Because of improvements in the ability of scientists to measure exceedingly low concentrations of chemicals, it is now possible to detect thousands of substances in human blood, urine, and other biological samples. In recent years, government agencies and other researchers have collected samples from volunteers in communities across the country in order to measure the background level of chemicals in people due to exposures resulting from their environment. These are called biomonitoring programs.

This report discusses the sources of these exposures, the biological samples that are examined, and how the results of biomonitoring should be interpreted. There may be substantial benefits to broadly implementing programs that measure human exposures to the many chemicals found in our food, consumer products, air, water, and dust. However, since in most cases the source of the chemical being measured in the biological samples will not be known, there is also a large risk of misinterpreting the data from these programs.

Perhaps the most common misperception is that the mere detection of a chemical in our bodies suggests a health hazard rather than simply providing a measure of exposure. It is important that those who design and conduct biomonitoring programs carefully consider how the data should be interpreted and how that information should be conveyed to the public.

Biomonitoring: Measuring Levels of Chemicals in People and What the Results Mean [1]