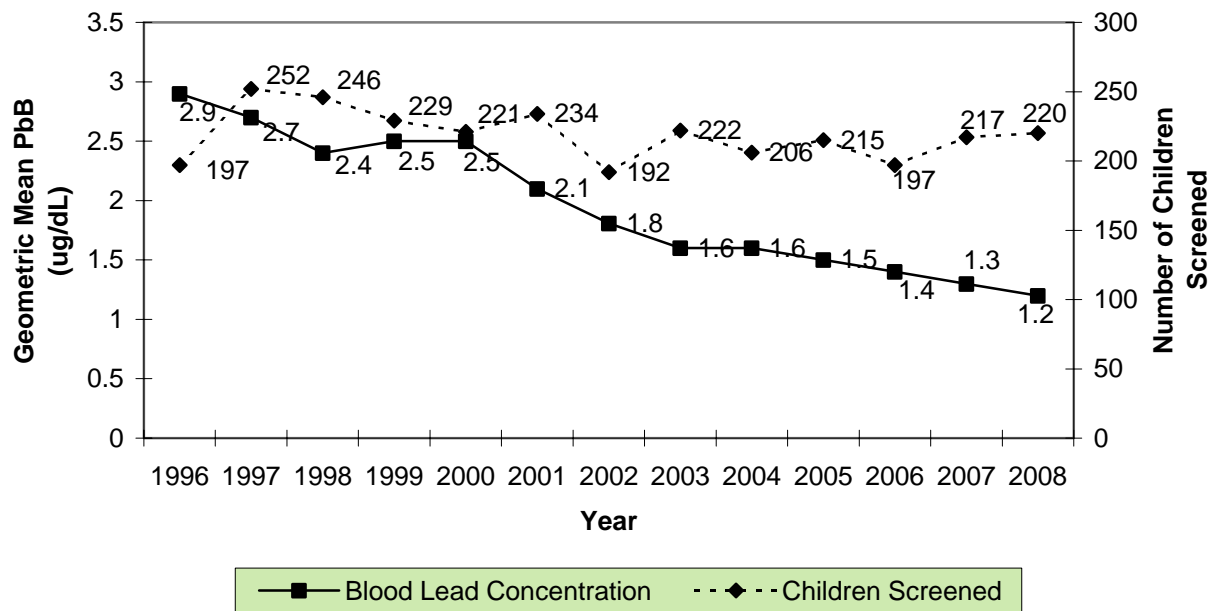
**Figure 1.** Geometric mean blood lead concentration and number of antenatal women screened in Broken Hill, 1995-2008.



Women are screened in their first trimester. In 2007 routine screening of antenatal women at the Broken Hill hospital clinic did not happen as in previous years. It is estimated that X% of women attending the hospital antenatal clinic were screened in 2008.

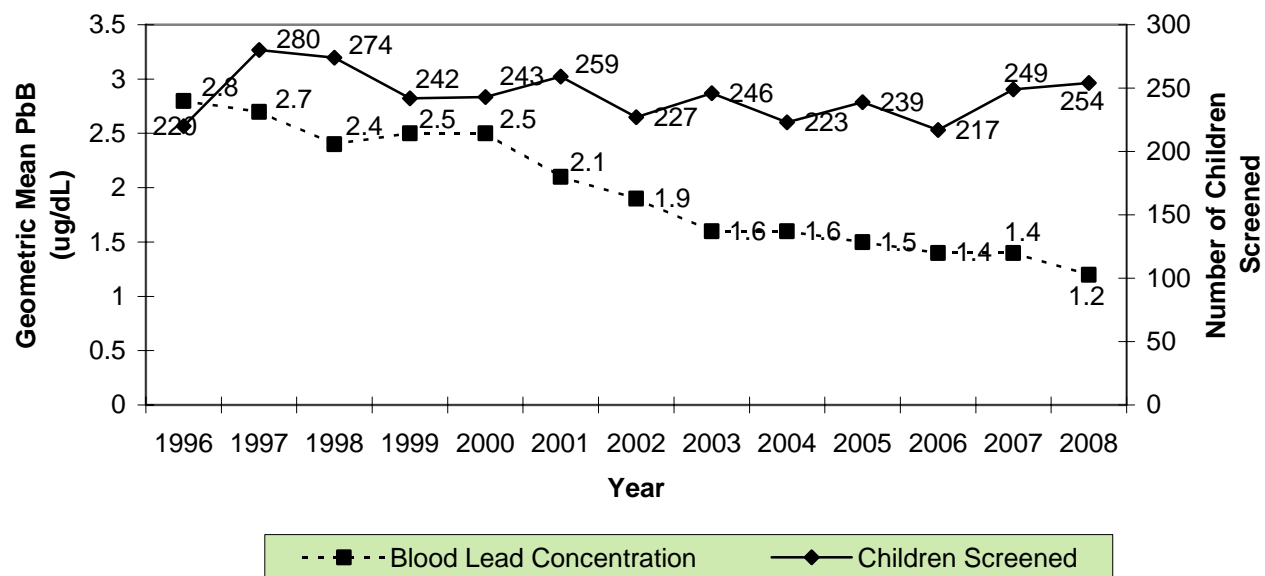
## UMBILICAL CORD BLOOD SCREENING

**Figure 2.** Geometric mean blood lead concentration and number of children screened at birth at Broken Hill Health Service who are residents, 1996-2008.



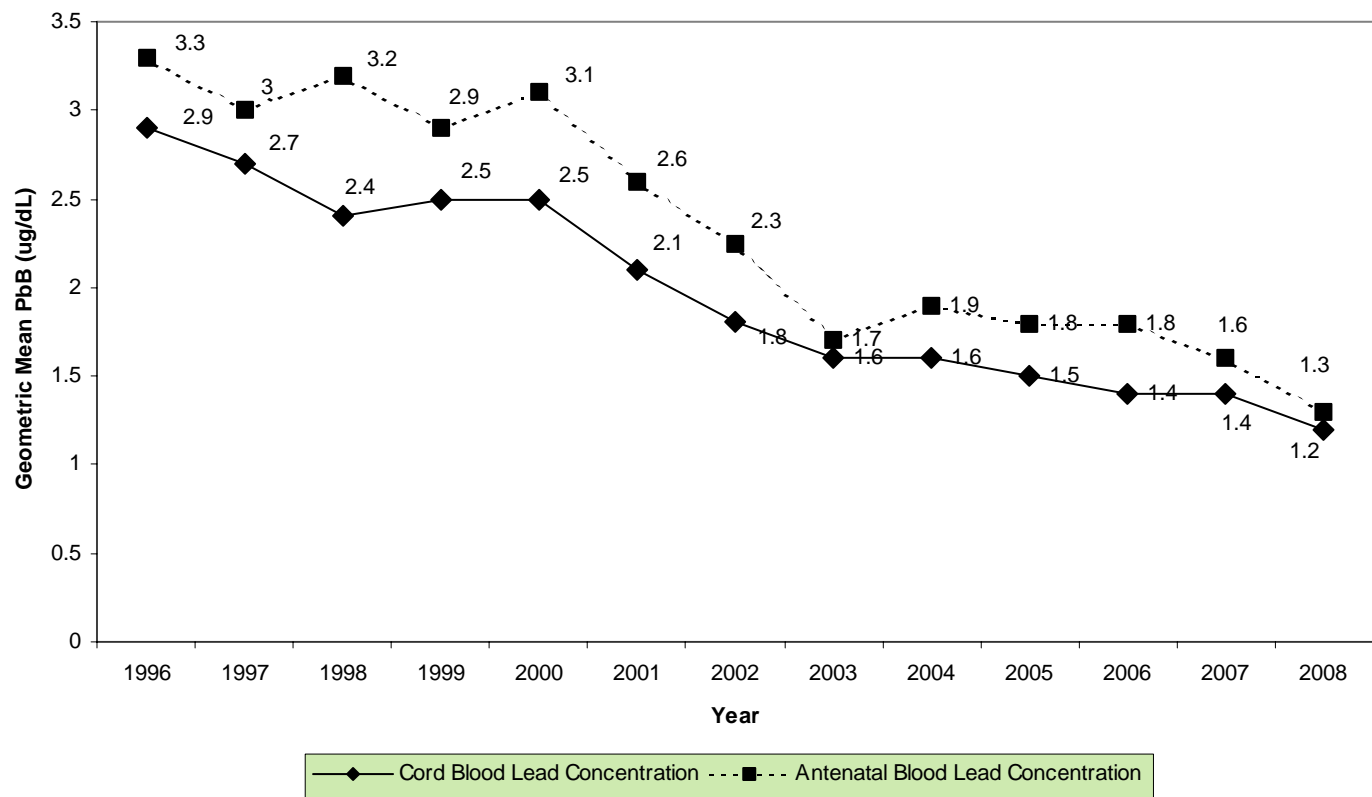
There were 233 babies born at Broken Hill Hospital to Broken Hill mothers in 2008, of these 94.4% had their cord blood tested.

**Figure 3.** Geometric mean blood lead concentration and total number of children screened at birth at Broken Hill Health Service, 1996-2008 (these are regional figures).



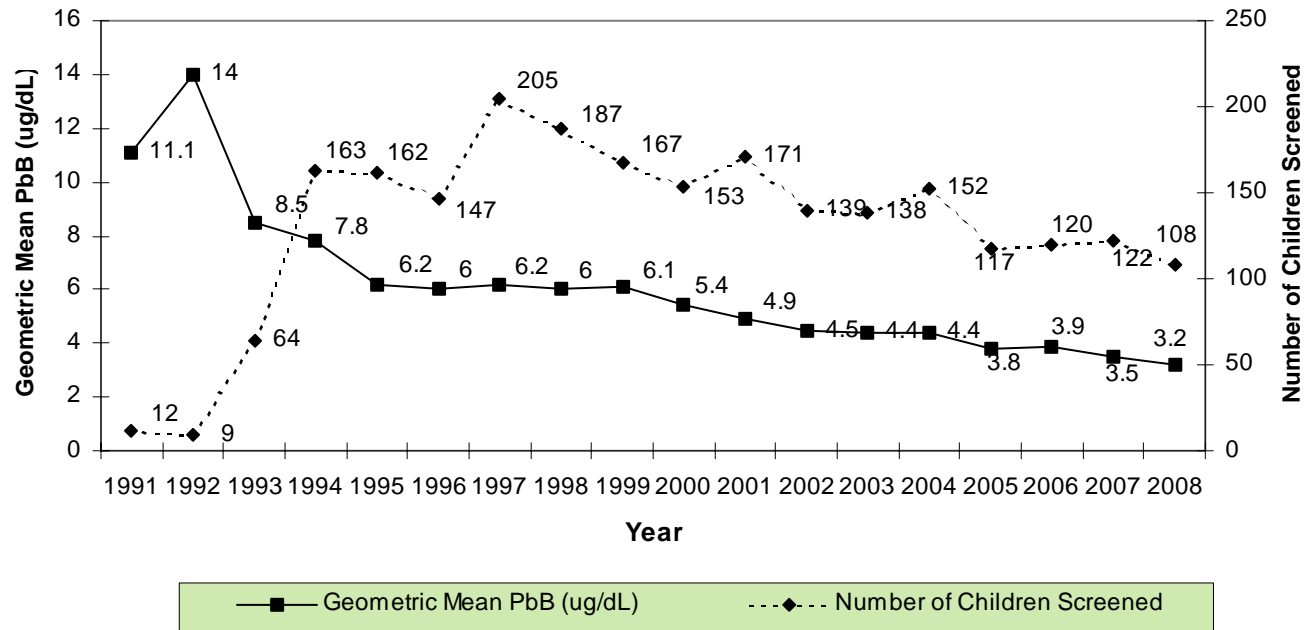
Of all 271 births, including 38 where the mother's residence wasn't Broken Hill, 93.7% had cord bloods screened.

**Figure 4.** Geometric mean blood lead concentration comparison between umbilical cord blood and antenatal, 1996 – 2008.



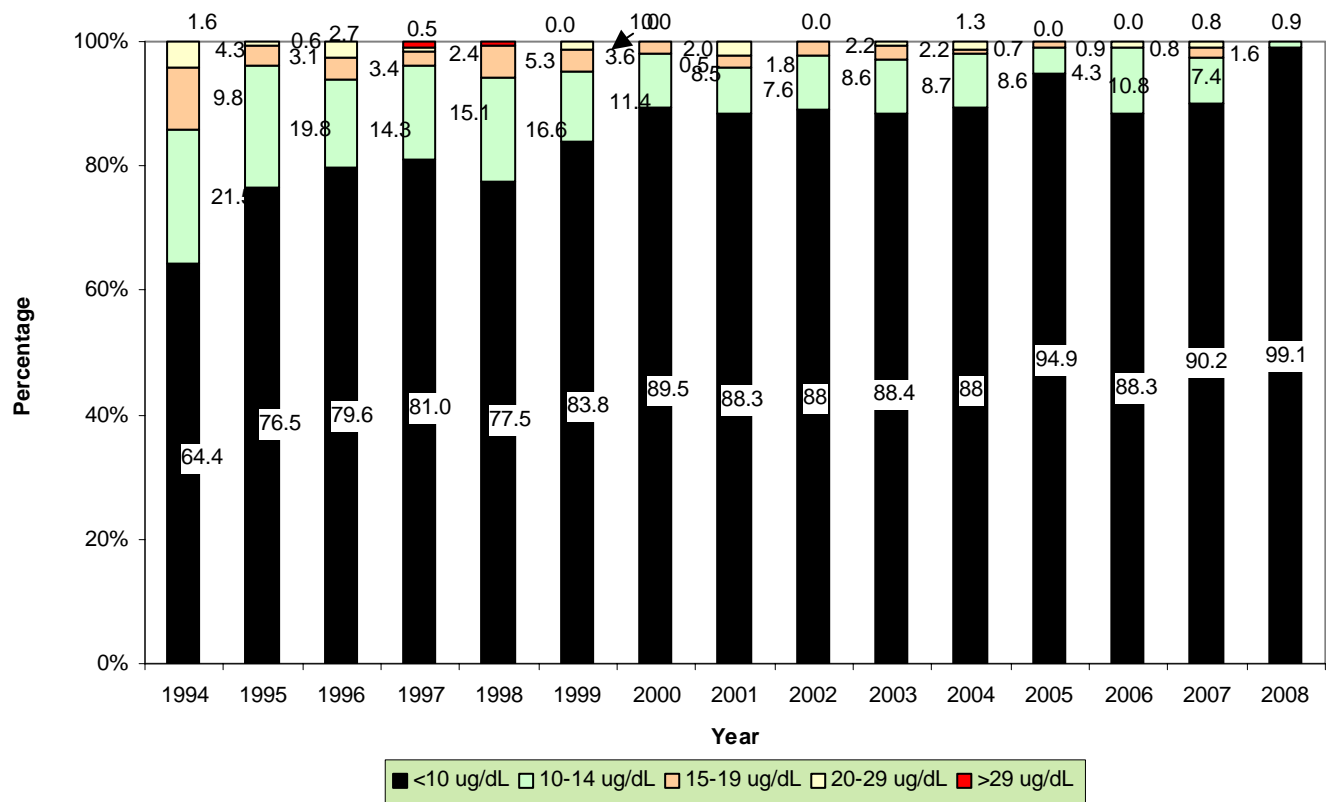
## CHILDREN SCREENED LESS THAN 12 MONTHS OF AGE

**Figure 5.** Geometric mean blood lead concentration and number of children screened less than 12 months of age in Broken Hill, 1991-2008, exclusive of cord blood screening.



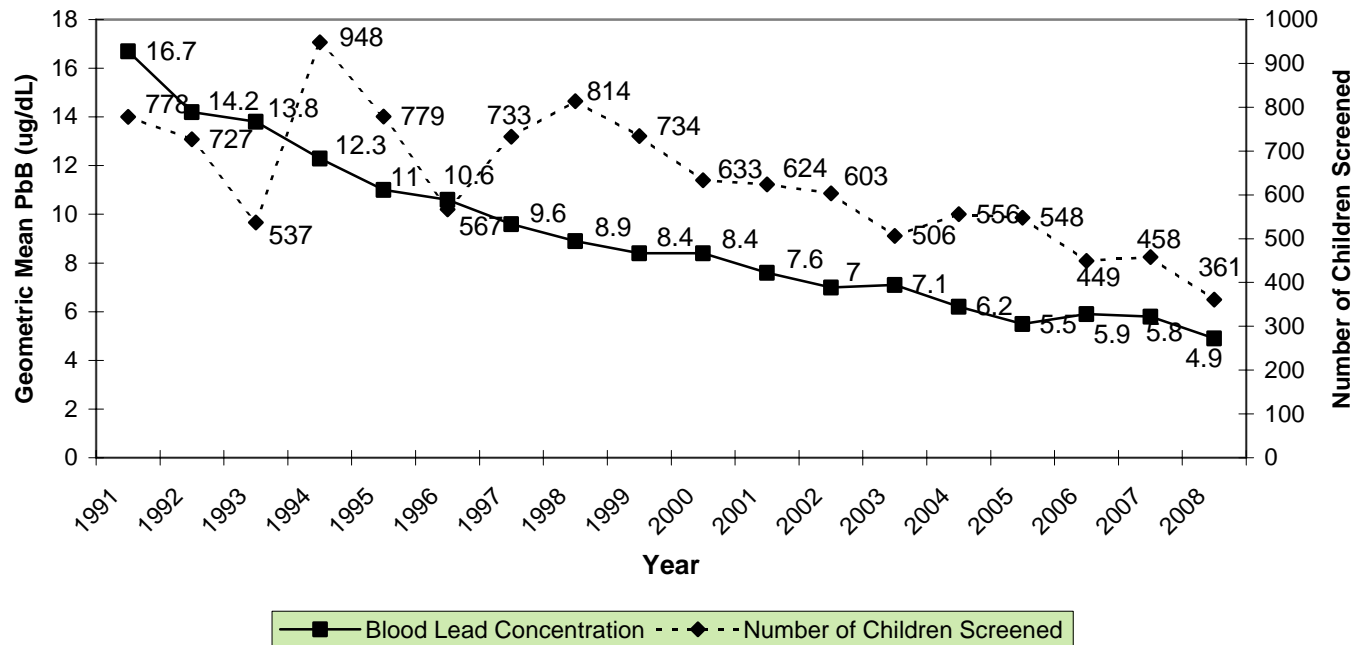
There were 109 children screened, but one child had an insufficient sample.

**Figure 6.** Proportion of Broken Hill children aged less than 12 months of age, 1994-2008, exclusive of cord blood screening.



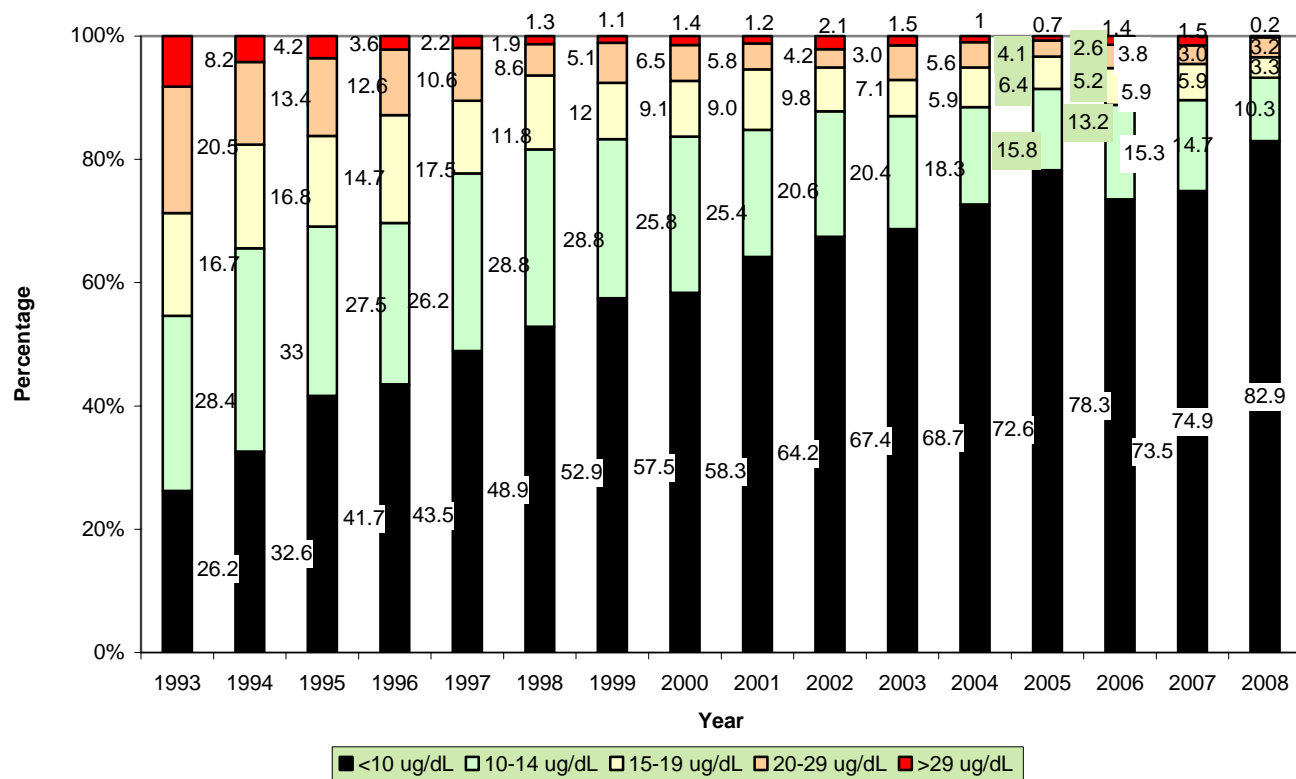
## CHILDREN SCREENED AGED BETWEEN 1 AND 4 YEARS

**Figure 7.** Age sex standardised geometric mean blood lead concentration and number of children screened aged between 1 and 4 years in Broken Hill, 1991-2008.

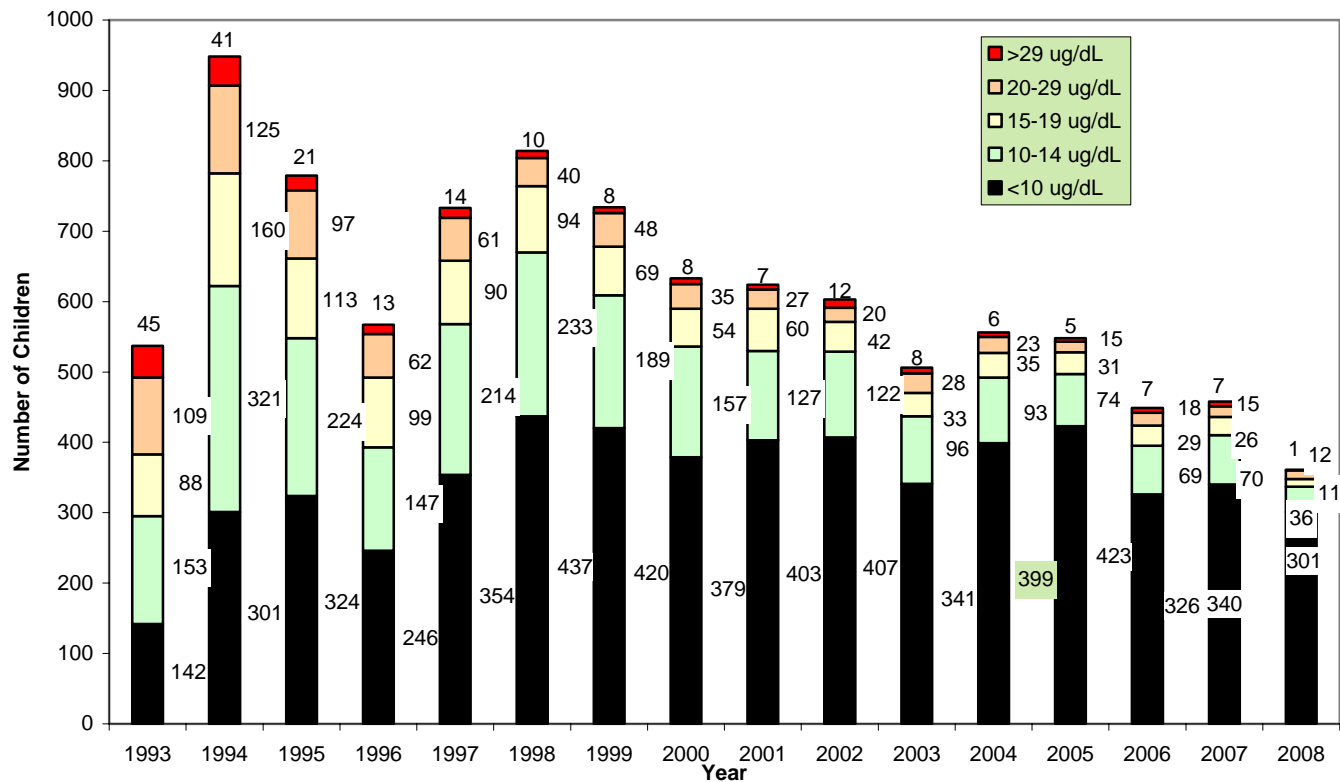


Of the 361 children who came for a test during 2008, a third came for their first test between October and December. This coincided with the introduction of finger prick testing. Where a child had both a finger prick and venous test, the venous result was used.

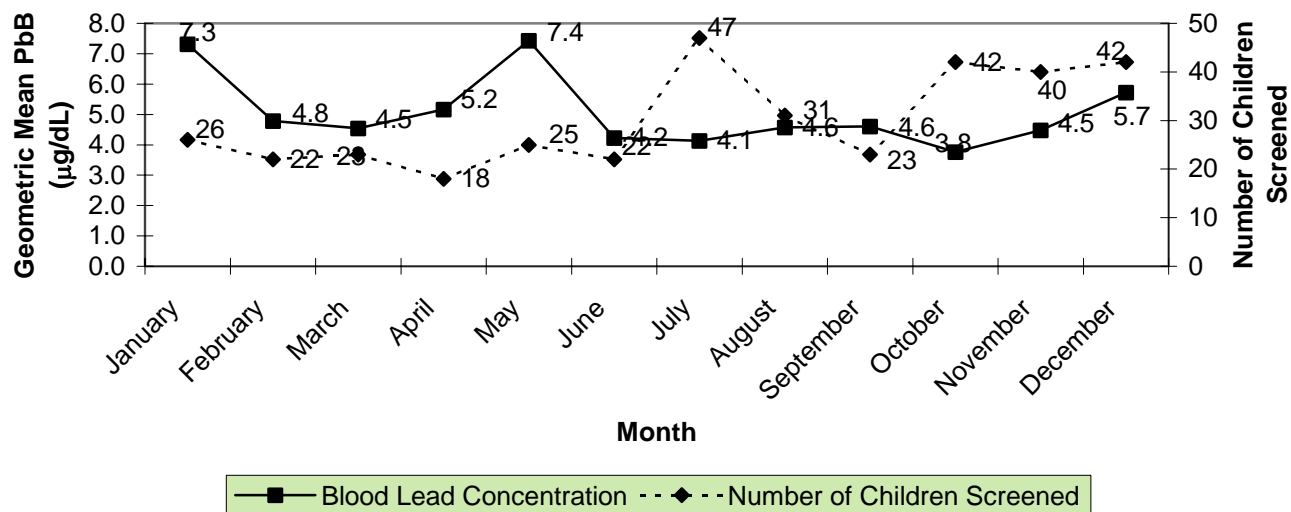
**Figure 8.** Age sex standardised percentage of Broken Hill children in each blood lead category, aged between 1 and 4 years, 1993-2008.



**Figure 9.** Count of Broken Hill children in each blood lead category, aged between 1 and 4 years, 1993-2008.



**Figure 10.** Monthly comparison of Blood Lead Levels for Broken Hill children aged between 1 to 4 years of age for 2008.

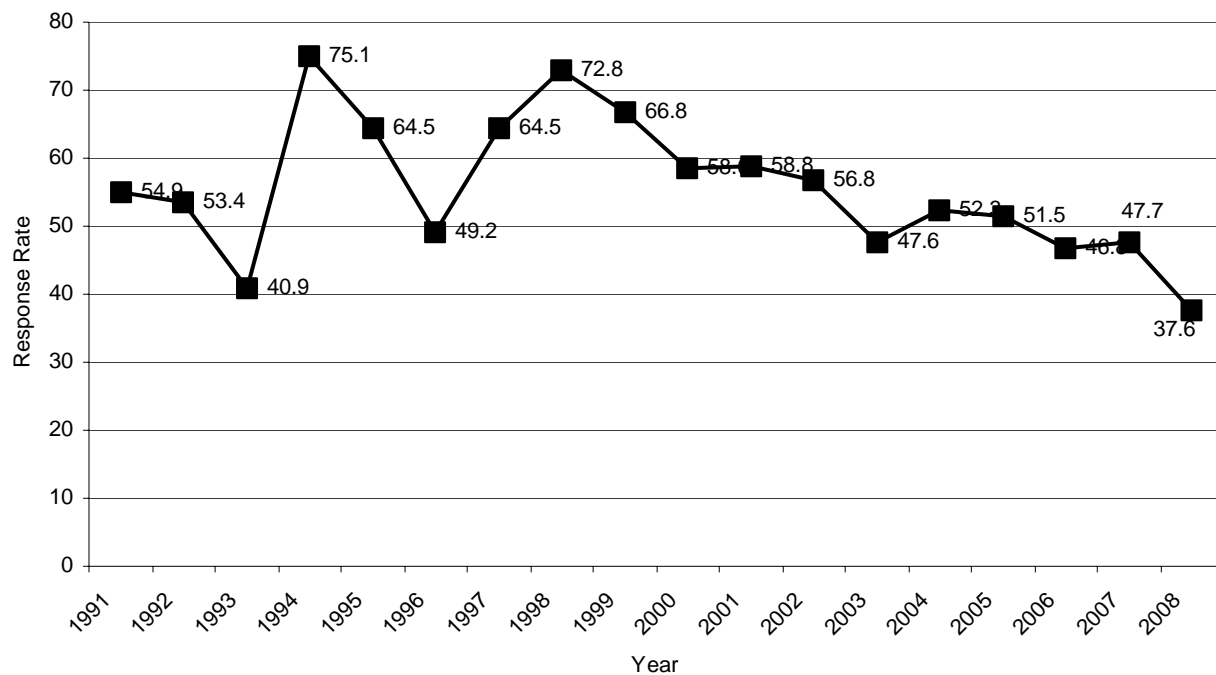


**Table 1.** Number of (first time) children screened per week for each month

| Month     | Children screened | clinics | Average number of children screened |
|-----------|-------------------|---------|-------------------------------------|
| January   | 26                | 4       | 6.50                                |
| February  | 22                | 4       | 5.50                                |
| March     | 23                | 5       | 4.60                                |
| April     | 18                | 5       | 3.60                                |
| May       | 25                | 6       | 4.17                                |
| June      | 22                | 7       | 3.14                                |
| July      | 47                | 8       | 5.88                                |
| August    | 31                | 7       | 4.43                                |
| September | 23                | 5       | 4.60                                |
| October   | 42                | 7       | 6.00                                |
| November  | 40                | 7       | 5.71                                |
| December  | 42                | 7       | 6.00                                |
|           | 361               | 72      | 5.01                                |

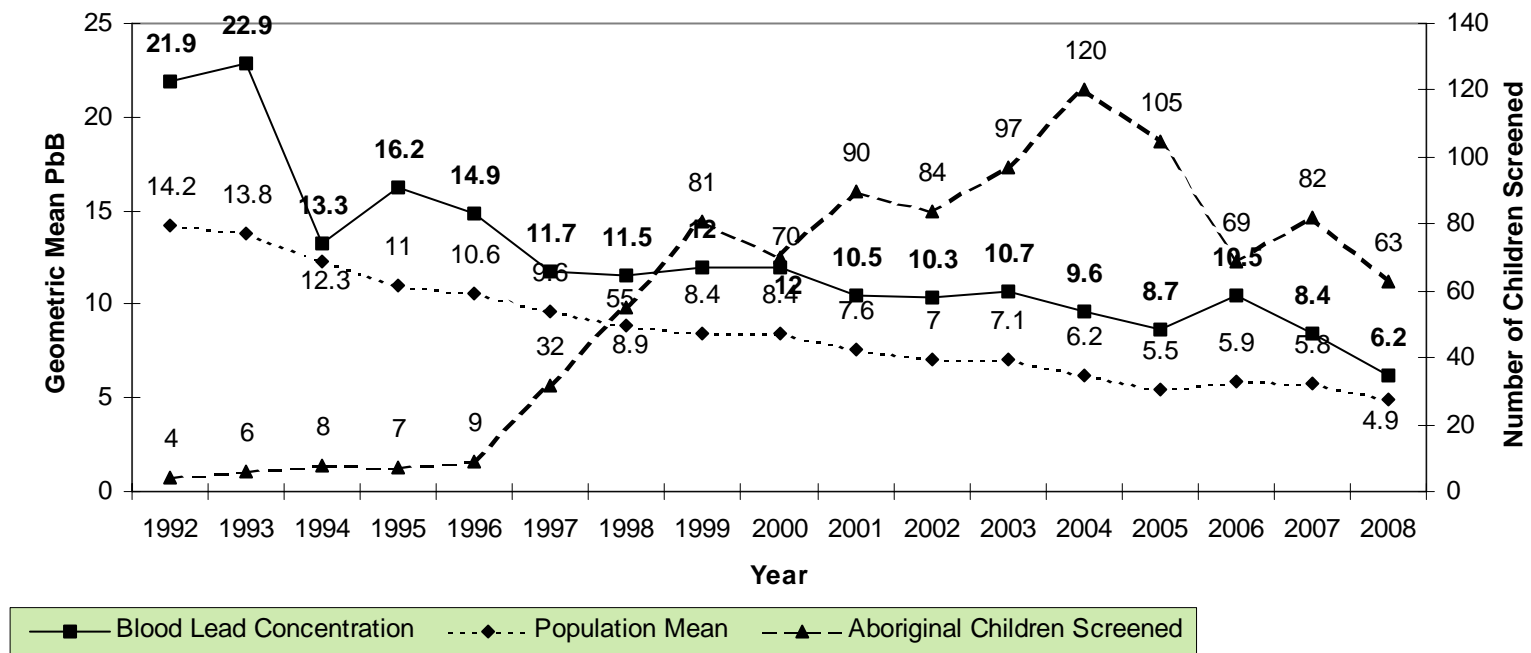
**Figure 11.** Adjusted response rate\* of children aged 1 to 4 years attending the Lead Screening clinic, 1991-2008.

\*Calculated on a 1.6% decline of children aged 1 to 4 years for period 1996 - 2001. Calculations for 2002-2005 based on 2001 census data, 2006-2008 on 2006 census data.



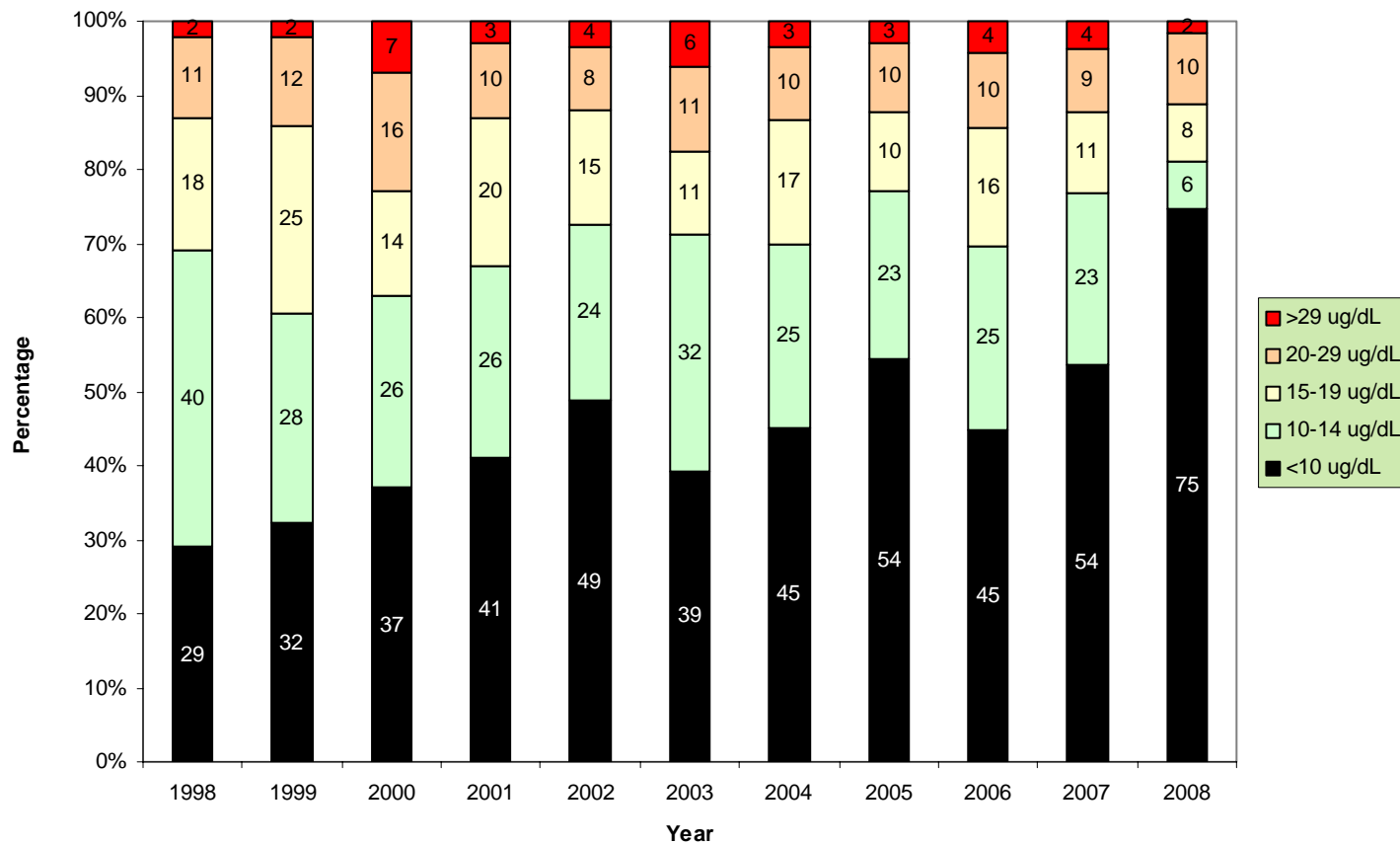
## ABORIGINAL CHILDREN SCREENED AGED 1 TO 4 YEARS

**Figure 12.** Age sex standardised\* geometric mean blood lead concentration of Aboriginal children aged between 1 and 4 years in Broken Hill, 1992-2008. \*Standardisation applied only from 1997 onwards, due to small sample size. Additionally, Aboriginality data was only consistently collected from 1997 onwards.



Using 2006 ABS census data the response rate in 2008 for Aboriginal children aged 1-4 years was calculated as 43.4%.

**Figure 13.** Percentage of Broken Hill Aboriginal children in each blood lead category, aged between 1 and 4 years, 1998-2008.



**Figure 14.** Comparison of Aboriginal versus Non-Aboriginal Blood Lead Categories for 2008.

