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**Community-Based Participatory Exposure Assessment in an Environmental Justice Community: Preliminary Results and Communication**

Morello-Frosch R,\* Zota AR,† Rudel RA,† Pérez C,‡ Tovar J,‡ Brown P,§ Dodson R,† Brody JG† \*UC Berkeley, Berkeley, CA, USA; †Silent Spring Institute, Newton, MA, USA; ‡Communities for a Better Environment, Oakland, CA, USA; and §Brown University, Providence, RI, USA.

**Objective:** An emerging and critical component of community-based participatory research (CBPR) in environmental health is reporting results back to individual study participants and to the broader community. As personal exposure assessment methods detect ever-lower concentrations of more chemicals, corresponding animal and cell studies may indicate troubling biological effects, yet exposure sources, health effects, and exposure pathways remain poorly understood. In short, scientific capacity to detect precedes its capacity to interpret, and this situation poses unique challenges to developing effective report-back and communication strategies for CBPR projects that seek to empower communities to take action to reduce pollution exposures.

**Methods:** For the California Household Exposure Study, paired indoor and outdoor air samples were collected from 40 homes in a predominately low income, urban, minority community neighboring a large oil refinery and major transportation corridors; and from 10 homes in a comparison, rural, higher SES community with no proximate industrial emission sources. Samples from both study sites were tested for 155 compounds originating from industrial sources, mobile sources, and consumer products with a focus on understanding personal and indoor chemical exposures. Study results are being disseminated through bilingual community meetings, report-back materials, and individual home visits with study participants.

**Results:** A total of 84 analytes were detected in the outdoor air and 112 analytes were detected in the indoor air. Given the large number of compounds analyzed, report-back materials and communication with study participants aimed to elucidate which sources are amenable to individual versus collective approaches to exposure reduction. Distinctions were made between pollutants emitted from mobile, transportation sources (e.g. fine particulate matter) and pollutants that are likely emitted from industrial sources that have been a focus of community concern (e.g. ammonia). Report-back on pollutants with well-defined health effects and originating from major outdoor emission sources pointed to collective strategies to reduce community exposure. Conversely, study results also highlighted consumer products as another common source of indoor air pollutants. In this situation, report-back strategies distinguished between those pollutants that are amenable to individual action to reduce exposures (e.g. home use pesticides) versus those compounds that are not (e.g. phthalates) because their sources are ubiquitous and exposure pathways are poorly understood. This latter category of pollutant suggests the need for broader policy action to improve regulatory strategies that reduce pollutant exposures from consumer products.

**Conclusions:** Despite scientific uncertainties regarding the health effects, sources, and exposure pathways of air pollutants, communities are concerned about the cumulative impacts of multiple exposures to compounds from diverse sources. Currently, there is little guidance for effectively reporting individual and community-level exposure data to study participants, yet report-back protocols can balance the need to acknowledge scientific uncertainty while also elucidating opportunities for collective and individual action to reduce pollutant exposures.