August 14, 2013 Meeting of the Scientific Guidance Panel for Biomonitoring California

Summary of Panel Input and Recommendations

The Scientific Guidance Panel (SGP) for the California Environmental Contaminant Biomonitoring Program (also known as Biomonitoring California) met on August 14, 2013 in Oakland. This document briefly summarizes the Panel's input and recommendations on each agenda item and related public comments. To view or download the presentations, other meeting materials, and the full transcript, visit the August 2013 SGP meeting page.

Program Update

Presentation by Michael J. DiBartolomeis, Ph.D., D.A.B.T. *Chief of the Exposure Assessment Section, California Department of Public Health (CDPH); Lead of Biomonitoring California*

Document:
Sample Results Return Materials (not actual results)

Panel members suggested that the Program:

- Consider including information in the results return about cumulative effects of chemicals that may affect the same endpoints.
- Provide context for the results – for example, that the results are for a subset of chemicals and do not represent a comprehensive scan.
- Include more visuals, such as graphs, to help participants prioritize which results they might be most interested in.
- Include a brief individualized summary of results in the front of each package.
- Revise the fact sheet for firefighters, originally developed for the Firefighter Occupational Exposures (FOX) Study, to include additional on-the-job strategies for protecting against chemical exposures.

Public comment:

Davis Baltz of Commonweal noted that the Panel again has nine members (with the newly appointed members Dr. Oliver Fiehn and Dr. Penelope [Jenny] Quintana). He complimented the Program on the new website. With regard to results return materials, Mr. Baltz suggested that the Program aim to include as much relevant information as possible. He suggested adding information on which chemicals have been identified as hazardous by certain authoritative bodies, such as the National Toxicology Program or Proposition 65.

Nancy Buermeyer of the Breast Cancer Fund expressed support of the Program's result return efforts. She commented on the importance of looking at cumulative exposure and effects. She noted that the Program's biomonitoring results showing people's

exposure to measured chemicals will help in efforts to reform the federal Toxic Substances Control Act. Ms. Buermeyer highlighted California efforts to inform pregnant women about environmental exposures. She briefly described an upcoming study of San Francisco female firefighters funded by the California Breast Cancer Research Program.

Laboratory Update

Presentation by Jianwen She, Ph.D., *Chief, Biochemistry Section in the Environmental Health Laboratory Branch, CDPH*

Presentation by Myrto Petreas, Ph.D., M.P.H, *Chief, Environmental Chemistry Branch, Environmental Chemistry Laboratory, Department of Toxic Substances Control (DTSC)*

Panel members:

- Supported the Program in developing new methods to screen for unknown chemicals in biological samples.
- Emphasized the importance for the Program to develop a clear-cut strategy to look for unknown chemicals that should address:
    - Careful decisions on which compounds/classes of compounds to target – it is not possible to identify thousands of unknowns. Target unknowns that are of relevance to potential harm.
    - Appropriate sample preparation for the types of chemicals being targeted.
    - Collaboration between both laboratories on approaches for identifying unknown chemicals.
- Encouraged discussion about the implications of untargeted screening, such as generating data on illegal drug use, and how to address these issues (e.g., excluding these types of data). This could be of particular importance in occupational studies.
- Noted that the laboratory capabilities developed by Biomonitoring California have allowed the California Breast Cancer Research Program to fund studies on the role of chemical exposure in breast cancer, which is innovative work that cannot be done elsewhere.
- Highlighted the Genetic Disease Screening Program as a possible opportunity for generating a statewide representative sample, an original goal of the Program.
- Suggested looking at the ratio of the 1-napthol and 2-napthol levels, as an indicator of exposure to the pesticide carbaryl.

Afternoon Session and Panel Discussion with Guest Speakers

CalEnviroScreen: A New Tool for Evaluating Communities in California
Presentation by John Faust, Ph.D., *Chief, Community Assessment and Research Section, OEHHA*

Potential Role for Biomonitoring in Assessing Pollutant Burden in Communities
Presentation by Gina Solomon, M.D., M.P.H., *Deputy Secretary for Science and Health, California Environmental Protection Agency*

Document: CalEnviroScreen: A New Tool for Evaluating Communities in California.
Version 1.0 (discussed at the SGP meeting)
Version 1.1 (supersedes Version 1.0; released on 9-13-13)

The purpose of this special session was to introduce Panel members to CalEnviroScreen, a new tool developed by OEHHA. Panel members discussed CalEnviroScreen with Dr. Faust, Dr. Solomon, and Dr. Alexeeff and provided a number of suggestions (refer to the meeting transcript for details).

Discussion of potential linkages between CalEnviroScreen and Biomonitoring California included the following points:

- CalEnviroScreen highlights sources of pollution that are involuntary for individuals living in impacted communities. The Program should look at the list of biomonitored chemicals and the types of likely exposure (voluntary vs. involuntary), and, where relevant, provide that context for participants in the results return materials. Individuals cannot always take effective action to reduce exposures to certain pollutants, in contrast to other exposures that can be affected by personal choices.
- Biomonitoring studies could help sort out connections between local exposures, general environmental exposures, community vulnerabilities (including stress), and relationship to disease. To look at vulnerable subgroups will require a rich biomonitoring dataset.
- Consider which chemical exposures might be expected to vary geographically, and which would be expected to be more consistent across the state.
- Biomonitoring highly exposed subgroups can be valuable in sorting out relative importance of various types of exposures (indoor vs. outdoor; exposures via consumer products/diet vs. environmental exposures).
- The Program should consider measuring indicators like markers of immune effects or indicators of stress. Panel members noted, however, that the main focus of the Program is on measuring exposure. Program data can be used to inform epidemiologic studies.
- CalEnviroScreen could be a useful tool to ensure that the Program is addressing the full range of California communities through focused smaller studies, in the absence of a statewide representative sample.

- CalEnviroScreen could help identify regions or communities to consider for biomonitoring studies. For example, communities with particular concerns, such as those near hazardous waste sites or near diesel truck corridors, or those with higher incidence of chronic diseases, could be identified for possible study.

Public comment

Refer to the meeting transcript for public input and suggestions on CalEnviroScreen.

Public comment on the link between CalEnviroScreen and Biomonitoring California:

Davis Baltz of Commonweal suggested the Program take as many samples as possible from the top ranking zip codes in CalEnviroScreen (or the most polluted or highly impacted ones) with the commitment to go back in two years (or another time frame) to measure the same people. He indicated that this would demonstrate a commitment to environmental justice issues and provide information for potential later intervention in these communities.

Chemical Selection Planning

Presentation by Gail Krowech, Ph.D., *Staff Toxicologist, Safer Alternatives Assessment and Biomonitoring Section, OEHHA*

Document:
Screening of Four Pesticides for Possible Future Biomonitoring: *Glufosinate Ammonium, Glyphosate, Imidacloprid, Propanil*

The Panel:

- Requested that the Program prepare documents to support the consideration of all four screened pesticides as potential designated chemicals, with the following priority order: imidacloprid, glyphosate, glufosinate ammonium, propanil.
- Requested that the Program consider preparing a document on classes or groups of pesticides rather than on single pesticides; for example, the class of neonicotinoids, which would include imidacloprid, or pesticides grouped by use, such as pet pesticides (as suggested by Dr. Solomon, see public comment below).

Public comment:

Rachel Kubiak of the Western Plant Health Association stated that the glufosinate ammonium hazard identification in the European Union was based on high dose assays. She noted that U.S. EPA and the California Department of Pesticide Regulation (DPR) are evaluating imidacloprid and whether its use is affecting bee populations. Ms. Kubiak also commented that residue testing by DPR rarely finds levels in exceedance of health hazard standards.

Pam Strayer, a writer, commented that the agricultural pesticide mapping tool (from the California Environmental Health Tracking Program) is a good tool to look at how widespread the use of these pesticides is.

Davis Baltz of Commonweal supported the Program moving forward with documents to support consideration of these pesticides as potential designated chemicals, given the increased volume of use, indoor exposures, involuntary exposures highlighted by Dr. Quintana (*i.e.*, exposures in impacted communities in the Central Valley), and bans or restrictions in the European Union.

Gina Solomon of California EPA suggested that the Program consider ways to group pesticides based on structural similarities or common uses to go beyond these chemicals that were presented in the screen.