Lessons learnt from the COPHES/DEMOCOPHES process

COPHES
Consortium to Perform Human Biomonitoring on a European Scale

SEVENTH FRAMEWORK PROGRAMME

Life

DEMOCOPHES
Demonstration of a study to coordinate and perform human biomonitoring on a European Scale

2nd International Conference on Human Biomonitoring, Berlin 2016

Science and policy for a healthy future

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Background to the COPHES/DEMOCOPHES process

- The potential of Human Biomonitoring (HBM) as policy tool is linked to availability of comparable data.

- Against this background the EU Environment and Health Action Plan (EHAPE, Action 3) asked explicitly for the development of a coherent approach to HBM in Europe in 2004.

- After preparatory activities from 2005 – 2007 (FP6 funded ESBIO) EU pilot projects on harmonised HBM kicked-off in 2009/2010.

The pilot initiative to a harmonised approach

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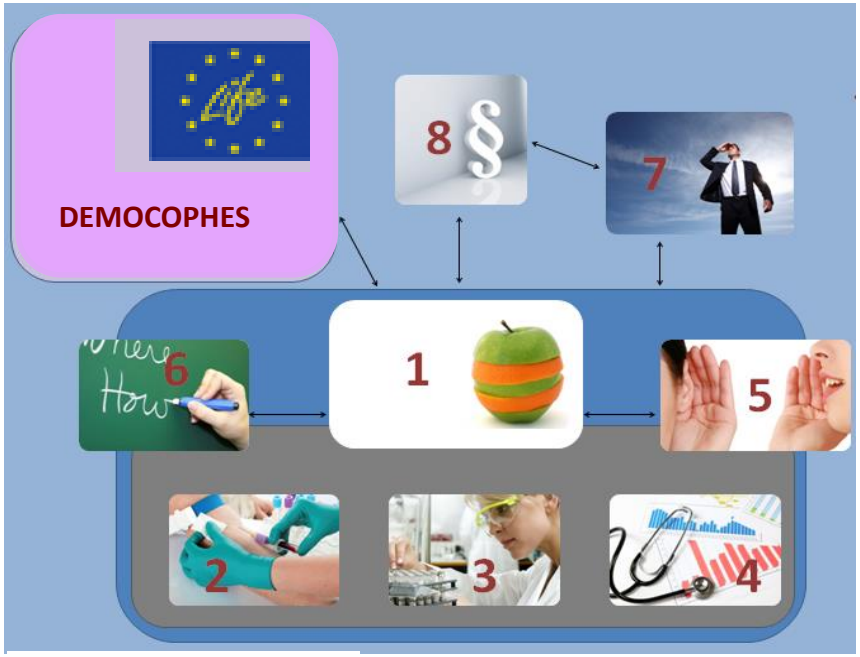
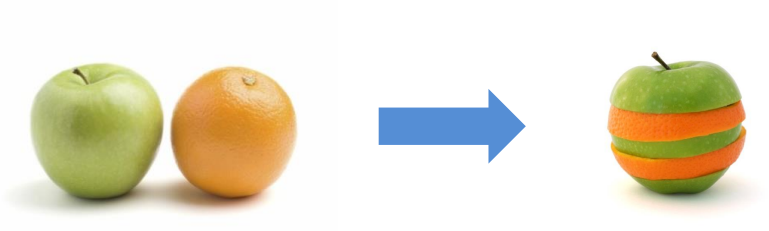
funded by the Seventh EU Framework Programme 2007–2011 under grant agreement no 244237

- → Framework (Protocol)
- → Guidance (Training, Manuals)
- → EU level results and data management
- → Policy Recommendations & Conclusions





DEMOCOPHES
Demonstration of a study to coordinate and perform human biomonitoring on a European Scale

co-funded (50%/50%) by the European Commission LIFE+ Programme (LIFE09/ENV/BE/ 000410) and the partners

- → 1844 mother child pairs
- → cadmium, phthalates, cotinine in urine
- → mercury in hair
- → (bisphenol A in urine)

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The network for the HBM pilot projects

COPHES partners

24 European Member States a well as Norway, Croatia and Switzerland

DEMOCOPHES partners (17 active):

BE, CY, DE, DK, PL, RO, SI, ES, HU, SE, UK, PT, CZ, SK, LU, IE, CH

NO, FR, AT, HR involved as ad hoc partners

1. Expert network; protocol, first set of reference values; biobanked samples; data fed into IPChem; proposal for future infrastructure and priorities
2. Lessons learnt about potentials and challenges of harmonising HBM within Europe as basis for ***HBM4Europe*** and other related projects such as ***BRIDGEHealth.***

Lessons learnt from the study protocol

Harmonised HBM in Europe is feasible and provided promising results

Key challenge: The right balance between required comparability and sufficient flexibility to ensure feasibility and capacity building

Main points of discussion:

1. Prioritization of substances
2. Analytical methods
3. Fieldwork and communication
4. Knowledge transfer and integration
5. Ethics and privacy

Lessons learnt regarding comparability of data and quality assurance

1. QC/QA aspects are crucial to provide comparable HBM results
2. external QA exercises and standard operating procedures (SOP) resulted in reliable analytical data according to the highest international state of the art.
3. Multicentre analysis is challenging for emerging biomarkers whilst not posing significant difficulties for well established chemicals.
4. The approach and procedures elaborated and tested in COPHES/DEMOCOPHES could be used as a blueprint for future multicenter HBM studies.

Lessons learnt for data management and interpretation

1. Interpretation and communication of results is a most sensitive and critical part of a European wide approach (conflicting messages need to be avoided)

2. It is possible to collect high quality external data (environmental and food registries) to aid in biomarker interpretation, but there is room for improvement
3. Linkage to health-based guidance values showed that personal habits and life style are strong determinants of internal exposure.
4. Strict rules and guidance for database construction allowed to pool national data into one central European database.
5. Stringent quality control measures ensured that differences in the biomarker concentration profiles by country residence are true.

Lessons learnt for communication

1. Effective and timely communication, at all stages of a study, is essential if the potential of human biomonitoring research to improve public health is to be realised.
2. The research team should be multidisciplinary (medical professionals, social scientist and communication experts), and training is needed to enable coherent interpretation/communication of results.
3. Countries need flexibility to tailor the communication material to reflect different languages, cultures, policies and priorities.
4. Participants should receive individual results, along with interpretation and recommendation for actions to take.
5. Publicity and wide dissemination of the results helps to raise awareness of policy.

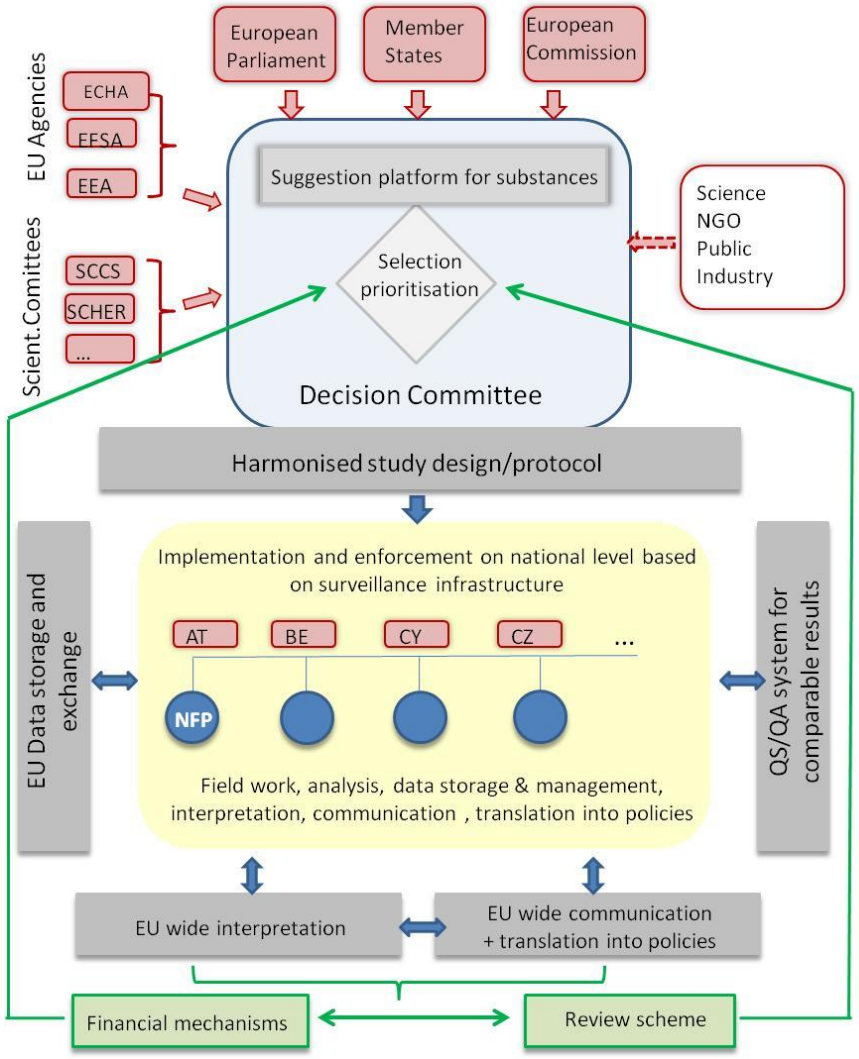
Lessons learnt regarding policy needs

1. Clear demand and interest in comparable HBM data for risk assessment and risk management
   - legal embedding of HBM in chemicals, pesticides/biocides and consumer product policies
   - Use in efficiency monitoring, and as early warning tool
2. Promote well targeted and efficient use
   - Select appropriate biomarkers and substances to include
   - Improve data availability and accessibility
     (Reference values for IPCheM
     https://ipchem.jrc.ec.europa.eu)

Lessons learnt regarding infrastructural and funding needs

- A decision making process on selection of substances, tool development and research needs
- National monitoring infrastructures
- A dedicated funding for long-lasting programmes

HBM4Europe



Overall lessons learnt from the pilot phase

1. Foster development of reliable biomarkers and analytical methods and of a long-term European program;
2. Enhance transparency, multidisciplinary collaboration, strategic applications of new technologies and transnational research.
3. Further align practices in Europe and continue exchange of capacities and experiences to increase the use of HBM for preventive policies;
4. Determine EU reference values to identify population groups that merit further assessment of exposure sources or health effects.
5. Link with other surveys (HES) to realize synergies and create new opportunities.

Thank you for your attention

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