OVERVIEW AND CONCEPT

The European Environment and Health Strategy adopted by the European Commission in 2003 presented a new vision on how to address environment and health in an integrated way and puts health in the center of environmental policy. Based upon the Strategy the Commission adopted in 2004 a European Environment and Health Action Plan 2004 – 2010. Under Action 3 in the Action Plan the European Commission announces the development of a coherent approach to Human Biomonitoring (HBM) in Europe in close cooperation with the Member States.

In December 2009 the COPHES consortium began work towards an EU HBM framework. This is accompanied by a feasibility study called DEMOCOPHES, which started in September 2010.

The Consortium to Perform Human Biomonitoring on a European Scale (COPHES) is a pan-European (all member states of the EU participating) approach to Human Biomonitoring (www.eu-hbm.info).

The aim of COPHES is to perform a coherent and harmonized approach on Human Biomonitoring throughout Europe by means of commonly developed protocols including analytical methods, quality assurance etc. ensuring reliable and comparable analytical results. To ensure the comparability of results Interlaboratory Comparison Investigation exercises (ICI) and External Quality Assessment Schemes (EQUAS) has been performed in participating laboratories in DEMOCOPHES and with invited external reference laboratories for EQUAS.

COPHES Work package 3, which is responsible for the analytical quality programs and standard methods is organizing a Workshop on quality of analytical data on 30th November. During the workshop experts will present their experiences in quality- and inter-comparability aspects of analytical data focused on human Biomonitoring and, attendees will have the opportunity to share ideas and experiences with leaders and experts in the field.

SUMMARY

The European week on human biomonitoring that took place on 28th November – 2nd December 2011 in Brussels and included the Workshop on Quality of Analytical Data in Human Biomonitoring, organized by COPHES-WP3 (Sample Processing and Quality Assurance). The workshop gave the opportunity to share the experience of worldwide recognized experts in quality and inter-comparability aspects of analytical data in HBM.

The session started with a brief introduction of Dr. Argelia Castaño highlighting the importance of the quality assurance (QA)/quality control (QC) aspects, focused on the inter-comparability of analytical results in the context of COPHES/DEMOCOPHES. She explained the actions organized by COPHES-

WP3 in order to establish the bases for harmonization of EU laboratories on a common QA/QC for the EU HBM network. That included a common glossary, protocols and Standard Operating Procedures (SOPs) for pre-analytic and analytic phases and Interlaboratory Comparison exercises (ICI/EQUAS).

The first speaker was Dr. Birgit Schindler who talked about the SOPs developed by the German DFG compendium of analytical methods, published since 1967. She showed how these SOPs are elaborated explaining the validation of the SOPs regarding accuracy, repeatability (inter- and intraday), reproducibility and sensitivity and how they are verified in independent laboratories.

The workshop continued with the presentation of Dr. Antonia Calafat who started with a general overview of the requirements and characteristics of the analytic methods and the importance to choose the biological matrix depending on the target chemical. Then she gave examples to evaluate the quality of analytical data for environmental chemicals focusing when using phthalates measurements.

Dr. Mirja Kiilunen gave an historical overview between different analytics methods employed for cadmium analysis, discussing about the detection limits and other aspect of the analysis of cadmium in HBM samples.

Dr. Hanna Tolonen presented the experiences from the European Health Examination Survey (EHES) and the work plan for coming years.

The workshop continued with the intervention of Dr. Elly Den Hond who explained how the variability in the results of the laboratories participating in COPHES-DEMOCOPHES ICI/EQUAS can affect the interpretation of results.

Finally, Dr. Alain Leblanc described the organization and the evolution of the Quebec Multielement External Quality Assessment Scheme (QMECAS) since its creation in 1996. He presented two illustrative short case scenarios of an experience in analysis of cadmium and phthalates metabolites in urine.

The Workshop on Quality of Analytical Data in Human Biomonitoring gathered recognized experts who shared their experiences with the attendants. All the sessions were very interesting and useful for the work performance in the framework of COPHES/DEMOCOPHES.

AGENDA

European week on HBM

Workshop on Quality of Analytical Data in HBM

30th November 2011, Brussels

14:00 – 14:15 Welcome and introduction: aim and framework of inter-comparability of analytical results in the context of COPHES/DEMOCOPHES.
Argelia Castaño, Marta Esteban, Birgit Schindler, Holger Koch, Antonio Jiménez and Jurgen Angerer.
Instituto de Salud Carlos III. Majadahonda. Madrid, Spain.
IPA. Bochum, Germany.

14:15 – 14:30 SOPs (German DFG Compendium of Analytical Methods).
Birgit. Schindler, Holger Koch and Jurgen Angerer.
IPA. Bochum, Germany.

14:30 – 15:15 Measuring phthalates metabolites in biological matrices.
Antonia Calafat. CDC. Atlanta, USA.

15:15 – 16:00 Analysis of Cd and creatinine in urine.
Mirja Kiilunen. Finnish Institute of Occupational Health Chemical Safety. Findland.

16:00 – 16:15 Refreshment break

16:15 – 17:00 QMEQAS – The Quebec multi-element external quality assessment scheme "Experiences and other issues".
Alain Leblanc. Centre de Toxicologie/INSPQ. Quebec, Canada.

17:00 – 17:20 Statistical implications of inter-lab variability for measurements in DEMOCOPHES.
Greet Schoeters, Elly den Hond, VITO. Belgium.

17:20 – 17:55 European Health Examination Survey – challenges in the standardization of the collection and analysis of the blood samples. Hanna Tolonen. National Institute for Health and Welfare. Helsinki. Finland.

17:55 – 18:00 Conclusions and end of the meeting.