Lead Safe World UK Letter to Jo Churchill re: Lead Poisoning Prevention in the UK

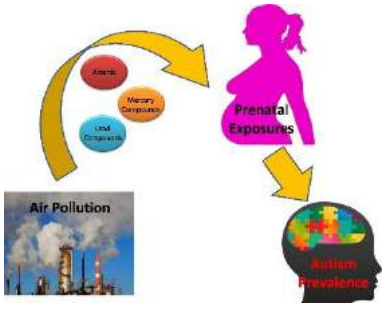
The Rt Hon Jo Churchill MP
Parliamentary Under-Secretary of State for Prevention, Public Health and Primary Care
39 Victoria Street
London
SW1H 0EU

Your ref: PO-1190032

Dear Mrs Churchill,

Lead Poisoning Prevention in the UK

I have been forwarded your letter dated 5th November 2019 to Dame Cheryl Gillan and I thank you for taking the time to respond. There are some points in your letter that I feel need further discussion.



Although pica is associated with autism, and can readily result in elevated blood lead concentrations (BLC), there is also evidence that autism can be caused by lead exposure in the womb, or during post-natal periods, when the child cannot exhibit pica (Arora et al, 2017, Ehrenstein et al, 2014). This is illustrated in this diagram from Dickerson et al, 2015 and explained in this 1 min 49 sec video by Icahn School of Medicine at Mount Sinai.

Several of the studies I referenced previously describe causality between lead and autism, or discuss the role of impaired detoxification related to lead toxicity leading to autism.

To dismiss the evidence on the relationship between lead and autism as complex, or inconclusive, and do nothing, seems an inadequate approach to prevention. Furthermore, parents of children who exhibit pica should be advised to ask their GP for blood lead tests for their children. They should also be educated about reducing contamination and exposure pathways to help prevent many other conditions caused by lead.

I do not think you can really say that there is evidence of a very low prevalence of raised BLCs in the UK. There has been no survey since the mid-1990s. From data collected at that time, studies have found 14% of pregnant woman (Taylor et al, 2013), and 27% of toddlers (Chandramouli et al, 2009), that were sampled, had elevated BLCs.

In some parts of the USA 17% of children are lead poisoned and this example is just one of 3,300 similar neighbourhoods. The Centers for Disease Control estimate that, in the USA, 535,000 children

aged 1-5 have dangerous BLCs at any one time. This would equate to around 100,000 in the UK, about 2.5%.

Some other points to consider from the USA:

- The President's Task Force on Environmental Health Risks and Safety Risks to Children has lead exposure as a priority area.
- Dr. Cyrus Rangan, medical toxicologist at Children's Hospital Los Angeles recently stated "When it comes to lead poisoning, it's still the most important pediatric environmental problem".
- Congressman Tim Ryan has introduced a bill asking for a $100Bn investment for lead removal
- In another bill "to evaluate and reduce lead-based paint hazards, lead in drinking water hazards, and lead in soil hazards", congressman Jared Golden cites a potential 277% return on investment
- Huge financial benefit has been identified in addressing lead toxicity including $43Bn per year in the USA and €22.72Bn per year in France.

Can we say, without a blood lead survey, that UK lead exposure risks are not the same, or worse, than the USA?

Thank you for noting the National Screening Committee review. The main reason the committee gave for not screening was that very few children are affected. As noted above, this cannot be known without an up-to-date blood lead survey. Also, since then, Public Health England have proposed that the intervention BLC is lowered from ≥10µg/dL to ≥5µg/dL for children. This would bring many more children into the definition of lead poisoned. You mention that PHE responded to the reviews in 2013 and 2018. What should be noted is that in PHE, and other's, submissions views and evidence were presented which refuted many of those in the review.

I am pleased that you note that lead exposure may be a public health concern for at risk populations. As you are probably aware, lead toxicity can cause many conditions, apart from autism, including neurological, cardiovascular, renal and reproductive diseases. See table 1.2 in the USA National Toxicological Program monograph (2012) on lead. What can be done to reduce the risk? I would suggest targeted blood lead screening, leaflets in GP surgeries and DIY stores, and a helpline and improved information online as is provided in the USA.

You mention the Lead Exposure in Children Surveillance System (LEICSS). One of the two aims of the LEICSS is population level surveillance. However, funding is not currently available for a blood lead study of asymptomatic children. Are you in a position to make funding available for such a study or recommend this to the appropriate bodies?

I hope this letter convinces you that there is much more we should do in the UK to minimise lead exposure and increase lead safety so that we can realise the potentially huge medical, societal and financial benefits. I would be very happy to discuss this further with you, or members of your department, and explain how I think we can start to fix this problem.