Development of a controlled vocabulary for oral food challenges in the EuroPrevall and iFAAM data dictionary to allow semantic interoperability in Allerg-e-lab

Bushra Javed\textsuperscript{1,2}, Phil Couch\textsuperscript{3}, Christopher Munro\textsuperscript{3}, Phil Padfield\textsuperscript{1,2}, Matt Sperrin\textsuperscript{3}, Angela Simpson\textsuperscript{1,2}, Clare Mills\textsuperscript{1,2}  
\textsuperscript{1}Manchester Institute of Biotechnology, University of Manchester, United Kingdom; \textsuperscript{2}Institute of Inflammation and Repair, University of Manchester, United Kingdom; \textsuperscript{3}Institute of Population Health, University of Manchester, United Kingdom

**Background:** Allerg-e-Lab is a semantic web service initiative for the documentation and exchange of information related to food allergies. The data dictionary - controlled medical vocabulary is essential to identify and characterise the semantic relationship of variables and is key to interpreting data. This study will analyse and compare existing standard terminologies used to describe oral food challenges, and develop a structured approach to collating metadata required for modelling dose distributions from clinical data from double blind placebo controlled food challenges.

**Method:** Data harmonization - integrating data into the Allerg-e-Lab is a five step process which is being based on the DataSHaPER approach (quality, quantity, and harmony) used for bio clinical studies. The data annotation tools (software and user interface) are being used to annotate data, attaching metadata, and referring to terms from a controlled vocabulary for importing EuroPrevall and iFAAM study data sets into the Allerg-e-Lab platform.

**Results:** The initial focus for developing the EuroPrevall-iFAAM data dictionary has been to develop a controlled medical vocabulary which describes the protocols and clinical symptoms recorded during food challenges undertaken in the EuroPrevall-iFAAM studies. Differences in protocols and definitions between the two projects will be described, and their application to developing data sets to allow comparison in the development of dose distributions based on pooled data described.

**Conclusion:** The EuroPrevall-iFAAM data dictionary will be implemented within the Allerg-e-lab environment and used to investigate the effect of age on threshold dose distributions for peanut, egg and milk from the EuroPrevall and iFAAM projects.