

Figure S1. Directed acyclic graph representation of the joint Bayesian model for LNR and survival. Statistical and logical relationships are represented with single and double lines, respectively. Statistical/logical nodes are represented with ellipses, and constant data inputs with rectangles. In the final model, data inputs  $x_{\text{LN},i}$  consist of predictor variables grade, T stage, M stage, and tumor size; and inputs  $x_{\text{S},i}$  consist of age, gender, marital status, race, grade, histology, T stage, M stage, tumor size, and radiation therapy.  $190x142\text{mm} \ (300 \times 300 \ \text{DPI})$