Graphical approach to confounding in epidemiological studies - an introduction to Directed Acyclic Graphs (DAGs)

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Description:

Dealing with confounding is essential in epidemiology. Statistical methods (stepwise selection, comparison of adjusted and unadjusted effect estimates) and a priori/expert knowledge on how certain factors influence the relation between exposure and outcome are commonly used. Another method for identifying confounders makes use of DAGs (Directed Acyclic Graphs). DAGs provide a quick and visual way to assess confounding.

A clear theoretical rationale of what factors to adjust for is essential, especially in contexts where direct access to data to be analysed is restricted (e.g. metaanalyses) DAGs can be a helpful tool in this situations.

This introductory workshop will consist of two parts: a theoretical introduction to DAG and a practical session creating DAG for participants' research questions , including a perusal of online tools which can be used to identify confounders once the DAG is created (e.g., http://dagitty.net/). Emphasis will be put on cases of intervention evaluation research, which may pose different challenges compared to "classical" epidemiologic studies of disease etiology.