

S02.03.25. The Quality Programme for Assuring Comparability of Analytical Results in HBM4EU

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Abstract: The HBM4EU initiative is aiming to coordinate and advance human biomonitoring (HBM) in Europe. It will provide better knowledge of the actual exposure of citizens to chemicals, to support policy making. The initiative is a joint effort of 28 countries, of 109 partner organisations, co-funded under Horizon 2020 and will run from 2017 to 2021, building on previous activities undertaken at EU and national levels. HBM4EU will contribute to fill the data gaps for the exposure to prioritized chemicals, through chemical analysis of human samples in a harmonized way. Thus, a specific work package is dedicated to Laboratory analysis and quality assurance (QA). Specific tasks include the inventory and selection of best-suited biomarkers and matrices for the prioritized substance groups (three rounds of prioritization of chemical groups are planned along the project). The establishment of networks of HBM laboratories for biomarker analysis and support of the QA program at EU level, as well as for developing new methods on identified gaps. A Quality Assurance Unit (QAU) with experts in HBM chemical analysis has been established to assess the process and secure comparability of HBM4EU results. We have developed Standard Operating Procedures for guiding main aspects in the harmonization process of EU laboratories. An ambitious program for intercomparison laboratory exercises (ICI/EQUAS) has been designed with a total of 76 individual human biomarkers for the first round of priority substance groups (phthalates, flame retardants, poly- and perfluoroalkyl substances, polycyclic aromatic hydrocarbons, bisphenols, anilines, cadmium and, chromium). Candidate laboratories need to participate in at least three proficiency rounds and successful results in the ICI/EQUAS program is required for European labs to analyze HBM4EU samples. This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 733032.