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February 4, 2014

RE: Testimony on the Toxics Disclosure for Healthy Kids Act (SB1569)

I am a clinical scientist at 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 the development of neurodevelopmental disorders like ADHD and autism. I have conducted some studies on lead exposure and ADHD, as well as done considerable literature review on other toxicants. The reason is that I am interested in how genes and environmental exposures influence children's risk for these costly developmental problems. I want to make the following points.

Over several decades, those of us in the scientific community have been playing catch up—we discover one chemical at a time that a particular product or agent is harmful in development. In the meantime 10 more come to market without having been evaluated for their effects on developing children and we start again. When the chemicals in question have known bioactive effects, the level of risk has to be noted

In my own research, I studied lead in child ADHD. The lesson we learned for lead has been repeated with one chemical after another. Most disturbing to the scientific community is that we find that the level of exposure that causes harm is persistently lower than we thought. Lead safe levels were lowered again recently in part due to studies like ours showing associations at low level of exposure. Now we know that the average, "background" exposure level that is common in children for lead is harming at least some of these children.

Coming to the chemicals on the list in the proposed bill, we can say several things in general that follow and that unfortunately are beginning to echo what we learned the hard way on older compounds.

One, these are all bioactive chemicals that can alter multiple biological systems: including immune, inflammatory, white matter development in the brain, synapse formation in the brain, and gene expression. One of my areas of work is epigenetic changes associated with experience and disease outcome. When epigenetic change is looked at in relation to these chemicals, it shows effects. As you may know, epigenetic changes can have effects that persist across generations. Therefore, it is safe to say that these chemicals have clear potential for health effects.

Two, these chemicals are difficult to neutralize. They can and do leach out of consumer products and be absorbed via skin, inhalation, or ingestion. This is demonstrated by looking at urine and blood levels in consumers using different amounts of the products and in controlled animal studies.

Three, for the chemicals I have looked at on this list in the literature (particularly the phthalates), there is evidence that even low level

exposure can have meaningful effects on human biological functioning, just like it does with lead.

Four, it is difficult to evaluate how big their contribution is to disease in Oregon because their use in consumer products is not disclosed. We have to change the pattern of being in the dark and waiting until we have very serious harms before we collect information.

In conclusion then, I believe that it is clearly prudent to take some action to protect against exposure of these substances. A minimal step is to begin to track their use so we can see their exposures.

The basic tracking proposed here is a prudent, minimal, and useful step to help us begin to track and reduce risk for our children. Therefore I strongly support this bill.

Thank you.

Sincerely,

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