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Public consultation — summary of key issues

NHMRC Draft Information Paper: Evidence on the Effects of Lead on Human Health

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WORKING TO BUILD A HEALTHY AUSTRALIA

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Submissions received

A draft of the NHMRC Information Paper: *Evidence on the Effects of Lead on Human Health* was released for public consultation from 16 July 2014 to 15 September 2014.

During the consultation period, stakeholders were invited to comment on the readability of the draft Information Paper, the clarity of the Lead Working Committee's interpretation of the evidence and whether any additional evidence should be considered prior to finalising the document.

Through the consultation process, seven submissions were received from various individuals and organisations, including submissions from interested members of the public and organisations interested in the development of policies relating to lead management in Australia.

Lead Working Committee's consideration and revisions to the Information Paper

The Lead Working Committee gave due consideration to all submissions received. The issues raised through public consultation were discussed by the Lead Working Committee over a series of meetings held in September and October 2014. The key issues raised from public consultation and the Committee's responses are summarised in the table below.

Comment	Lead Working Committee Response
Evaluation of management and intervention strategies in lead endemic environments should have been included in the scope of the NHMRC Evidence Review.	Specific information and guidance on managing lead exposure is provided by relevant state and territory health authorities to people living in lead endemic environments (areas where lead is mined or smelted). Health authorities in these areas run established programs and intervention strategies aimed at monitoring and reducing blood lead levels within these communities. Intervention strategies utilised by health authorities in lead endemic areas differ across each jurisdiction and are implemented with regard to local factors and risk mitigation strategies. These strategies are generally implemented across a multitude of levels including engagement with households, businesses, community and government sectors. The coordination of advice on lead exposure in endemic areas was outside the scope of the NHMRC Evidence Review. The Committee noted that due to differences in the source, duration and pattern of lead exposure between endemic and non-endemic environments, the findings of the NHMRC Evidence Review relating to the assessment of management and intervention strategies in non-endemic environments cannot be applied equally to endemic environments. In response to the public consultation comments, the Committee included further text in the Information Paper clarifying that the findings of the management and intervention studies relate to household exposures and cannot be applied to lead endemic environments. Information relating to the health effects of lead presented in the Information Paper is however applicable to both lead endemic and non-endemic environments.

Comment	Lead Working Committee Response
The Information Paper should address the health effects of radioactive lead isotopes (eg. 209Pb, 214Pb and 210Pb).	The Committee acknowledged that the health effects of unstable lead isotopes present a diverse and valid health risk that is not explored within the Information Paper. Available literature on the population health and developmental effects of lead exposure does not provide detailed evidence of the effects of specific lead isotopes. The Committee noted that the limited evidence around unstable lead isotopes in the literature is likely to be due to the specificity of their occurrence and very low concentrations in the environment. Many of the radioactive lead isotopes (209Pb, 211Pb, 212Pb, 214Pb) were noted to be short lived (with a half-life of less than 11 hours). The Committee noted that the formation of 210Pb is of relevance to some cancer risk assessments, however is found in low levels in the environment and generally restricted to certain areas not widespread in Australia. The Committee agreed that the particular health effects of unstable lead isotopes relate to their radioactivity. The assessment of the health effects of radioactive substances is outside the scope of NHMRC's review of lead. The Committee noted that safety and management around radioactive substances falls under the responsibility of state and federal radiation legislation and control groups, such as the Australian Radiation Protection and Nuclear Safety Agency and state radiological services. No changes to the Information Paper were made as a result of this comment.
The Information Paper implies that blood lead levels less than 5 micrograms per decilitre are safe.	The Information Paper states that the NHMRC Evidence Review found an association between health effects (adverse cognitive effects and Intelligence Quotient (IQ)) and blood lead levels less than 5 micrograms per decilitre. However the literature suggests that uncontrolled confounding had an important influence on these findings. In developing the Information Paper, the Committee considered the findings of the NHMRC Evidence Review with regard to the overall body of evidence relating to the health effects of lead, including policy responses considered internationally. Based on the evidence, the Committee recognised that it is plausible that lead has effects on the body, even at very low levels, however, the evidence strongly suggests that other factors (e.g. socioeconomic status, education, parenting style, diet, or exposure to other substances) in the groups of children studied also have a strong influence on measured outcomes such as IQ or academic achievement. The Information Paper recognises that most Australians live in areas where there a very small amounts of lead in the environment. Exposure to these sources of lead are generally unavoidable. A blood lead level greater than 5 micrograms per decilitre indicates that a person may have been exposed to an additional and potentially modifiable source of lead that should be investigated and removed to reduce risk of harm within the community. The Information Paper was amended to clarify that lead and lead compounds are not beneficial or necessary for human health, and can be harmful to the human body. A blood lead level greater than 5 micrograms per decilitre is the level of lead that is considered to be above the 'average' background level of exposure in the Australian environment.
The Information Paper does not adequately describe the extent to which health effects associated with lead vary between individuals at blood lead levels greater than 10 micrograms per decilitre.	The Committee agreed that wording be included in the Information Paper to recognise that health effects associated with blood lead levels greater than 10 micrograms per decilitre can vary significantly between individuals. Supporting text was also included in the Information Paper to highlight that the health effects of lead exposure in an individual depend on a number of factors, such as the person's age, pattern of exposure and their existing health status. A footnote below *Figure 1* was also included to recognise that blood lead levels at which people exhibit symptoms of lead exposure vary greatly between individuals. It is possible for individuals with blood lead levels of 40 micrograms per decilitre or more not to exhibit noticeable health effects.

Comment	Lead Working Committee Response
The resource implications for the lowering of the trigger for investigation from 10 micrograms per decilitre to 5 micrograms per decilitre have not been considered in the Information Paper.	The Information Paper has been developed to provide the Australian community, healthcare professionals and governments with a plain language summary of the evidence on the health effects of lead, particularly at levels of exposure resulting in blood lead levels less than 10 micrograms per decilitre, and information on how these health risks can be minimised. Consideration of resource implications, including costs associated with lead source identification and removal is undertaken by states and territories when considering their respective public health risk mitigation strategies. The advice provided within the Information Paper has been formed based on the scientific evidence on the health effects of lead. This advice will assist in the development of policies regarding the management of lead exposure.
The Information Paper fails to identify further areas of research to clarify the link between low level lead exposure and health effects.	The Committee recognised that whilst there are many possible areas for future research into the health effects of blood lead levels less than 10 micrograms per decilitre, research should be focussed on improving population health outcomes. The Committee noted that targeted monitoring of the population within different risk categories would assist with the development and revision of lead management policies. This may include targeting intervention strategies toward particular at risk areas of the community; for example, the delivery of occupation or location specific lead management strategies. The Committee noted that the focus of the Information Paper adequately conveys the Committee's position on areas of future research in Australia and no further changes to the Information Paper were made.
Other minor amendments.	The Information Paper was amended to recognise that some fuels (aviation gasoline for piston engines and some racing fuels) may be potential sources of lead exposure in Australia. The Information Paper was also amended to recognise that some workplaces and lead mining and smelting industries are sources of exposure to lead in Australia. The Committee noted that workplace legislation requires employers to notify employees of workplace health risks and safety; therefore further listing of occupations where lead exposure may occur was considered unnecessary.