**November 2022 Meeting of the Scientific Guidance Panel for
Biomonitoring California**

Summary of Input and Recommendations

The Scientific Guidance Panel (SGP) for the California Environmental Contaminant Biomonitoring Program (also known as Biomonitoring California) met virtually on November 18, 2022. This document briefly summarizes input and recommendations received from the Panel, as well as the range of topics discussed with the audience. Visit the November 2022 SGP meeting page to access the presentations, complete transcript, and other meeting materials.

Program Update and Planning

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

The topics discussed after this presentation were focused on the planning and design of the Studying Trends in Exposures in Prenatal Samples (STEPS) project and included:

- The potential to validate/improve the power calculations for STEPS by using California-specific National Health and Nutrition Examination Survey (NHANES) restricted-use data from the Research Data Center that will be published soon in a paper co-authored by Megan Schwarzman.

- The limitations of using Genetic Disease Screening Program (GDSP) samples for STEPS, and potential strategies to address those limitations.
    - In some cases, the volume of samples stored in the GDSP Biobank may be insufficient for chemical analyses. Pooling samples could be explored as a potential solution but would need to be done with careful consideration of parameters and associated assumptions.
    - The GDSP does not allow for any contact with participants for future studies or the collection of additional information. Linkage to birth records, health databases, and other administrative databases could be used to gather additional information about participants including sociodemographic characteristics (e.g., parental occupation).

- Considerations when selecting counties for retrospective (from the GDSP Biobank) and prospective (not part of the Biobank) sampling for STEPS.
    - Counties with biobanked samples provide an opportunity for time trend analyses for two different regions. If sampling for the non-biobank county is conducted in a different region of California than the biobanked samples, it would expand the geographic coverage. This might improve the representativeness of the study and possibly allow for identification of disparities between regions.
    - Prioritizing counties where PFAS exposures may be of high concern, including:
        - Areas where Aqueous Film Forming Foams (AFFF) are used such as areas recently impacted by wildfires or places where firefighting training

facilities are located (e.g., Tulare County).
- Counties where PFASs are used for fracking (e.g., Kern County).
- Rural areas, which are often under-represented in biomonitoring studies and where private well systems are more likely to be used for drinking water, and may have higher levels of PFASs.
  - o Possibility of designing the sampling to maximize diversity of drinking water sources (e.g., public and private water systems/wells; groundwater and surface water).

- Data sources that could be used to identify areas with high potential for PFAS drinking water contamination that could be targeted for biomonitoring.
  - o The Tap Water Analysis Project, which measured 34 different PFASs in tap water across 60 different areas in California. This study identified Southeast Los Angeles as one area where higher PFAS levels were detected in drinking water.
  - o The Program has been working with the Water Board to identify areas with potentially higher levels of PFASs in drinking water.
  - o The Behavioral Risk Factor Surveillance System (BRFSS) and California Health Interview Survey (CHIS) include survey questions that could provide useful information on drinking water behaviors by region.

- STEPS exclusion criteria.
  - o For retrospective sampling, the Program has data on parity and will be excluding multiparous individuals.
  - o For prospective sampling, the Program plans to oversample as they will not have data on parity until approximately two years after the samples are collected. After the Program has received the data on parity, they could exclude multiparous individuals or stratify analyses by parity.
  - o Excluding high-risk or high-exposure groups (e.g., based on occupation) would bias the sample. It would also be difficult, as there is not enough information to identify all potential high-risk groups.

FRESSCA-Mujeres: Protecting Farmworker Women in the Central Valley from Wildfire Smoke

Presentation: Nayamin Martinez, MPH, Central California Environmental Justice Network (CCEJN) and Gina Solomon, MD, MPH, Public Health Institute (PHI) and UC San Francisco (UCSF)

Panel members discussed the following topics with guest speakers about the Filtration for Respiratory Exposure to Wildfire Smoke from Swamp Cooler Air (FRESSCA)-Mujeres Project:

- Options for the timing of urine collection.
  - o Evening urine samples, followed by morning samples, could be collected to assess the benefit of the filtered air overnight. This could be done both before

a wildfire event, to capture a baseline, then during a wildfire event, if one occurs.
- o It might be most valuable to biomonitor before and after the wildfire season, to see the greatest difference between the different interventions.
- o Another approach would be sampling before and after the filters are installed, depending on when the filters are added.

- Study inclusion criteria.
  - o The study aims to recruit female farmworkers but will consider including other outdoor female workers if needed to reach enrollment goals.

- Suggestions for information to be collected through the questionnaires.
  - o Location of the air filters and the PurpleAir monitors in the home.
  - o Cooking activities and the use of stove hoods/exhaust fans.
  - o Potential outdoor sources of particulate matter, such as fireworks and outdoor grills.
  - o Cleaning practices, such as sweeping or vacuuming.
  - o Presence of pets in the home.
  - o Protective gear worn by participants during workdays.

- Potential impacts of study findings.
  - o Exposure data collected through FRESSCA-Mujeres could be relevant to other outdoor workers as well, including wildland firefighters.

Plan for 2023 SGP Meetings

Presentation: Stephanie Jarmul, MPH, Office of Environmental Health Hazard Assessment (OEHHA)

Panel members discussed the following:

- Potential topics to consider for 2023 SGP meetings.
  - o Biomonitoring of 1-NP metabolites, including to assess public health benefits of California's clean diesel programs.
  - o Biomonitoring for pesticides commonly used in California and occupational exposures to pesticides.

Open Public Comment

Submission from Dr. Ahimsa Porter Sumchai:

Declaration of a Local Public Health Emergency