

**August 2023 Meeting of the Scientific Guidance Panel for  
Biomonitoring California  
(Rescheduled to November 2023)**

**Summary of Input and Recommendations**

The Scientific Guidance Panel (SGP) for the California Environmental Contaminant Biomonitoring Program (also known as Biomonitoring California) met virtually and in-person at the George Alexeeff Environmental Health Library in the Elihu M. Harris State Office Building in Oakland, CA on November 6, 2023 at 9:00 am – 12:00 pm PST. This meeting was originally planned for August 21, 2023 but was rescheduled following an [Emergency Proclamation](#) of extreme weather caused by Hurricane Hilary. Panel members attended virtually and in person. Agenda items originally noticed for the August 21, 2023 meeting were discussed at the November 6, 2023 meeting. This document briefly summarizes input and recommendations received from the Panel, as well as the range of topics discussed with the audience. Visit the [August 2023 SGP meeting page](#) to access the presentations, complete transcript, and other meeting materials.

**SGP Panel Members in Attendance**

Megan R. Schwarzman, MD, MPH, Chair  
Carl Cranor, PhD, MSL, *attended remotely*  
Lara Cushing, PhD, MPH  
Oliver Fiehn, PhD  
Ulrike Luderer, MD, PhD  
Thomas McKone, PhD  
Penelope (Jenny) Quintana, PhD, MPH  
José R. Suárez, M.D., Ph.D., M.P.H.

**Program Update and Planning**

[Presentation](#): Nerissa Wu, PhD, MPH, California Department of Public Health (CDPH)

[Presentation](#): Songmei Gao, PhD, Department of Toxic Substances Control (DTSC)

Panel members, staff presenters and program staff discussed the following topics:

- Detection methods for multi-compound laboratory analysis of perfluoroalkyl and polyfluoroalkyl substances (PFASs)
  - Staging of sample analyses could be considered as a hybrid approach to identify and prioritize compounds which are consistently above the detection limit in a subset of samples. Identified compounds could then be prioritized for inclusion in a larger number of samples.
  - Consideration of potential contamination of samples from collection or storage tubes (e.g., vacutainers, cryovials) with PFASs. To minimize the potential for such background interference, the Environmental Chemistry Laboratory tests

- these tubes to determine background levels of PFASs and the extent to which leaching of PFASs into the sample may occur.
- Suggestion of including additional standards with the new PFASs method, such as the NIST SRM 1950 frozen human plasma standard, and investigating whether industry or others have internal standards containing a surrogate mix of PFASs. The Environmental Chemistry Laboratory has many internal standards, and the current method is similar to the isotope solution method – a gold standard in analytical chemistry.
  - The use of isotope-labeled internal standards of classic high abundant PFASs to measure as many compounds as possible in samples is challenging as newer PFAS profiles are different than classic PFASs and accumulate differently in the population.
- Tracking impacts of new California laws, such as AB 496 Cosmetic Safety, which prohibits the use of certain chemicals in cosmetics in California, effective January 1, 2025.
    - Many of the analytes of interest (phthalates, parabens, and mercury) are biomonitored in urine. The Studying Trends in Exposures in Prenatal Samples (STEPS) project will analyze serum, and thus may not be the best forum for tracking the impacts of AB 496 over time.
      - The Program is open to collaboration to access additional urine samples from external studies to track impacts of this legislation.
    - Urine samples from the California Regional Exposure (CARE) Study could provide a sense of baseline exposures. Returning to CARE participants for additional samples would require Institutional Review Board (IRB) approval.
    - The National Health and Nutrition Examination Survey (NHANES) data could provide baseline levels of exposure and be used to extrapolate differences between national and California levels for certain substances. Differences might reflect changes in California laws.
    - Documenting effects of policies through biomonitoring data is an important effort and provides a unique opportunity to identify potential disparities in impacts of legislation on exposure reduction.

**Panel Recommendation: Potential Expansion of the Perfluoroalkyl and Polyfluoroalkyl Substances (PFASs) Designated Chemical Group**

**Presentation:** Martha Sandy, PhD, MPH, and Meltem Musa, PhD, Office of Environmental Health Hazard Assessment (OEHHA)

Background document: [Potential Expansion of PFASs Designated Chemical Group](#)

Public comment: Anna Reade, PhD, from the Natural Resources Defense Council (NRDC) provided comment in support of the Program's recommendation to expand the PFAS chemical group on the Designated Chemicals list. She stated that "The Program's justification for expansion is scientifically supported, resource efficient, and will further California's ability to protect public health. The proposed expansion meets several of the criteria for designated chemicals under SB 1379, including chemicals with the potential for exposure and known or suspected health effects. Importantly, the concern over chemicals with carbon-fluorine bonds and the persistence that results is supported by other experts in the field. We thank California Biomonitoring and the Scientific Guidance Panel for their important work to protect the health of Californians." She also commented that the EU's universal PFAS restriction proposal has more use information than we can collect in the U.S, and that the California Water Board is planning to perform non-targeted testing on drinking water in collaboration with EPA, which would allow Biomonitoring California the opportunity to follow up with findings from this work.

In deliberating on the potential expansion of the PFASs designated chemical group, Panel members highlighted:

- The importance of capturing exposure potential of chemicals with carbon-fluorine bonds through biomonitoring data.
  - These compounds are likely to be very persistent in the environment due to the strength of the carbon-fluorine bond.
  - The United States has historically had minimal testing requirements before a chemical enters commerce, highlighting the importance of tracking exposures to these chemicals. The European Union's Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation requires screening of high-use chemicals before entering commerce.
- Benefits of expanding the PFAS group on the designated chemicals list to "PFASs and other substances with carbon-fluorine bonds"
  - Provides flexibility to the Program to identify exposures to a wide range of chemicals through non-targeted analysis. This is particularly important as new chemicals enter the marketplace and as more evidence becomes available on exposure to these chemicals.
  - Allows the Program to develop methods without having to return to the Panel to add individual chemicals to the designated list.
  - Provides the opportunity to identify potential cases of regrettable substitution.
- Due to the expansiveness of the proposed designated group, the Program will need to carefully review the chemical properties and exposure data of each compound to identify which chemicals to include in future biomonitoring studies.
  - Non-targeted analysis can also be used to identify the presence of specific fluorinated chemicals within the group to focus on.
- Limitations and opportunities of using the non-targeted approach.
  - Non-targeted analysis can provide information on whether the chemical is present or absent in samples, whereas targeted approaches can provide more information on quantification of exposure.

- The Mass Spectrometry Search Tool (MASST) is a program that collects publicly available MS/MS non-targeted data and can provide information on presence, absence, and source associations of different chemicals.

Thomas McKone motioned that the chemical group “perfluoroalkyl and polyfluoroalkyl substances (PFASs) and other substances with carbon-fluorine bonds” be included as designated chemicals for the California Environmental Contaminant Biomonitoring Program. Penelope (Jenny) Quintana seconded the motion. The Panel voted unanimously in favor of this motion.

### **Open Public Comment**

[Submission from Dr. Ahimsa Porter Sumchai](#)

