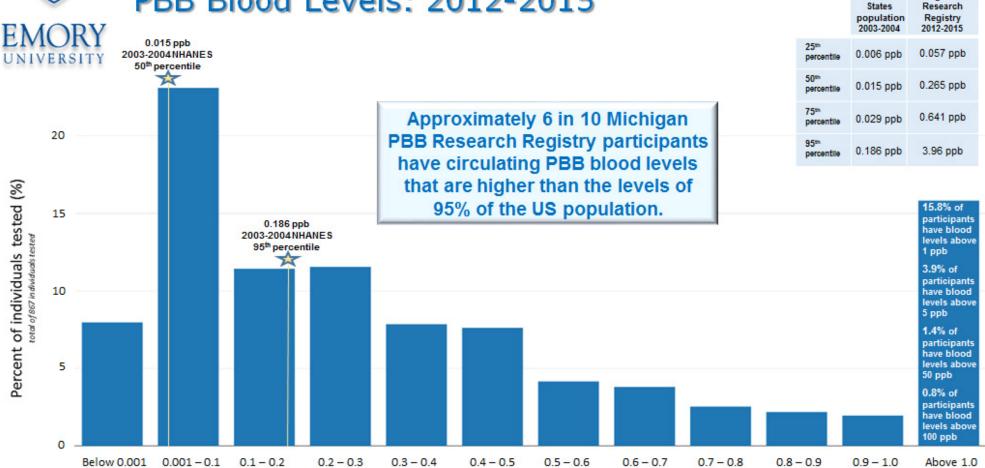


Michigan PBB Research Registry

PBB Blood Levels: 2012-2015



PBB 153 (parts per billion in serum)

not lipid-adjusted

For more information, please visit www.pbbregistry.emory.edu

United

Michigan PBB

Serum concentrations of polybrominated biphenyls (PBBs), polychlorinated biphenyls (PCBs) and polybrominated diphenyl ethers (PBDEs) in the Michigan PBB Registry 40 years after the PBB contamination incident.

Che-Jung Chang, Metrecia Terrell, Michele Marcus, Elizabeth Marder, Parinya Panuwet, Barry Ryan, Melanie Pearson, Hillary Barton, Dana Barr

From 2012 to 2015, we measured PBB in the blood of individuals related to the PBB contamination incident in Michigan (1973-1974). The results show that these people and their children have higher PBB in their blood than the general US population 40 years after the incident. Moreover, the people who were highly or directly exposed in the past, including the people who ate the contaminated food, lived on the contaminated farm, worked in the chemical plant and their families, are 2-3 times higher than the general Michiganders who lived in the state in 1973-1974.

PCB and PBDE, chemicals similar to PBB, were additionally measured among the people related to the PBB contamination incident in Michigan. It was found that PCB and PBDE were found in a vast majority of these people.

The PCB and PBDE levels found in the registry were typically higher than the general US population. The higher PCB and PBDE levels could be due to the historical chemical production, higher environmental pollution, and/or consumption of contaminated fish or meat in the area.

It is alarming that PBB, PCB, and PBDE, persistent organic pollutants (POP), can stay in the human body for such a long period of time, and can be potentially passed to the next generation through the placenta or breastfeeding. Therefore, the continuous exposure and health monitoring are suggested for the people who had been exposed, even long after the major contamination period ended.

Citation: Chang CJ, Terrell ML, Marcus M, Marder ME, Panuwet P, Ryan PB, Pearson M, Barton H, Barr DB. Serum concentrations of polybrominated biphenyls (PBBs), polychlorinated biphenyls (PCBs) and polybrominated diphenyl ethers (PBDEs) in the Michigan PBB Registry 40 years after the PBB contamination incident. Environ Int. 2020 Apr;137:105526. doi: 10.1016/j.envint.2020.105526. Epub 2020 Feb 18. PMID: 32062441; PMCID: PMC7201813.