

IMPRESS

Scientific Advisory Board

Joint Statement on the IMPRESS Description of work and impact

This statement was prepared following the 1st SAB meeting in Edinburgh, December 15th 2017.

Version & date	Scope	Edits to previous version
0.1 Jan 18, 2018	MMO: The statement would contain our overall appraisal (WHY: why we like it: what impact?). Issues regarding the WHAT and HOW when it comes to the research we should devote to the minutes of the meetings. A comment on the “how” in terms of the management (where do we fit in?) should be there, though.	

Scope of IMPRESS

The IMPRESS project aims to better understand the performance of existing methods of exposure assessment to pesticides used in epidemiological studies, and to use this information to recommend improvements in scientific practice for the future. This 3 year project is to be achieved by assessing the reliability and external validity of the surrogate measures used to assign exposure within individuals or groups of individuals. In addition we will evaluate the size and effects of recall bias on misclassification of exposure to pesticides and associated health effects. As part of these evaluations, the project team will use existing and newly collected (biological) monitoring data from several existing epidemiological studies and historical records across various populations in Europe and elsewhere. The performance of the various exposure assessment methods will be compared and contrasted within existing epidemiological studies. The main outcomes will be the validation of selected semi-quantitative individual-based exposure assessment method against measured levels of urinary pesticide metabolites in a broad range of settings, and the comparison of the reliability and performance of several grouped- and individual-based exposure assessment methods when used to estimate historical exposures using the same occupational histories.

Overall appraisal of IMPRESS

The Scientific Advisory Board is confident that the IMPRESS project will provide important new information on factors affecting pesticide exposure and on how to use such determinants to estimate the risk of various human outcomes and diseases as a result of pesticide use. The IMPRESS research team is composed of very experienced investigators in the areas of epidemiology and exposure assessment, including biomonitoring, and bring a multitude of skills to successfully conduct this research.

In epidemiologic studies of disease with a lengthy latent period, it is unlikely that there will be many opportunities to entirely base pesticide exposure assessment on monitoring. Thus, use of determinants from interview and/or records will be required in most studies. Such a situation is not unusual in epidemiology and is certainly not restricted to studies of pesticides. Consequently, there is a considerable history in epidemiology of combining information from exposure determinants and monitoring data to create quantitative exposure scales. This project should include an evaluation of the value of using questionnaire information/record information, even if not equal to the level of reliability and validity that might be obtained from comprehensive monitoring and/or biomonitoring. It is not uncommon to entirely overlook the value of such information and to inappropriately conclude that it is without value. For pesticides the issue is often how to compare poorer quality information on exposure over a working career versus high quality information for a very small portion of a working career. It is not obvious which is better for assessing risks from chronic exposures that develop over a long period of time. The question is not just which approach can provide the best estimate of some short term exposure, but which can provide the most accurate and reliable information over the entire time period of relevant exposure. Any exposure metric(s) used in any epidemiological study should also reflect the biological/toxic endpoints of concern both from the nature of the active ingredient(s) and study design.

The results of this project should be of considerable value in future epidemiologic studies when it is impossible or impractical to conduct actual measurements (personal exposure, biomonitoring) over the relevant time period. IMPRESS focuses on worker exposure which has great relevance to both developed and developing countries.

It is the view of the SAB that epidemiology is a powerful tool to identify hazards and to help create a safe environment for workers, residents and consumers. It is also clear that epidemiological evidence currently plays a key role in risk governance and risk management. The SAB considers exposure assessment to be a crucial node to know when and how to take effective action. From the scientific perspective, the SAB anticipates that all stakeholders in science, industry, government and society will benefit from this research.

The role of the Scientific Advisory Board (SAB)

The collaborating research institutes (IOM, IRAS, HSL and CEOH (UoM)) are committed to undertake research projects in an independent, impartial, and transparent manner. The role of the SAB is to provide advice to the investigators on scientific quality and transparency regarding the research, its progress, and publication of the results. Our independent role is detailed in relation to the overall project governance [refer tot proj gov doc]. The SAB members will provide individual advice to the IMPRESS investigators and from time to time, also make group recommendations.