

# Description of the Natures of Accidental Misuse of Chemicals and Chemical Products (DeNaMiC)

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There are gaps in current knowledge with respect to assessing risk and exposure scenarios following accidental poisonings and exposure to chemicals within household consumer products. There is also a fundamental requirement to better understand the extent and nature of accidental poisoning and exposure which will inform policy makers and industry where to direct resources and determine where successful interventions and risk management measures could be employed. The work to be undertaken within this CEFC funded project should improve current knowledge and identify gaps in this area.

The outcomes of this research will improve the understanding about acute chemical exposures and build links from this understanding to define realistic information needed to constructively evaluate and improve risk assessment and risk management measures following poisoning by chemicals found in household consumer products.

## Methods

This project has five subcomponents as outlined below:

**Subcomponent 1** aims to produce an agreed list of definitions of consumer chemical products (i.e. toiletries, household chemical products and pesticides) and to analyse the nature and extent of published statistical data about acute poisoning associated with these chemicals (e.g. hospital episode statistics, morbidity, mortality and in-house poison centres data). A report will be produced that presents statistical estimates of chemicals-related injury to consumer products and identifies gaps in these areas.

**Subcomponent 2** will produce a more accurate source of product specific poisoning data, which is imperative to provide specific patient management advice. To obtain this data a three year retrospective analysis of enquiries is being conducted by two key poison centres (Göttingen and Lille). The collection of information about exposure events will be aided by establishing a 'matching process' linking existing coding structures, terminologies and in-house database systems employed by these poison centres. In addition, the possibility of data harmonisation for risk assessment purposes for household consumer products will be explored.

**Subcomponent 3** will identify exposure data relevant for risk assessment and risk management measures handled by poison centres (London, Lille and Göttingen). A questionnaire will be circulated to determine future requirements and compare existing poison centre information databases for chemicals in household consumer products. Regional, national and international systems for characterising and estimating exposure and circumstances of exposure will also be reviewed.

**Subcomponent 4** will provide an accurate historical perspective and review of past toxicovigilance activities and risk management measures is required to take the findings of this study forward. A review of risk management measures will identify successful interventions. Toxicovigilance activities will be reported and subsequent contribution and impact on risk management will be evaluated. This review of risk management measures for consumer products will include an assessment of the alerting mechanisms used by poison centres and lessons learned from poison centres' previous toxicovigilance activities.

**Subcomponent 5** involves the design and execution of a prospective multi-centre feasibility study. This is a significant aspect of this project and is expected to improve data collection and have a positive impact on future recommendations for improving risk management measures. The design of this study will take into account results and recommendations from previous subcomponents and will investigate the feasibility of routinely collating additional information from poison centres to improve the characterisation of the circumstances and nature of exposure to chemicals throughout four poison centres from the Czech Republic, France, Germany and the United Kingdom.



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Risiken erkennen - Gesundheit schützen