Yale school of public health Biostatistics

Oracle Property in Data Integration in the Presence of study Population Heterogeneity

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ABSTRACT

It is common to have access to auxiliary information from external studies that is useful in model building for an internal study of interest. When such information is available, it is desirable to incorporate that information to improve internal model building and parameter estimation. However, some external studies may target populations different from the internal study population, in which case an incorporation of the corresponding external information can jeopardize the internal model building. We propose a method that automatically selects the external studies whose target population is the same as the internal study and incorporates their available information. The resulting parameter estimator has the efficiency as if we knew which external studies have the same target population and incorporated information from those studies alone.