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Investigating Robustness of Prevalence Estimates from Misclassified Administrative Data Using Bayesian Latent Class Models

Information collected in medical administrative databases is typically collected for reasons other than research, and many such databases have been shown to contain substantial proportions of misclassification errors. For example, errors in ascertaining which individuals have a given disease may bias prevalence estimates. We attempt to estimate the prevalence of osteoarthritis (OA) among elderly Quebecers using a government administrative database. We compare a naive estimate relying solely on the physician diagnoses of OA listed in the database to estimates from several different Bayesian latent class models which adjust for misclassified physician diagnostic codes via use of other available diagnostic clues.