Queensland Government
Queensland Health

Non-Occupational Blood Lead Notifications in Queensland

2010

Introduction

In Queensland, blood lead levels are notifiable when the level meets the notification criteria 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 lead exposure in the workplace.

This report contains information relating to all non-occupational blood lead level notifications recorded for 2010.

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 2010.

The Notifiable Conditions System 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 2010, a total of 111 notifications were recorded consisting of 51 non-occupational related exposures and 60 occupationally related exposures. Of the 51 non-occupational exposures, fifteen were for children aged from 0 to 4 years.

Table 1 displays the breakdown of the 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—2010

Non-Occupational Exposure to Lead: Total		
Male	36	71%
Female	15	29%
Total	51	100%
Children 0-4 years of age	15	29%

Table 2: Non-Occupational Exposure level - 2010

Exposure Level (μmol/L**)**	
Max	4.84
Median	0.92
Min	0.48

The median blood lead level was 0.92 μmol/L with a maximum of 4.84 μmol/L (Table 2). The maximum exposure level was associated with the use of a lead based medicinal preparation.

Table 3: Causes of Non-Occupational Lead Exposure 2010

Causes of Lead Exposure	**Cases**	**%**	**Children 0-4 years**	**%**
Removal of Lead-Based Paint From Domestic Buildings	13	25.5%	1	6.7%
Mount Isa Resident - General Non-Specific Environmental Lead Exposure	9	17.6%	9	60.0%
Exposure at Indoor/ Outdoor Rifle Range	7	13.7%	0	0.0%
Making Lead Sinkers, Lead Toy Soldiers	1	2.0%	0	0.0%
Others*	8	15.7%	1	6.7%
Unknown Source of Exposure	13	25.5%	4	26.7%
Total	**51**	**100%**	**15**	**100%**

* Others included: exposure from: use of lead based medicinal preparations, leaded petrol, welding with lead material, skin penetration

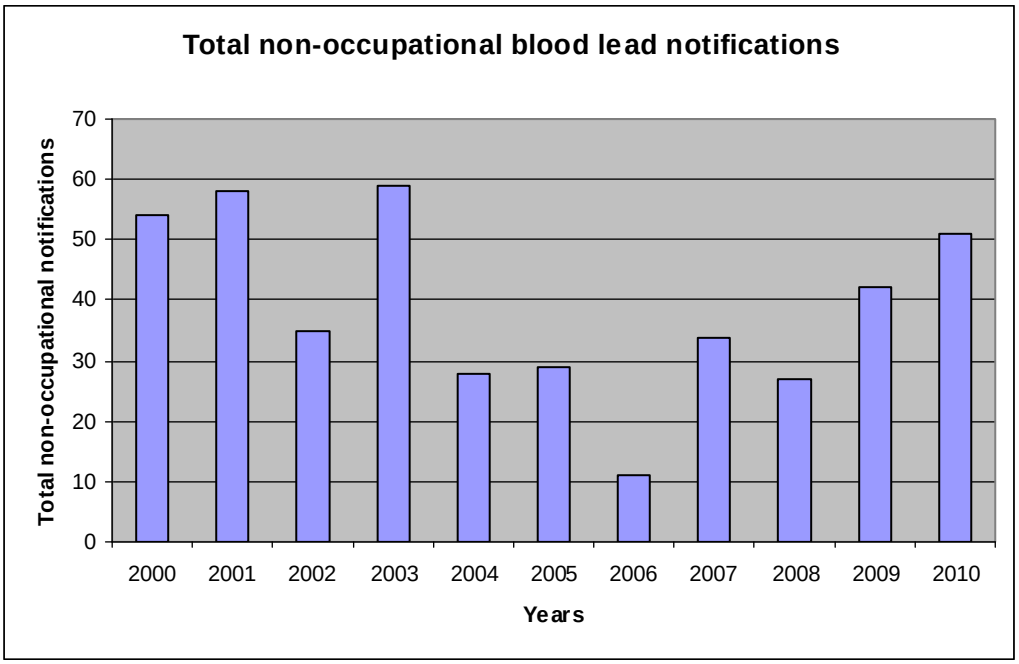
The most common cause of non-occupational exposure in 2010 (Table 3) was associated removal of lead based paint (25.5%). The next most common cause was associated with Mount Isa Resident - General Non-Specific Environmental Lead exposure (17.6%). Approximately one-fourth of the causes were not identified (25.5%).

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.

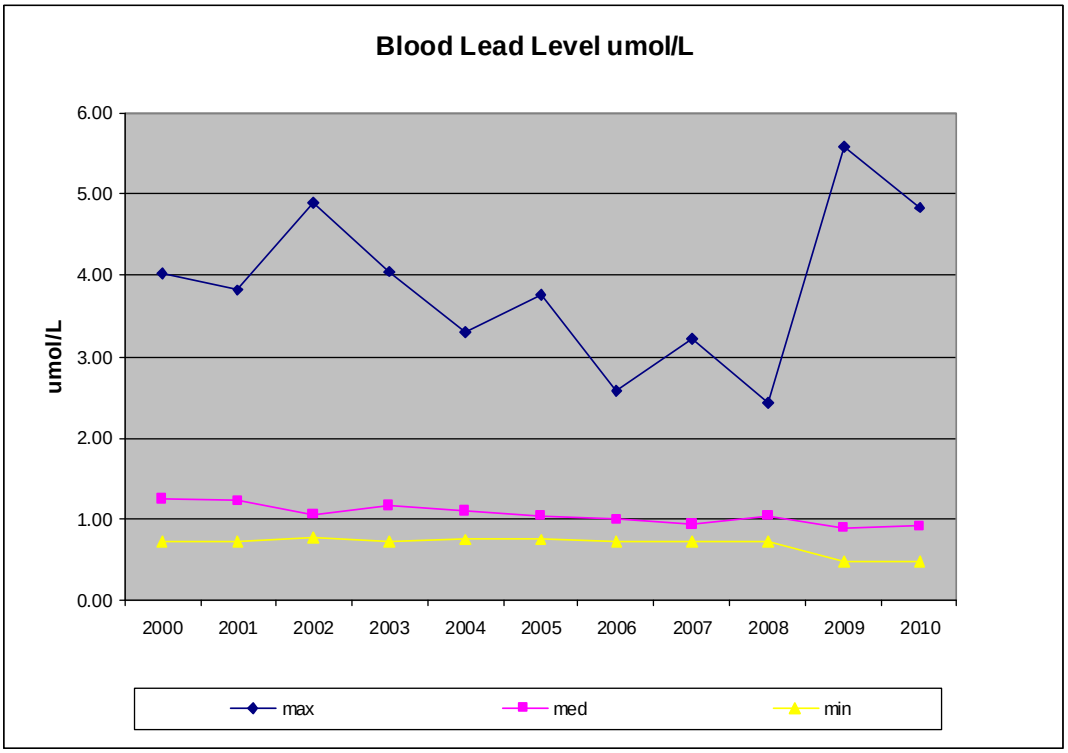
Analysis of the total notifications over time determined that the data is too variable to draw conclusions on the trend (Graph 1). More data overtime is required in order to predict a trend for non-occupational blood lead notifications.

Graph 1: Total Non-Occupational Notifications 2000 – 2010

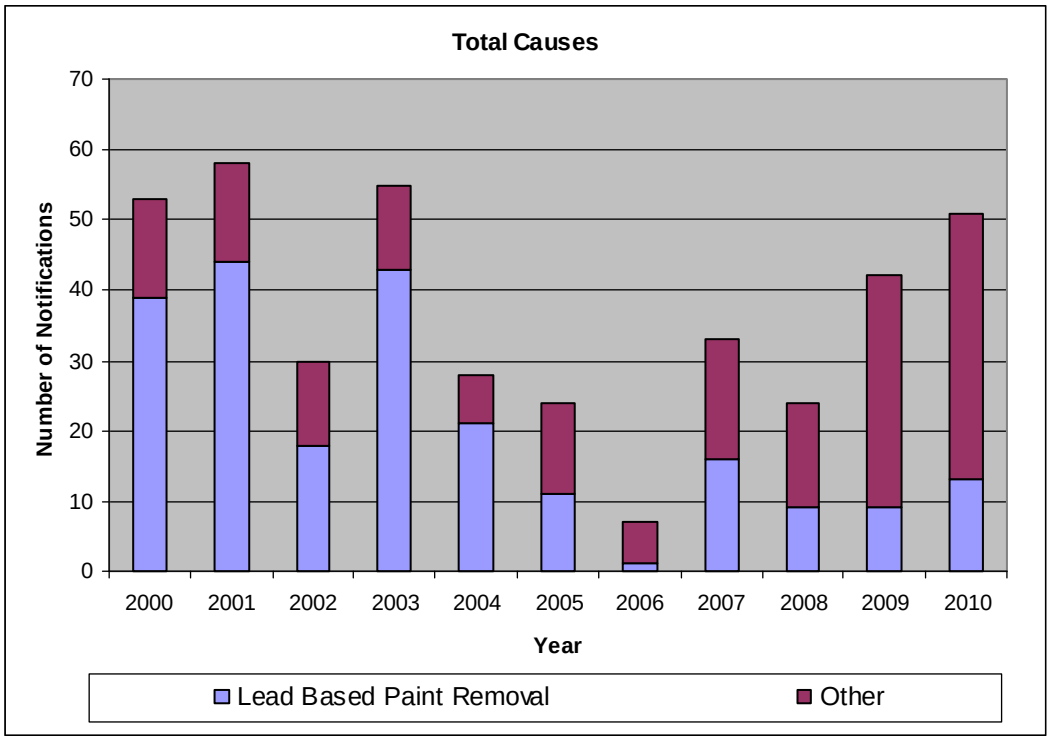


Analysis of the blood lead levels over time indicates that there is a decrease in the blood lead levels as illustrated by Graph 2. The decrease in the minimum blood lead level for 2009 is due to a change of the notifiable level prescribed in the *Public Health Act 2005*. The notifiable level was reduced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

Graph 2: Non-Occupational Blood Lead Levels 2000-2010



Graph 3: Sources of Blood Lead 2000-2010



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

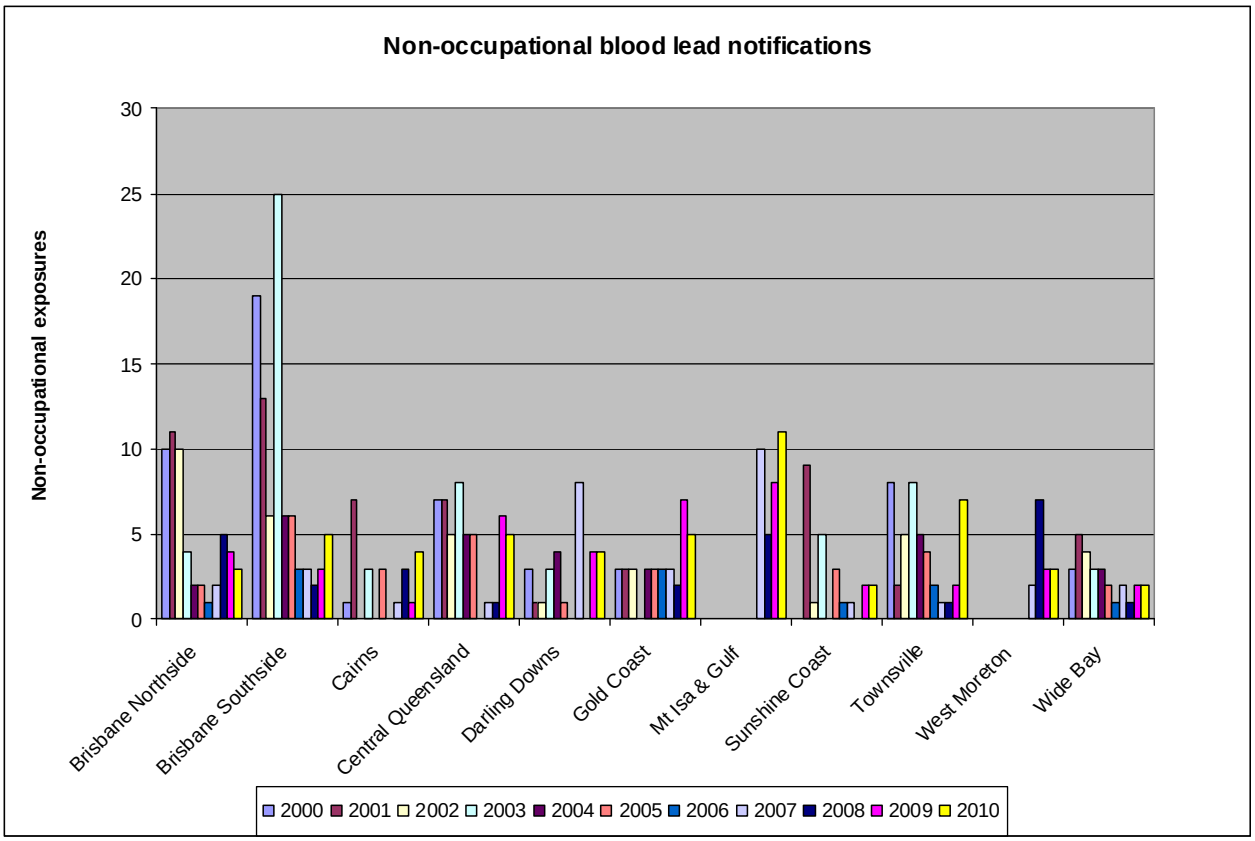
Notifications per Public Health Unit

The number of notifications recorded per Public Health Unit is varied throughout Queensland. Mt Isa reported the highest number of lead notifications with eleven notifications, followed by the Townsville Public Health Unit, reported seven notifications.

The next highest number was recorded by the Gold Coast, Central Queensland and Brisbane South Public Health Units at five 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.