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# Bayesian Networks In R With The Grain Package

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A Bayesian network (also known as a Bayes network, belief network, or decision network) is a probabilistic graphical model that represents a set of variables and their conditional dependencies via a directed acyclic graph (DAG). Bayesian networks are ideal for taking an event that occurred and predicting the likelihood that any one of several possible known causes was the contributing factor.

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11.2 Bayesian Network Meta-Analysis. In the following, we will describe how to perform a network meta-analysis based on a Bayesian hierarchical framework. The R package we will use to do this is the gemtc package (Valkenhoef et al. 2012). But first, let us consider the idea behind Bayesian inference in general, and the Bayesian hierarchical model for network meta-analysis in particular.

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### Understanding Bayesian Networks

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