



IMPRESS: Improving exposure assessment methodologies for epidemiological studies on Plant Protection Products (PPPs)

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Start date: 1st Sept.2017 (3 year project)

Funded by:



Project team: IOM, HSL, IRAS and UoM



Utrecht University



Project aims



- Better understand performance of exposure assessment (EA) methods used in epi. studies
- Assess reliability and external validity of surrogate measures used to assign exposure within individuals / groups and evaluate size / effects of recall bias on misclassification
- Recommend improvements for future studies

How will we do this?

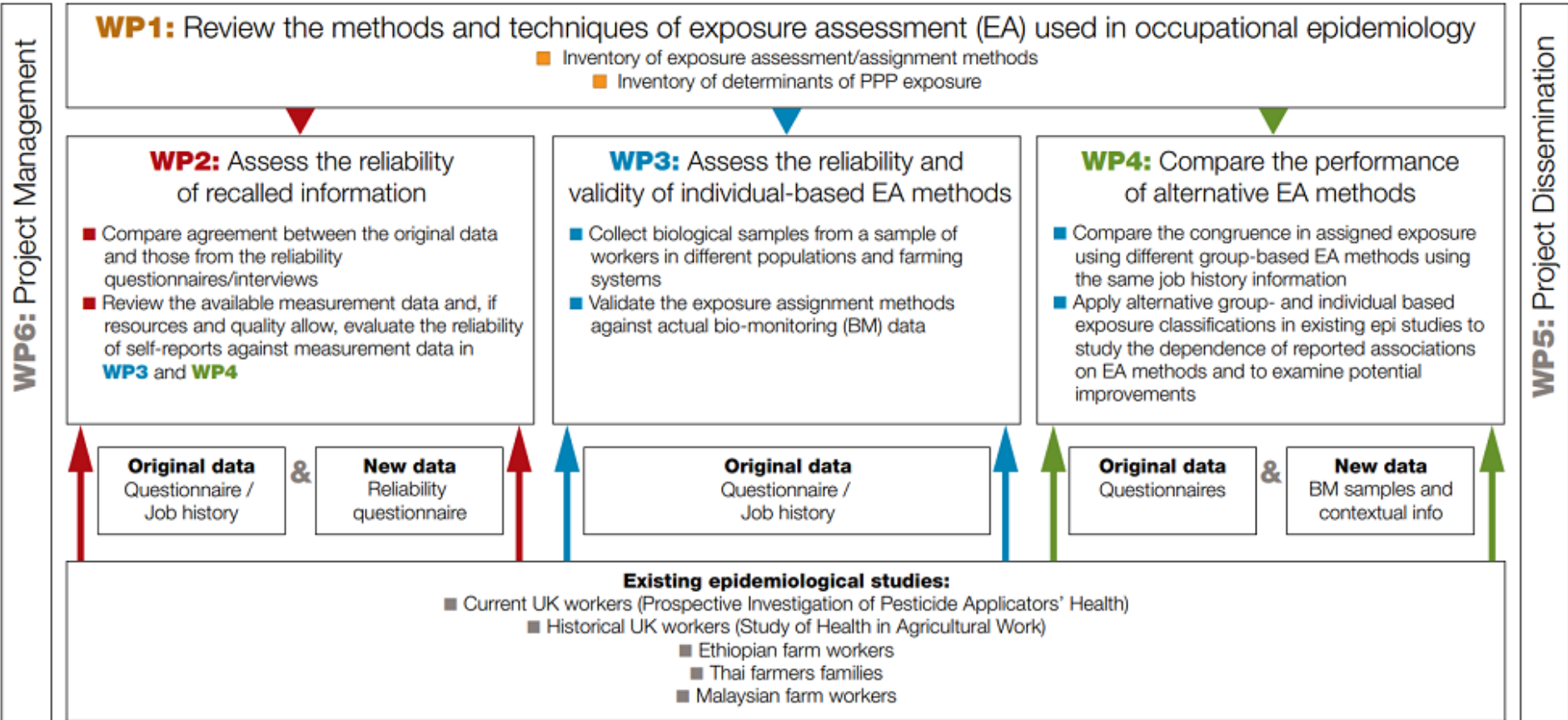
We will:

- Use previously collected exposure data from existing epi studies and historical records
- Assess current exposure (using biomonitoring) in various populations to examine performance of EA approaches
- Compare and contrast performance of EA methods within existing epi studies





Main project outcomes:

- Validation of an accepted and adaptable semi-quantitative individual-based EA method against measured levels of urine pesticide metabolites in a broad range of settings
- Comparison of reliability and performance of several grouped- and individual-based EA methods

Project structure



Project team studies being used..

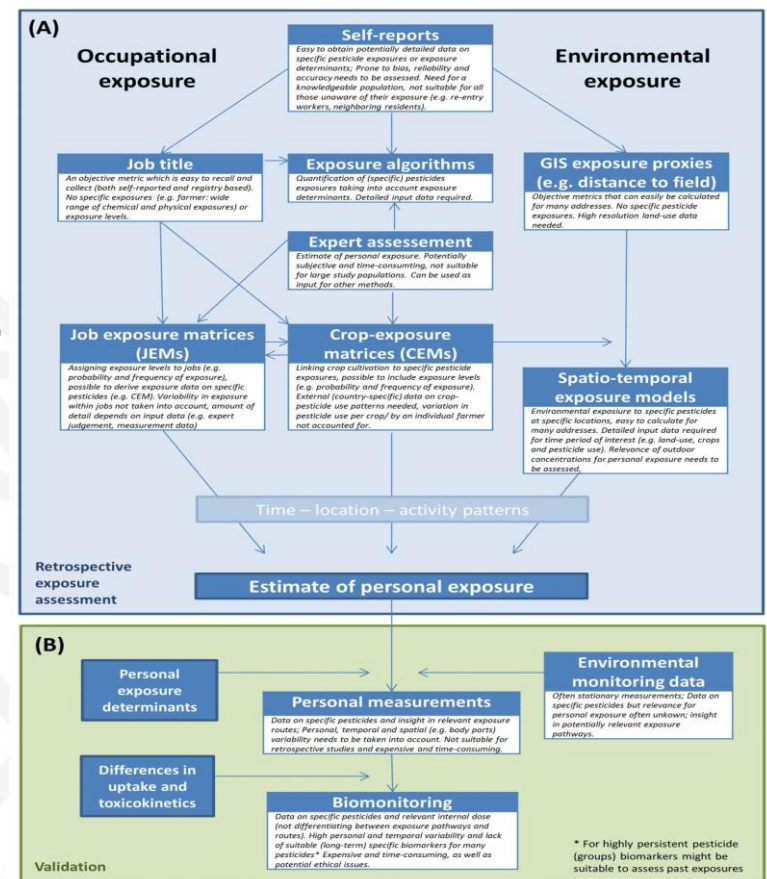
	Study	WP2	WP3
 HEALTH & SAFETY LABORATORY	Prospective Investigation of Pesticide Applicators' Health (PIPAH)	X	X
 MANCHESTER 1824 The University of Manchester	Study of Health in Agricultural Work (SHAW)	X	
	Ethiopian farm workers study	X	X
 MANCHESTER 1824 The University of Manchester	Malaysian farm workers		X

Also exploring use of historical biomonitoring data

WP1: Review exposure assessment methods used in occupational epidemiology (IRAS)

Objectives: Establish overview of pesticide EA methods used in epi community-based studies and studies within agriculture

- Systematic literature reviews
- Use of framework recently developed by Maartji Brouwer (IRAS)
- Inventories of:
 - EA / assignment methods
 - determinants of pesticide exposure



WP2: Recall of past pesticide exposure and determinants (HSL)



Objectives: Evaluate recall of exposure to PPPs and info. on exposure determinants to determine size of any recall bias & misclassification effect

- Identify existing records
- Re-interview participants from existing cohorts
- Evaluate reliability and validity of retrospectively reported pesticide use info.

WP3: Assess reliability & validity of individual-based exposure assessment methods (IOM)

Objectives: Examine reliability & validity of currently available individual-based EA methods

- Collect biological samples from subset of workers from studies previously mentioned
- Urinary biomarkers selection based on:
 - Extent of use within the study populations
 - Knowledge of toxicokinetics parameters
 - Validity of biomonitoring methods
- Validate EA methods against biomonitoring data



WP4: Compare performance of EA methods in existing epidemiological studies (IRAS)

Objectives: Compare performance of different exposure group- and individual based EA indices to inform future epi studies about most reliable to be employed in analysis with health data

- Compare congruence in assigned exposure using different general population JEMs and CEMs using same job history info
- Apply alternative group- and individual based exposure classifications in existing epi studies to assess impact on exposure response associations

Project Governance



- **Independent Advisory Board convened to provide independent and impartial expert advice**
 - Aaron Blair (Chair), National Cancer Institute (USA)
 - Mark Montforts (Deputy Chair), RIVM (The Netherlands)
 - Len Levy, Cranfield University (UK)
 - Silvia Fustinoni, University of Milan (Italy)
- All completed Conflict of Interest forms
- Project governance document stating agreed roles, responsibilities and interactions of those involved
- Freedom to publish our project findings and will do so via various channels

Project updates?

- Project website - provides updates, copies of presentations and other key materials

www.impress-project.org

- Further 2018 conferences

- ICOH 2018, Dublin, April - May
- X2018, Manchester, Sept
- 5th Int. Fresenius Conference "Worker, Operator, Bystander and Resident Exposure and Risk Assessment, Dec (TBC)

- Contacts for more information:

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Thank you for listening!

