
COPHES

CONSORTIUM TO PERFORM HUMAN BIOMONITORING ON A EUROPEAN SCALE (COPHES)

Human Biomonitoring

In our daily lives, we are constantly exposed to chemical substances. Thanks to human biomonitoring (HBM), we can assess whether and to what extent these substances enter our bodies. By measuring the concentration of chemicals in body fluids or tissues, biomonitoring can provide valuable information on environmental health effects and, in some cases, help address potential health risks. Read more about human biomonitoring on web pages www.eu-hbm.info/cophes/human-biomonitoring.

COPHES: the harmonised approach

After 3 years of work, COPHES and DEMOCOPHES have been able to demonstrate that a more coordinated and harmonised approach to HBM in Europe is possible and can become an important tool to monitor the exposure of Europeans to chemical substances and address potential health effects that may derive from it.

How did it all start?

In 2009, European scientists and stakeholders from 35 institutions in 27 European countries began work towards setting up a European-wide human biomonitoring framework. Funded by the EU's Seventh Framework Programme, COPHES developed a harmonised protocol and standard operating procedures allowing the collection of comparable HBM data throughout Europe. Its twin project DEMOCOPHES was launched one year later to test this protocol and to win information on levels and major determinants of exposure in Europe, as well as to test guidelines for the translation of HBM results into concrete policy recommendations in the countries.

What have we achieved?

DEMOCOPHES measured biomarkers for mercury in human hair and cadmium, phthalates, environmental tobacco smoke as well as bisphenol A in urine from around 120 mother-child pairs in the 17 participating countries, in total almost 4,000 hair and almost 4,000 urine samples. This is the first time that we have information on the distribution of chemicals in 17 EU countries which are comparable between the countries and with international data.

The next steps

COPHES/DEMOCOPHES results demonstrate that harmonisation is possible but further work is needed to establish networks and infrastructure in EU countries. These results are the first step towards EU-wide databases on the distribution of the chemical burden in the population, which will allow to follow levels in the population and evaluate the effectiveness of regulatory measures such as a ban on certain chemicals or smoking regulations. At the same time, improved comparability of European HBM data in the future will allow cross boundary evaluation of gradients in human exposure throughout Europe and it will push the elaboration of health based guidance values and the identification of potential high exposure populations or subpopulations and may help to target measures.

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