

Introducing the EXHES/HEALS 'Checklist'

A tool for indoor environmental assessment

by Eduardo de Oliveira

Institute of Science and Innovation in Mechanical and Industrial
Engineering (INEGI)

Porto, Portugal

The EXHES study, part of HEALS EC exposome project, has a target population of twin children to be followed from their birth and aims at undertaking an adequate assessment and characterization of the physical environment where the twins will spend most of the time of their early life, i.e., the house where the newborns will live their first years.

In a study to be conducted in ten EU countries*, the safeguard of the objectivity and rigor of the collected information requires procedures that are as identical as possible between all the partners. To that end, the identification and characterization of the items under appreciation must be as objective as possible bearing in mind the differences between countries, construction practices and technologies, and routines in the living trends of families. Only with such care, applied to the whole universe under study, the associations between the nature/quality of the main children's surrounding environment at home and the health conditions of all can give a reliable representation of the impact of indoor air and health.

Two 'checklists' were produced:

a rather detailed one, actually not tested for this specific propose but supported on INEGI's experience on indoor air quality (IAQ) for over 20 years since the EU Offices Audit Project (1) in 1993-1994 and,

a second one, that integrates the contributions from the several associated HEALS-EXHES members, namely, from Regensburg-GE partners.

Both checklists can be translated into the relevant languages and made available as electronic-based tools provided by HEALS and operated using the HEALS iPads. The storage of all the collected data in real-time will be made in a central memory.

Actions on the assessment of the IAQ status and other correlated environmental issues to check relevant data regarding children's exposures in their homes are planned to be performed at two moments: at birth and two years after the delivery.

Two reasons led to choose the short version checklist for completion at the maternity hospital upon birth, the confinement of the 'case study' where for quite some time the environment will be very much limited to the home or part of it, and the difficulties associated to the lack of expertise of the person intended to be filling in the checklist (the father) on the building features. Two years after the children's birth, scheduled home visits by trained researchers, involving a more extensive environmental audit, will be performed.

Overall, the information gathered by the EXHES "checklists" is thought to yield significant contributions towards a better understanding on the level and nature of indoor air pollution in the houses, as well as on the real impact of early life exposures on children's health and in their individual "exposome".

*Croatia, France, Germany, Greece, Italy, Poland, Portugal, Slovenia, Spain and United Kingdom.

References

1. Bluyssen PM, Oliveira Fernandes E, Groes L, Clausen G, Fanger PO, Valbjorn O et al. (1996) European Indoor Air Quality Audit Project in 56 Office Buildings. *Indoor Air* 6(4): 221–38.
<http://doi.wiley.com/10.1111/j.1600-0668.1996.00002>