



**Queensland
Government**

Non-Occupational Blood Lead Notifications in Queensland

2011

Introduction

In Queensland, blood lead levels are notifiable when the level meets the notification criterion of 0.48 µmol/L (~10 µg/dL) or greater. In association with the attending medical practitioner, an attempt is then made to identify the source of exposure so appropriate measures can be introduced to reduce further exposure.

While all notifications equal to or greater than 0.48 µmol/L (~10 µg/dL) are recorded on the Notifiable Conditions Register, Queensland Health is particularly interested in non-occupational exposure. Workplace Health and Safety Queensland is responsible for regulating lead exposure in the workplace.

This report contains information relating to all non-occupational blood lead level notifications recorded for 2011.

Methods

Data on notifiable cases of blood lead levels from the Queensland Health Notifiable Conditions System (NOCS) were analysed for the period from January to December 2011.

The NOCS only captures information on notifiable conditions. It does not retain information on the total number of blood lead tests performed each year or the percentage of total tests that are notifiable.

Data Analysis

In 2011, a total of 79 notifications were recorded consisting of 36 non-occupationally related exposures, 40 occupationally related exposures which are not discussed in this report and three for which the sources of exposure were undetermined. Of the 36 non-occupational exposures, thirteen were of children aged from 0 to 4 years.

Table 1 displays the breakdown of the total non-occupational exposure by sex. The results indicate that males recorded more notifications for elevated lead levels than females.

Table 1: Total Non-Occupational Exposure to Lead—2011

Non-Occupational Exposure to Lead: Total		
Male	27	75%
Female	9	25%
Total	36	100%
Children 0-4 years of age	13	36%

Table 2: Non-Occupational Exposure level - 2011

Exposure Level ($\mu\text{mol/L}$)	
Max	3.05
Median	0.78
Min	0.48

The median blood lead level was 0.78 $\mu\text{mol/L}$ with a maximum of 3.05 $\mu\text{mol/L}$ (Table 2). The maximum exposure level was associated with the use of a lead based medicinal preparation, most likely an imported traditional medicine.

Table 3: Causes of Non-Occupational Lead Exposure 2011

Causes of Lead Exposure	Cases	%	Children 0-4 years	%
Removal of Lead-Based Paint From Domestic Buildings	19	53%	5	38%
Mount Isa Resident - General Non-Specific Environmental Lead Exposure	4	11%	3	23%
Exposure at Indoor/ Outdoor Rifle Range	2	5.5%		
Making Lead Sinkers, Lead Toy Soldiers	2	5.5%	1	8%
Exposure from overseas	3	8	2	15%
Others*	5	14%	1	8%
Unknown Source of Exposure	1	3%	1	8%
Total	36	100%	13	100%

* Others included: exposure from: use of lead based medicinal preparation, battery breaking, lead exposure during maintenance or demolition, lead dust exposure from neighbouring house renovations, pica eating soil,

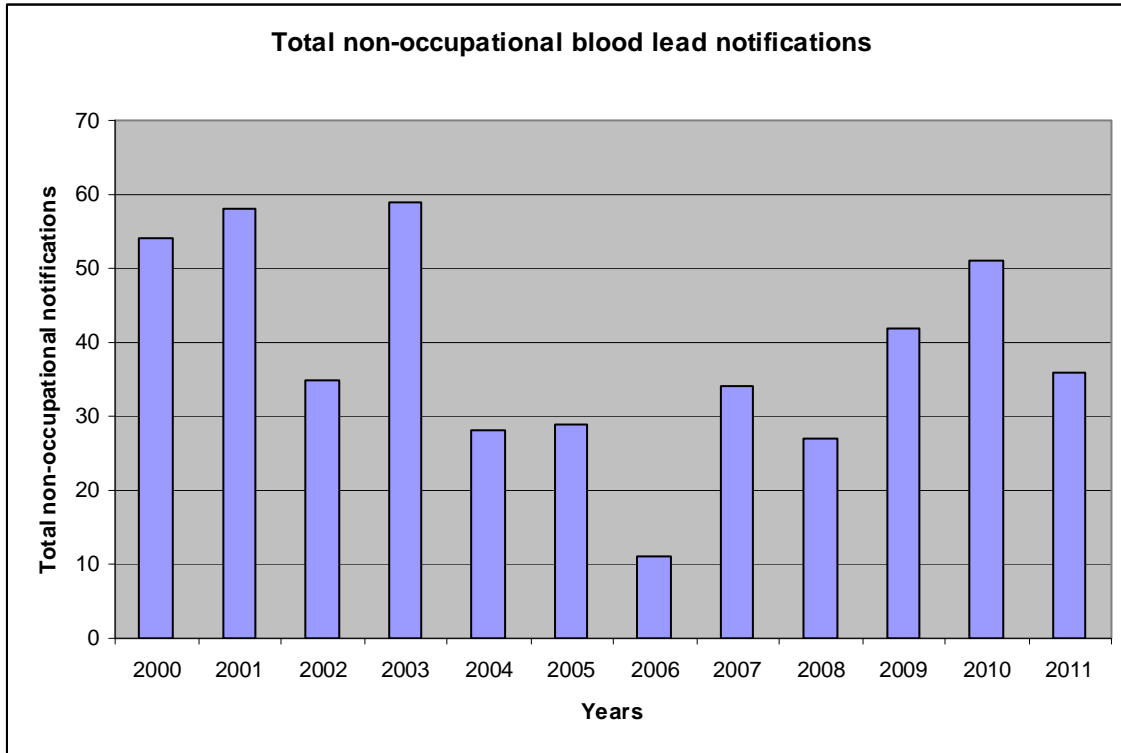
The most common cause of non-occupational exposure in 2011 (Table 3) was associated with conducting or being present during the removal of lead based paint (53%). The next most common cause was associated with environmental lead exposure in Mount Isa (11%).

Trend Analysis

Data relating to total notifications, blood level concentrations and causes of exposure, were captured from 2000 and analysed to see if any trends could be determined.

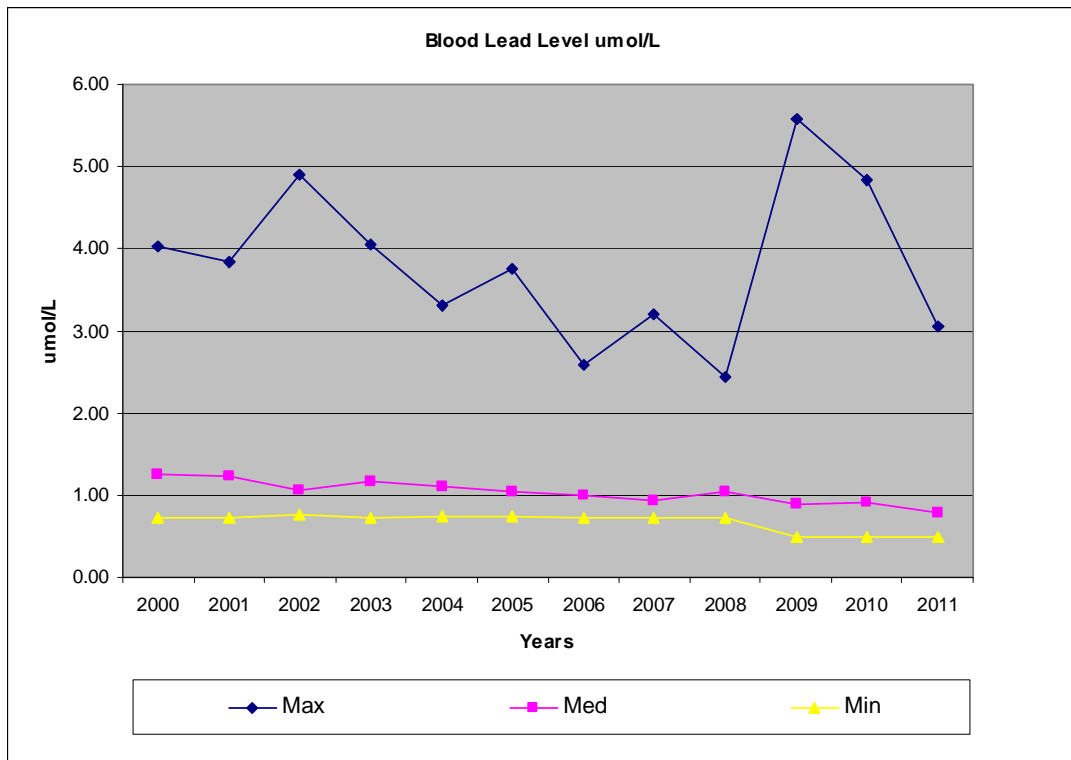
Analysis of the total notifications over time determined that the data is too variable to draw conclusions on the trend (Graph 1). More data over time is required in order to predict a trend for non-occupational blood lead notifications.

Graph 1: Total Non-Occupational Notifications 2000 – 2011



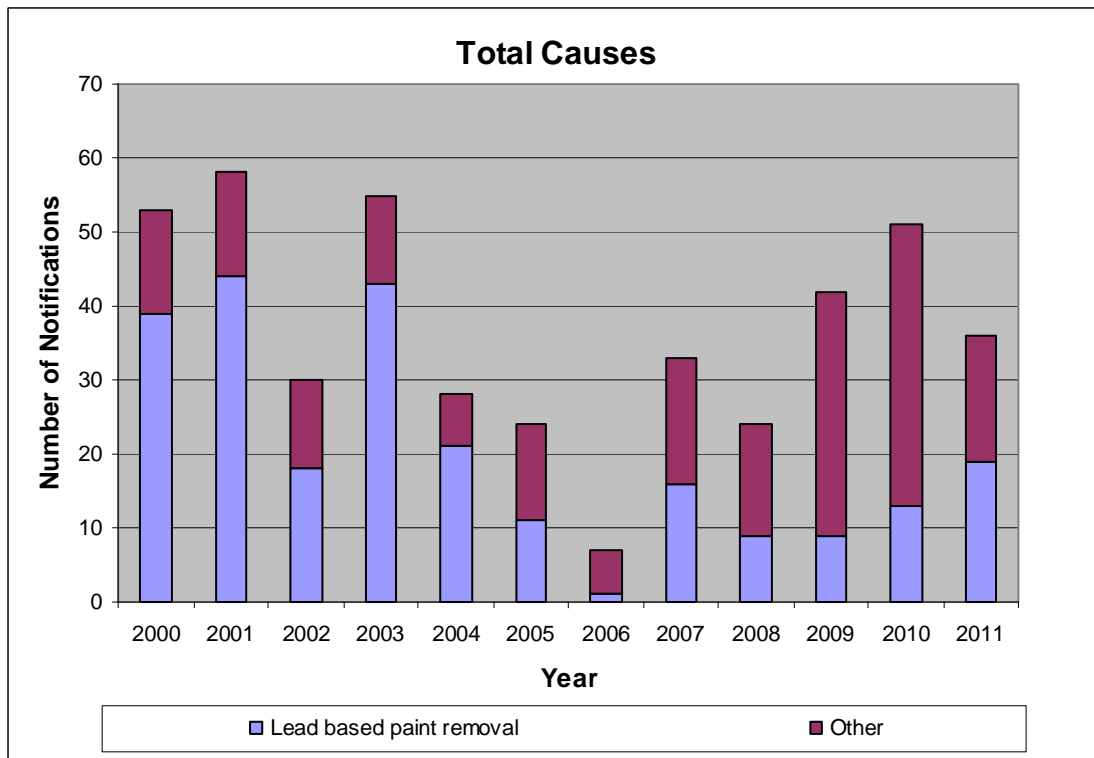
Analysis of the blood lead levels over time indicates that there is a decrease in the blood lead levels as illustrated by Graph 2. The decrease in the minimum blood lead level for 2009 is due to a change of the notifiable level prescribed in the *Public Health Act 2005*. The notifiable level was reduced from $0.73\mu\text{mol/L}$ to $0.48\mu\text{mol/L}$.

Graph 2: Non-Occupational Blood Lead Levels 2000-



2011

Graph 3: Sources of Blood Lead 2000-2011



Exposure from lead based paint continues to remain a significant source of exposure as illustrated by Graph 3. More data is required over time to determine if there is a downward trend.

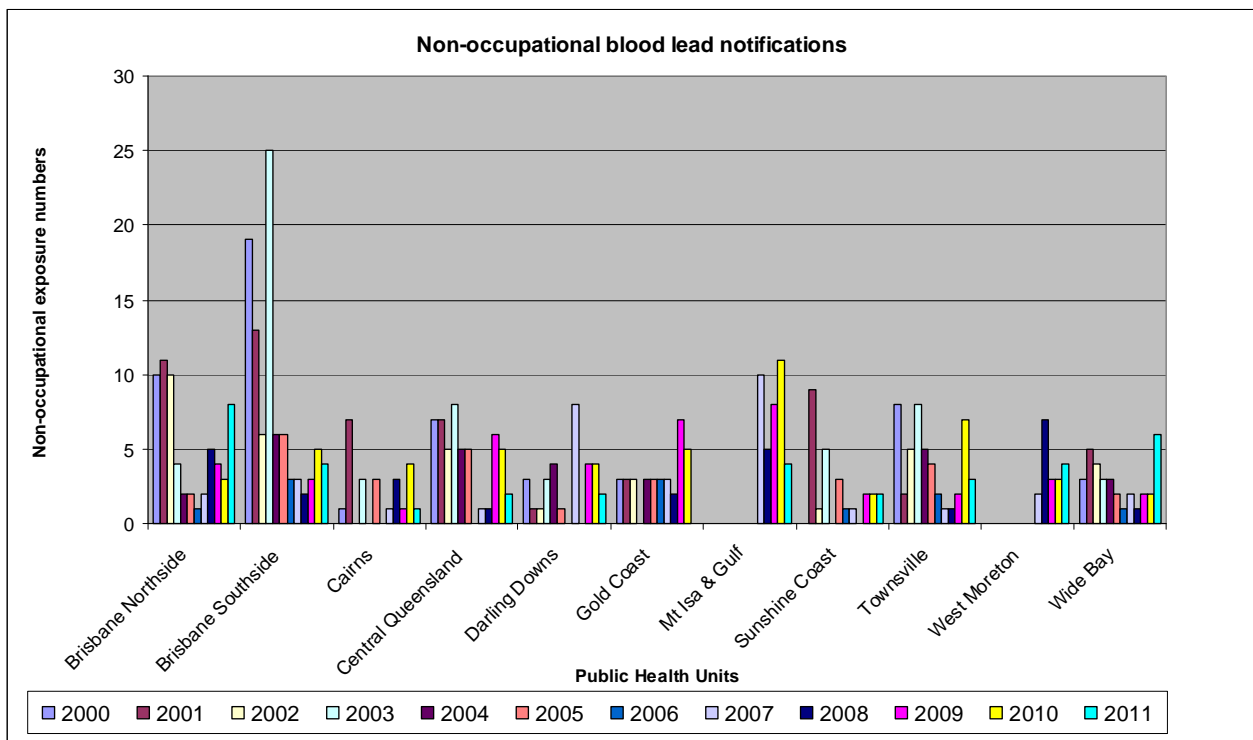
Notifications per Public Health Unit

The number of notifications recorded per Public Health Unit is varied throughout Queensland. Brisbane North reported the highest number of lead notifications with eight notifications, followed by the Wide Bay Public Health Unit reporting six notifications.

The next highest number was recorded by the Brisbane South, Mt Isa and Gulf and West Moreton Public Health Units with four notifications each.

Graph 4 indicates the non-occupational blood lead level notifications recorded for each Public Health Unit.

Graph 4: Location - Non-Occupational Blood Lead Notifications*



*Prior to 2007, Mt Isa & Gulf was included with Townsville data and West Moreton was included within data for Brisbane Southside.