



EUROPEAN HUMAN BIOMONITORING INITIATIVE (HBM4EU) IMPACT LEAFLETS

ESTABLISHMENT OF AN EU-WIDE BASE OF HUMAN EXPOSURE DATA FOR POLICY

KEY IMPACTS

- IPCHEM makes existing and new (European) Human Biomonitoring (HBM) data easily findable and accessible.
- The number of findable (metadata) and accessible (aggregated) HBM datasets in IPCHEM has drastically increased through HBM4EU: from 22 to 153 metadata datasets and from 13 to 78 aggregated datasets.
- Harmonised HBM-indicators stimulate use of HBM data in national and European policy processes.

KEY FACTORS

Human Biomonitoring datasets in IPCHEM

IMPROVE COMPARABILITY OF RESULTS



HBM metadata: general information about study incl. chemicals measured, description of study population, study design.

153



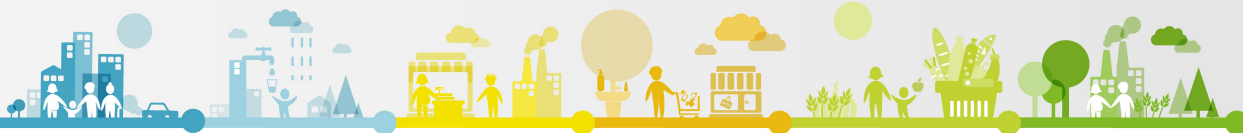
HBM aggregated data sets: descriptive statistics incl. mean, percentiles, ...

65

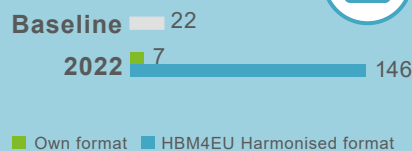


HBM single measurement data sets: individual biomarker data and accompanying individual information

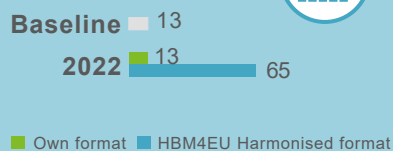
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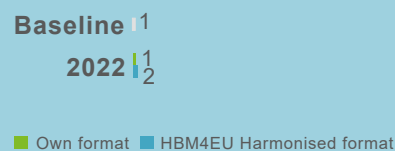
METADATA



AGGREGATED DATA**



SINGLE MEASUREMENT DATA*



Baseline = datasets available in IPCHEM before the HBM4EU project.

*Pseudonymized single measurement data only accessible via the repository after approval by data controller.

**The own format aggregated data are not publicly accessible via IPCHEM. The own format aggregated data are not integrated in IPCHEM yet as they focused on integration of the harmonized aggregated data first.

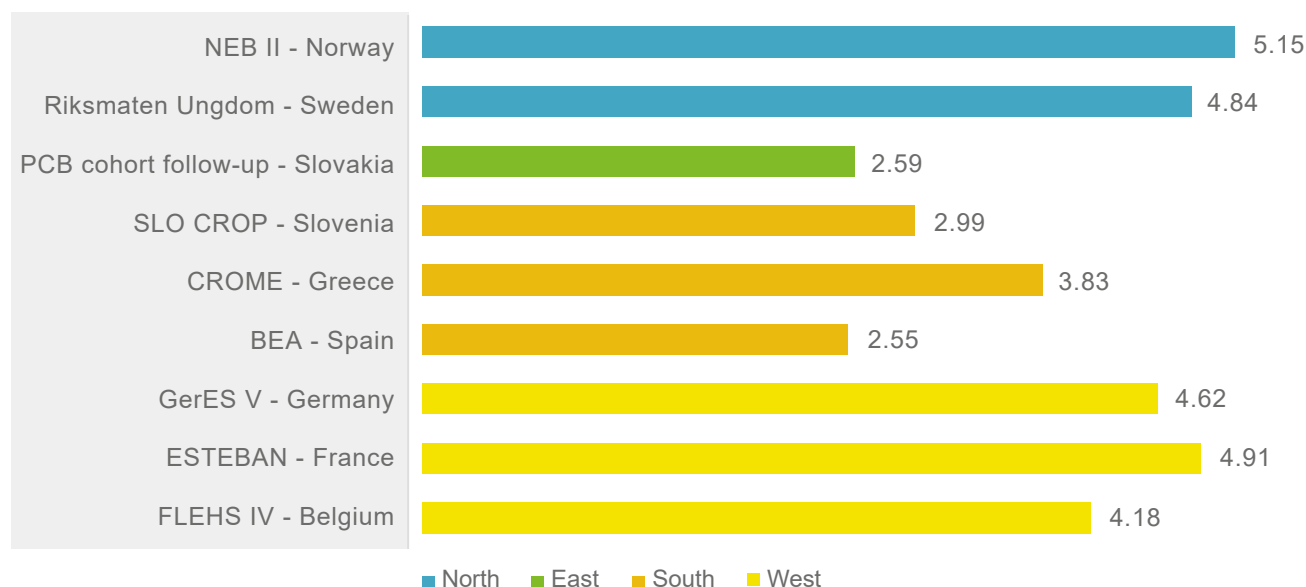
In IPCHEM exposure distributions illustrating the chemical exposure of EU citizens can be consulted. The exposure distributions show the median, lower and higher percentiles of the HBM data per study across age groups, countries, sex and educational level. The same data can also be consulted via an interactive HBM dashboard on the HBM4EU website (<https://www.hbm4eu.eu/eu-hbm-dashboard/>).

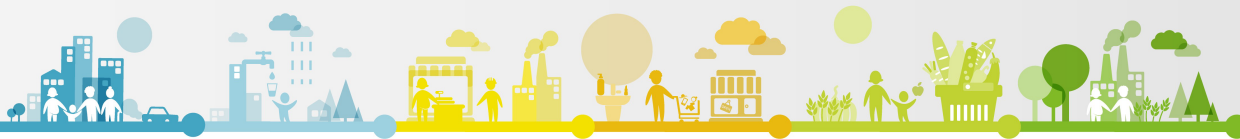
Result and impact indicators

Result indicators for e.g. geographical differences, time pattern (if DEMOCOPHES data are available), age differences (if different age groups were studied) are available the HBM4EU dashboard.

GEOGRAPHICAL DIFFERENCES (EXAMPLE PFAS)

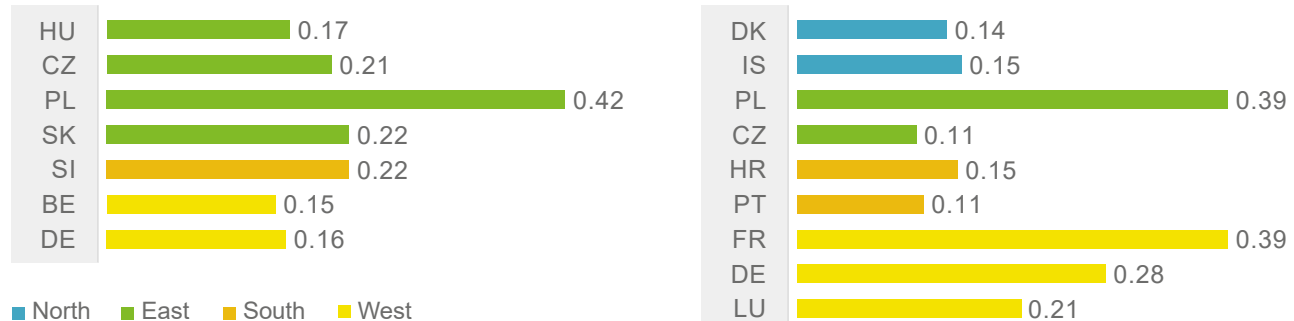
Geographical differences in exposure to sum of PFOS, PFHxS, PFOA and PFNA in plasma/serum (µg/L) of teenagers in Europe by median value (P50)





TIME PATTERN: DEMOCOPHES (2010-2012) – HBM4EU SURVEY IN ADULTS (2014-2020) WOMEN (EXAMPLE Cd)

Urinary Cd ($\mu\text{g/g crt}$) of adult women (non-smokers)
in Europe over time by P50



DEMOCOPHES: 2010-2012

HBM4EU survey adults: 2014-2020

IMPACT INDICATOR: IF AVAILABLE, HBM GUIDANCE VALUES ARE COMPARED TO INTERNAL EXPOSURE LEVELS TO INDICATE 'HEALTH RISK'.

Example PFAS:

Share of European teenagers with combined exposure levels to
PFOA+PFNA+PFHxS+PFOS exceeding EFSA based value: 6.9 $\mu\text{g/L}$

