

## WasteMINZ Residential Lead Working Group Position statement

# Minimising lead exposure in the NZ residential environment

October 2023

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### The issue

Protecting people and specifically children from exposure to lead is important to lifelong good health. Lead is a contaminant that affects multiple parts of the body. There is no level of exposure to lead that is known to be without harmful effects. If undetected and untreated, lead exposure in children can have irreversible neurobehavioral and developmental effects, causing learning and behavioural problems that continue into adulthood. Internationally, lead exposure remains a significant public health concern with high exposure associated with multiple facets of inequality.

In New Zealand, the dominant exposure to lead in a residential environment, is via the historical use of lead-based paints. When old paint is being removed, lead may settle in dust or soil. Contaminated land investigations provide clear evidence of the relationship between housing age and elevated soil lead concentrations. However, exposure to lead is challenging to detect based on health symptoms alone and lead exposure in New Zealand is therefore likely to be under-estimated.

### Our Position

The WasteMINZ Residential Lead Working Group recognises three major areas related to the exposure of residential lead that require urgent action:

1. **Leadership and coordination:** A multitude of entities and individuals have some role in lead exposure management (see Appendix 1). They are guided by a myriad of legislation and guidance, with no agency accountable for ensuring the whole system works, and no stated goal to protect New Zealanders against exposure to lead.
2. **Research and monitoring:** High level surveillance alongside prevalence testing (in high-risk areas with older housing or other risk factors) is needed to assess children's current lead exposure. Blood lead level data is poor, almost solely occupational, and completely absent for children under 5.
3. **Advocacy and proactive measures:** Regulation and guidance is sporadic and often outdated. There are opportunities to raise awareness of lead to empower and protect tenants, homeowners, painters and most importantly children.

These three elements are all critical to the *level* of intervention required to minimise and manage exposure of children to lead. Understanding the relative contribution of different sources of lead will help inform the *types* of interventions that will most effectively reduce exposure.

The contaminated land sector has a particular interest in the management or remediation of soils with elevated lead being commensurate with the level of risk posed by these soils, and that this action is consistent with health advice.

We call for a **proactive cohesive** approach, led by a single agency, with oversight of relevant sectors and agencies across New Zealand to manage lead exposure in residential settings. This agency may be one that currently exists, such as the Ministry of Health; or one yet to be established, similar to the UK Lead Exposure Public Health Interventions and Surveillance working group (est. 2021). It should set goals and objectives and ensure accountability for all parties working towards these.

## Background

Lead is a naturally occurring element used in petrol, paints, plumbing, batteries, ceramic glazes, and cosmetics. Lead paint is the dominant source of exposure and lead dust particles can be inhaled or ingested from peeling or degrading older paint on cladding, roofs, skirting boards, windowsills, and furniture. Renovation can accelerate and enhance exposure. Other sources include lead in leadlight windows, toys, art supplies, jewellery, cosmetics, homewares, impacted outdoor soil, fishing sinkers or water contaminated with lead from tapware, plumbing or building materials.

At low concentrations, lead can affect the brain, kidneys, blood and reproductive systems. Lead exposure in children and pregnant women is particularly concerning as it can cause irreversible changes in behaviour and development that continue into adulthood.

**There is no level of exposure that is considered safe.** Increased recognition of the detrimental effects of lead has resulted in a decrease in the notifiable blood-lead level in NZ from 0.48  $\mu\text{mol/L}$  (10  $\mu\text{g/dL}$ ) to 0.24  $\mu\text{mol/L}$  (5  $\mu\text{g/dL}$ ) in 2021.

**Internationally, lead exposure remains a significant public health concern.** For example:

- The WHO has declared lead to be one of the most concerning chemicals to public health, with an estimated 900,000 premature deaths annually due to health issues from lead exposure.
- In 2020, UNICEF and Pure Earth highlighted that internationally, 1 in 3 children – up to 800 million globally – have blood lead levels at or above our notifiable lead level of 5  $\mu\text{g/dL}$ .
- The US Federal Action Plan (2018) was created to reduce childhood lead exposures in response to data showing that lead continues to pose a significant health and safety threat to US children.
- The UK established Lead Exposure Public Health Interventions following on-going surveillance of blood lead-levels in children in 2021.

The UK and US have observed high lead exposure is more common in the poor, the sick and in minorities. Reducing lead exposure in these children would likely positively impact inequalities.

**There are plenty of reasons to think the situation is the same in New Zealand.** The lines of evidence of lead health risk in residential environments are contaminated land investigations and blood lead-level notifications. Contaminated land investigations show the relationship between housing age and elevated soil-lead. Soils around older wooden homes often exceed the residential soil standard for lead. While estimates vary<sup>1</sup>, the hundreds of thousands of weatherboard homes built prior to 1965 suggest there are potentially tens of thousands of children exposed to elevated soil lead.

**Lead exposure in New Zealand is likely under-reported.** There is no surveillance and no triggers in the system for child blood lead testing. Symptoms are rare and where they exist, they may be nonspecific, so are easily missed or misdiagnosed. Over 2018-2022 there were 42 cases of childhood (0-18 years) exposure using a blood-lead level notification level of 0.48  $\mu\text{mol/L}$ ; with an additional 32 cases reported for 2021 and 2022 under the new blood-lead level notification level of 0.24  $\mu\text{mol/L}$ .

## Who are we?

The WasteMINZ Residential Lead Working Group formed in 2018 and includes representatives from the health and public health sectors, lead awareness advocates, and the water, paint retail and trade industries. The group is concerned with the undetermined magnitude of health effects from multiple residential (non-occupational) sources of lead. Our purpose is to bring together people to identify and address gaps in knowledge and practice for the benefit of all New Zealanders.

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<sup>1</sup> Statistics NZ estimate 450,000 wooden houses were constructed prior to 1965 when lead-based paint was banned. They also estimate more than 160,000 were built prior to 1940 when lead concentrations in paint were significantly higher.

Appendix 1. Current roles and responsibilities, regulation and guidance for lead exposure in New Zealand residential settings

