

WinBugs Conditional Formulation

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I realize that this should be probably be an easy question, but I'm drawing a mental block. Any suggestions on the following problem would be appreciated.

Problem: I have a large simulation program that, given a set of fixed input conditions, provides a random response D .

The general problem is structured: $P(D|a,g,h) P(g) P(h) P(a | b) P(b|c) P(c)$. G, H, C are random variables with random statistical characteristics, e.g. mean and variance are random variables. Once C is sampled, I know $P(b|c)$ and $P(a|b)$ [fixed probabilities]. One goal of the analysis is to characterize the CDF of $P(D|c)$.

It seems to me that this should be relatively easy to setup in Winbugs, but I seem to be making it more complicated than it should be. Can I treat the parameters $P(a | b)$ and $P(b|c)$ as just weights? Any suggestions on a WinBugs formulation would be very welcome.

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