How biomonitoring studies work

Biomonitoring California conducts studies to learn about Californians' exposures to different chemicals, such as metals and perfluoroalkyl and polyfluoroalkyl substances (PFASs). Biomonitoring studies can be designed to learn about the general population, or they can focus on a specific demographic group, neighborhood, or occupation. For example, Biomonitoring California has studied firefighters since they are likely to be exposed to many chemicals at work.

Participation in a biomonitoring study includes learning about the purpose of the study, providing blood and/or urine samples, and answering questions about diet, work, and lifestyle. Study participants can choose to receive their individual test results.

What are benefits to participants?

Biomonitoring study participants learn about their own chemical exposures and contribute valuable information to science and public health. Participants often receive a stipend as thanks for their time and efforts.

Recruitment and Enrollment

Recruitment methods change depending on what the goals of the study are. Potential recruitment methods include mass mailings or community partnerships. Some studies invite anyone who is interested to sign up, and others identify certain groups to be in the study.

The biomonitoring team explains the risks and benefits of the study and which chemicals will be measured. If the person agrees to participate, they sign a consent form. This process is called **"informed consent"**.

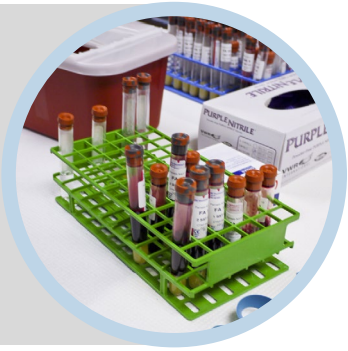
Exposure Questionnaires

Participants complete questionnaires about what they typically eat or drink, what household and personal care products they use, and what they do for work and recreation. This information helps us identify potential sources of chemical exposures.

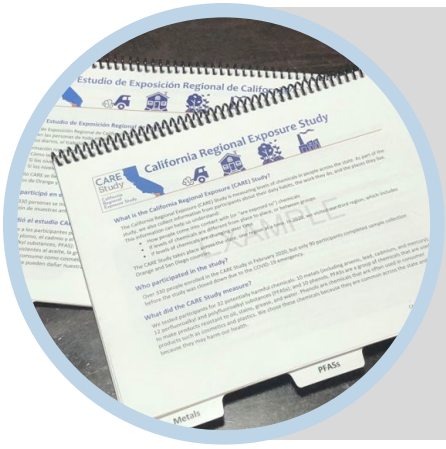
Sample Collection and Testing

Participants provide blood and/or urine samples. Sample collection can be done at study field offices, publicly accessible locations (for example, libraries and community centers), or at individual appointments at participants' homes. For some studies, environmental monitoring may be conducted at or around participants' homes, schools, or workplaces to compliment biological sampling.

After sample collection, samples are sent to a biomonitoring lab to be tested for the chemicals being studied.



Results Return



Participants can choose to receive their individual test results. Results are confidential and are not shared without the participant's consent.

Results return materials include information to help participants learn how their chemical levels compare to others. Participants also receive fact sheets for each chemical or chemical group with information on where it's found, possible health concerns, and how to reduce exposures.

Some chemicals have established levels of concern (e.g., lead). If any result is above the program's established levels of concern, the participant is notified and provided with personalized follow-up.

Summary Results and Findings

After results are returned to participants, we hold public meetings to describe overall study findings and release summary results on our website. Summary results do not reveal any identifying or confidential information about participants.

We also share summary results with community groups, local health departments, other researchers, and policy makers to raise awareness about chemical exposures.

Who protects participants?

All studies are approved by the State's Institutional Review Board, the Committee for the Protection of Human Subjects, which ensures that research involving human subjects is conducted ethically and with minimal risk to participants. Personal data is kept strictly confidential, as required by law.

What do we do with study results?

Biomonitoring results and questionnaire data are used to:

- Inform public health policies
- Learn about chemical exposures in different populations
- Look at how exposures have changed over time
- Identify communities or groups that are more exposed
- Understand factors that affect chemical levels
- Develop educational materials to inform communities and the public
- Publish scientific articles to share findings with other researchers

Biomonitoring California also uses what we learn to inform and improve future studies.

BIOMONITORING CALIFORNIA
MEASURING CHEMICALS IN CALIFORNIANS