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RE: Testimony in support of the Toxic Free Kids Act (SB478) for Joint Committee on Ways and Means Subcommittee on Human Services

Dear Co-Chairs Bates and Nathanson and Members of the Committee:

Introduction. I am a clinical scientist at OHSU and Doernbecher Children's Hospital. OHSU has endorsed this bill. However, I am writing here representing my own views and not as a spokesman for OHSU. I have a Ph.D. in clinical psychology and for the past 20 years I have conducted research on child development, at the level of behavior, neuropsychology, brain imaging, and genes. My special expertise is neurodevelopmental disorders, that is, developmental brain problems, like ADHD and Autism, as well as learning problems and cognitive development. I have conducted studies on lead exposure and ADHD, as well as done considerable literature review on other toxicants. I do this because of my scientific interests in how genes and environmental exposures influence children's risk for these costly developmental problems. Thus, my special interest in this bill pertains to containing risks to children's neurodevelopment and psychiatric outcomes. I am confident that we all share the same values with regard to promoting maximal development for our children. I here explain why supporting this bill is support those values.

Reason neurodevelopment is important. Children with ADHD are of particular interest because they go on in many cases to school failure, delinquency, and substance abuse. Children with autism are of concern because many have difficulty obtaining employment and require extensive and costly services. Thus, as you may be aware, these types of problems are a major cost burden on our school systems, on families, on child clinical services, and when children get older, on law enforcement and juvenile justice systems in Oregon. They are also common, with at least 5% of Oregon children affected and, by school reports, even more than this. These children affect many others. These conditions, medically speaking, are as costly as any other health problem we face in our society, based on recent data from the National Institutes of Health, due to their early onset and chronicity. Thus, any action that might reduce the risk factors in the population for these conditions should be of considerable interest to the Legislature and the State. It is certainly of interest to me.

Scentific literature is solid. The literature is not ambiguous. We know:

- Toxic chemicals are routinely able to be identified in children's bodies.
- These "trace amounts" are sufficient to be bioactive. A common toxicant level found in children's blood is 5 parts per billion--the same blood level of Ritalin seen in children who are treated for ADHD.
- While there are many exposure sources, we know toxic chemicals are in some children's products when those products are examined;
- Chemicals such as phthalates are not inert in consumer products; they can leach out of consumer products and into the body of children.
- No safe level of exposure for these toxicants exists for small children; levels deemed "safe" by current screening standards fail to address the special vulnerabilities of the developing brain; but in fact can change brain development and children's learning.
- Individual effects are subtle but population effects are large.

I would be glad to provide scientific literature citations or papers to support each of the above points should you find that useful or necessary to your deliberations. I omit here to ease your reading burden.

Population burden is the key to understanding your legislative impact. Policymaking for neurotoxicants or any public health concern should be focused on population burden, not individual outcomes. To take a familiar example, when we require constraints on cigarette sales to minors and warning labels on packages, we recognize:

- If children smoke, some will be hurt by the smoking and some will get addicted.
- We can reduce how many children get addicted by regulating
- Even though we can never know which specific children were saved by the restrictions on cigarette sales. All we can show is that deaths in the population went down—we can prove that many lives were saved, but not *which* lives.
- Therefore the fundamental insight in relation to toxic chemicals in children's products is to think about the population burden, not try to identify individuals who are being hurt.

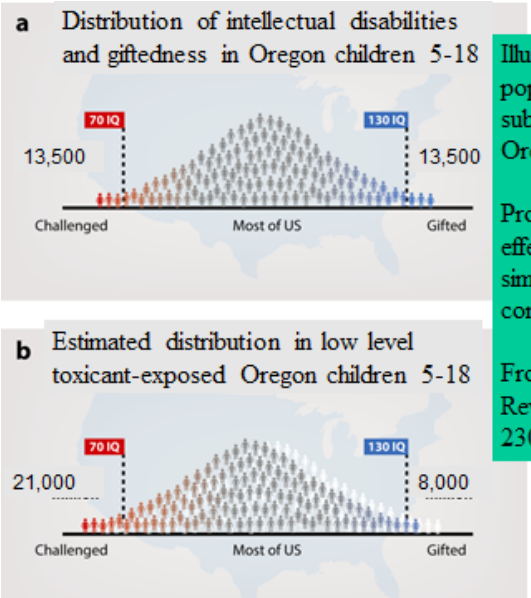


Illustration of large population impact of subtle toxicant effects in Oregon children.

Projected from measured effects of low level lead to similar effects of other common exposures

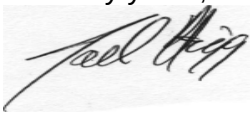
From Lanpear 2015 Ann Rev Pub Health 36, 211-230

The figure illustrates the hypothetical but probable population effect in Oregon of a significant change in toxicant levels in children's bodies. It is based on numbers for the best understood chemical, lead, but a similar picture applies for the toxicants in the proposed bill. The top part of the figures the situation if we had no toxicants or, in this case, if lead had never been used in our society. It shows the estimated number of children in Oregon who would have developmental disabilities (needing costly services from state-funded school programs) and who would be gifted (future leaders in Oregon industry, business, medicine, and technology). The bottom of the figure shows the situation with "business as usual," that is with ongoing "low level" neurotoxicant exposures tolerated by Oregon.

As the figure makes clear, thousands more children are developmentally delayed and thousands fewer are gifted, just from a subtle change in the population IQ distribution from the individually subtle effects of these neurotoxicants. While this figure is hypothetical, it is based on known effects and puts forward a probable scenario for what is at stake in this legislation for Oregon if SB478.

Conclusion. Children face many obstacles to their healthy development today. Only some of these are within the reach of legislators to address. This one is. I urge you to take this prudent, moderate, proportional action for the sake of Oregon's youth.

Sincerely yours,



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