B15 - Developing a robust method of allocating efficiency measures to regulatory instruments in the chemicals industry

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Objective and approach

- Risk management measures (RMM) are used to mitigate risks, however there are known differences between "as built" and "as used" efficiencies [a]. Requirements under REACH [b] for registrants to document RMMs have highlighted knowledge gaps.
- This programme of research is designed to improve knowledge and understanding of the specific factors affecting the efficiency of RMMs for control of human (particularly worker) and environmental exposure to chemicals during their production and downstream use (Fig. 1).
- A staged data collection process (Fig. 2) will be used including literature review, stakeholder consultation and verification through case studies.
- Key project output will be an easy-to-maintain RMM database with information on efficiency and affecting factors.

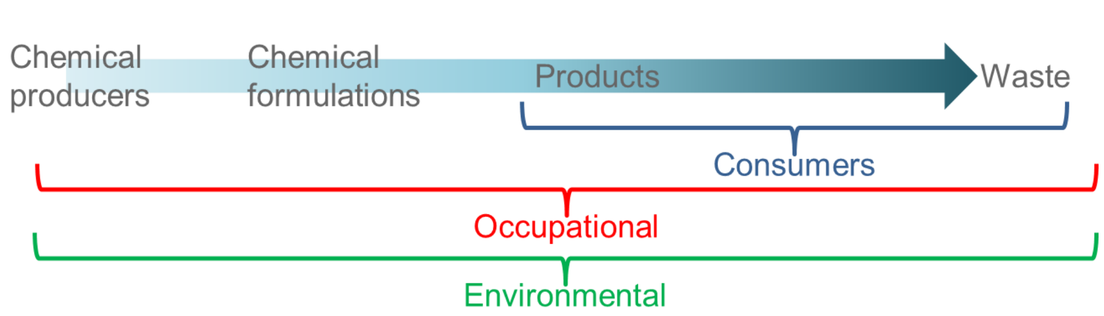

Fig 1. Identification of RMM use throughout chemicals' life cycle for specific sectors. Occupational use includes professional use of a product as well as the manufacture of the product.

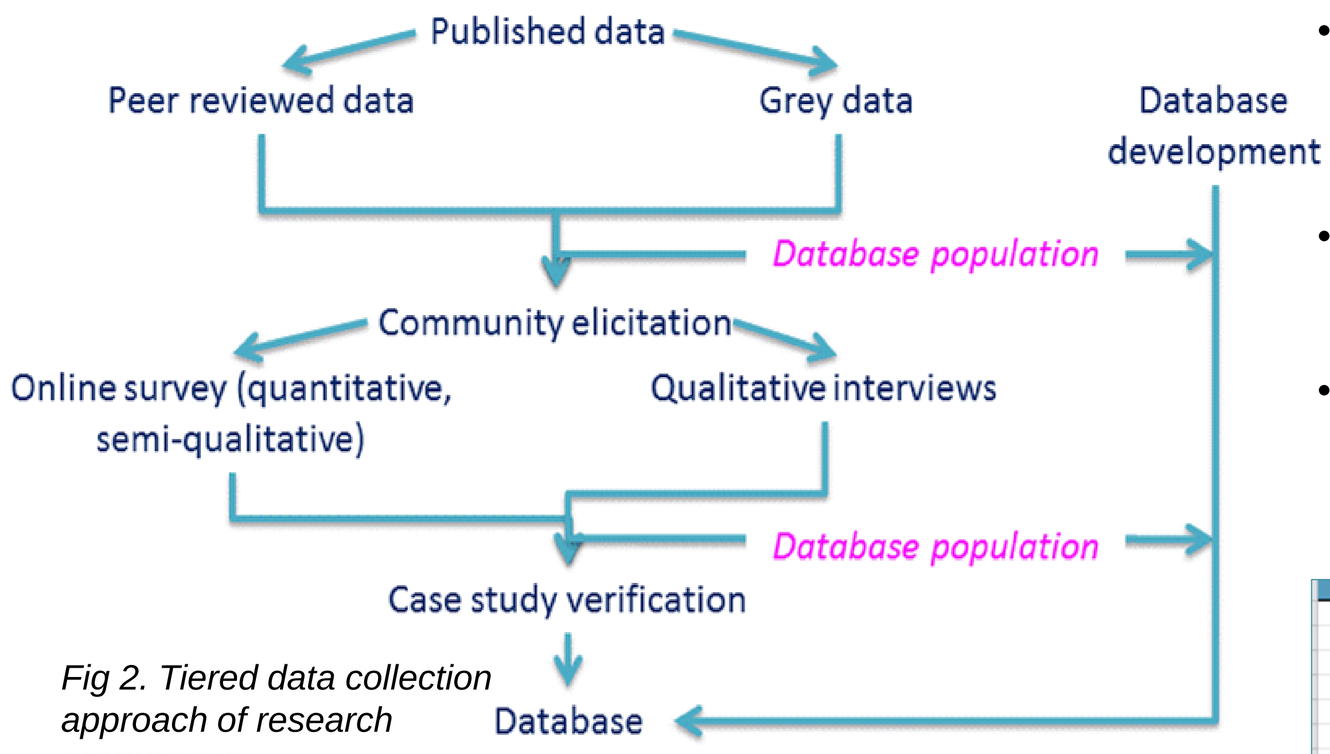

Fig 2. Tiered data collection approach of research programme.

Database development

- MS Excel™ -based database: widely used and easily updated.
- Content: RMMs and their efficiency, based on existing RMM libraries (e.g. CEFIC/ECHA RMM library [c]) and drawing on case studies from the literature and industry sources.
- RMM characterisation: description of RMM by process parameters, substance properties and RMM type (Fig. 3).
- Search functions: for use by registrants and downstream users to identify appropriateness of various RMMs for their processes.

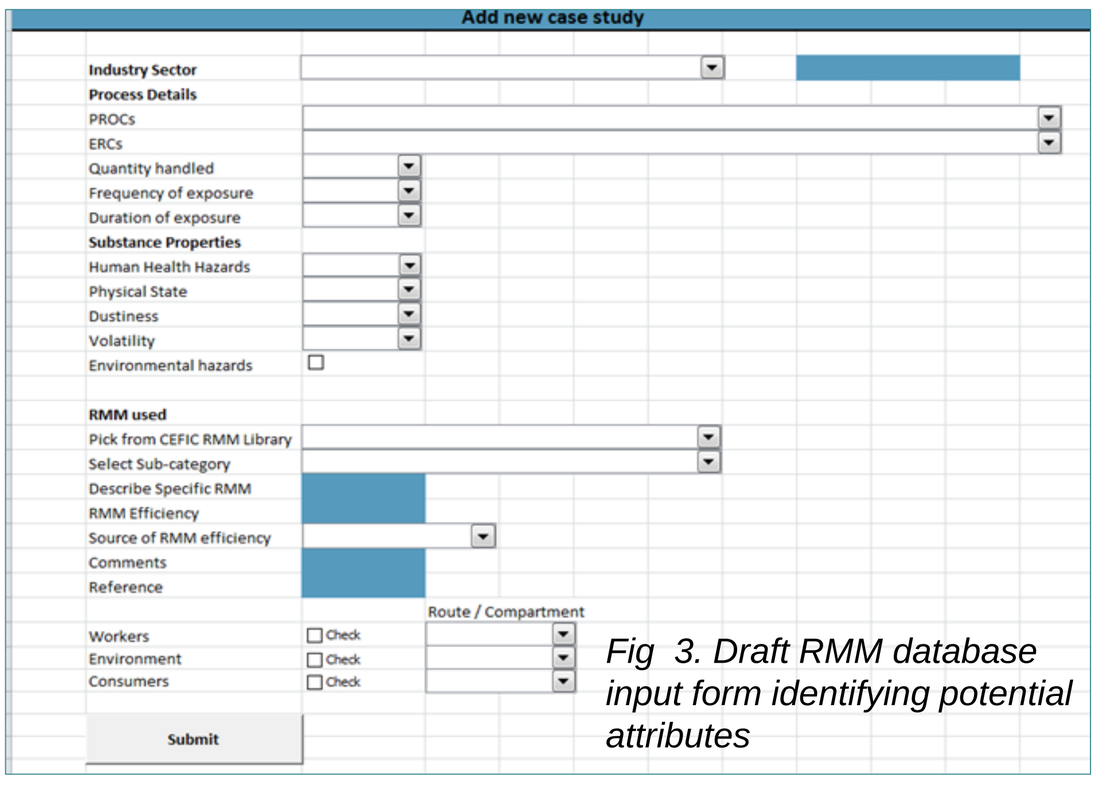

Fig 3. Draft RMM database input form identifying potential attributes

Current status and future work

- Project started March 2014 and will continue until October 2015.
- Initial systematic search of peer reviewed source completed, ongoing 'grey' literature searches for quantitative efficiency information and semi-qualitative information on factors influencing efficiency
- Initial draft database design and user guidance produced. Population of database from literature evidence ongoing.
- On-line survey and in-depth semi-structured interviews to supplement literature review with industry data and identify additional sources of evidence.

References

[a] Bruinen de Bruin *et al.*, Journal of Exposure Science and Environmental Epidemiology (2007) 17, S55–S66;
[b] Registration, Evaluation and Authorisation of Chemicals (1907/2006)
[c] Cefic/ECHA RMM library at http://cefic-staging.amaze.com/Industry-support/Implementing-reach/Libraries

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