

2023 Contaminants of Emerging Concern (CEC) Annual Meeting Question and Answer Session

14 SEPTEMBER 2023

Question: When will you have results for the baby formula study?

The formula samples are currently being analyzed at the Public Health Laboratory. After the Public Health Laboratory has finished, Health Risk Assessment (HRA) scientists will evaluate the data and integrate them into our risk assessment process. While we do not have an estimated date for completion, this project will fill a critical data gap and remains a high priority.

Question: Regarding the toxicokinetic model of PFAS exposure, do you anticipate efforts to account for interindividual variability, such as by sampling from probability distributions?

For most model parameters, there is insufficient data to define the probability distribution clearly enough to allow a Monte Carlo analysis. We address interindividual variability by using upper percentile values for many (but not all) of the model parameters. These values are also the most health protective.

Question: Regarding the automated workflow to screen exposures for CEC chemicals, given the direction of the field and large amount of data available out there, where is the unit going?

We are in the process of pivoting to focus more closely on potential exposure to help prioritize CEC chemicals for workplan. Part of this plan involves making optimal use of all available data. The automated workflow will allow us to leverage a very large set of exposure-related data in a relatively short time period, enabling MDH staff to consider factors that are currently outside the capabilities of the automated system. Because our mandate is to protect drinking water, we need to focus on water exposures when developing water guidance. However, non-water exposures and water exposures are intertwined, and it's helpful to bring in information on other exposure types into the automated processes to capture that.

Question: Could MDH develop drinking water guidance values base on in vitro toxicity data (e.g., new approach methodologies, also known as NAMs, data)?

Almost all of the chemicals being considered for NAMs have critical data deficiencies that do not allow for the use of the Health Risk Assessment's promulgated risk assessment methodology. As such, it is unlikely that any quantitative guidance solely developed using NAMs will be eligible to be put into rule. It is possible that guidance derived with a traditional *in vivo* database bolstered by NAMs could be eligible for rule, but that will be situation-specific.

HRA's goal is always to create clear and useful guidance for our partners. The type of guidance developed using NAMs is likely to vary chemical to chemical based on the availability and quality of data. Guidance could vary from quantitative (e.g. Risk Assessment Advice, screening values), to semi-quantitative, to qualitative. As always, HRA scientists will be available to consult with our partners on any questions or issues that arise.

Question: Do other states refer to your work in setting health-based values in their states?

HRA is routinely contacted by staff from other states and countries for information about MDH guidance. HRA has also made significant contributions to the field of risk assessment, like the bioaccumulative PFAS toxicokinetic model ([A transgenerational toxicokinetic model and its use in derivation of Minnesota PFOA water guidance](#)), and freely shares them with other agencies.

Question: Could you repeat the title of the article on the automating screening process or add it to the conversation. Will the R script be shared?

The article is titled "[Screening for drinking water contaminants of concern using an automated exposure-focused workflow](#)." All of the shareable information is included with the supplemental material provided with the publication. The R script is unavailable as it includes internal EPA data sources that can not be accessed outside of the EPA.

References

Goeden, H. M., Greene, C. W., & Jacobus, J. A. (2019). A transgenerational toxicokinetic model and its use in derivation of Minnesota PFOA water guidance. *Journal of exposure science & environmental epidemiology*, 29(2), 183-195.
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7609339/>.

Isaacs, K. K., Wall, J. T., Paul Friedman, K., Franzosa, J. A., Goeden, H., Williams, A. J., ... & Greene, C. (2023). Screening for drinking water contaminants of concern using an automated exposure-focused workflow. *Journal of Exposure Science & Environmental Epidemiology*, 1-12.
<https://www.nature.com/articles/s41370-023-00552-y>.

Health Risk Assessment Unit
Minnesota Department of Health
PO Box 64975
St. Paul, MN 55164-0975
651-201-4899
health.risk@state.mn.us
www.health.state.mn.us

09/22/23

To obtain this information in a different format, email health.risk@state.mn.us.