Abstract
Objective Evaluating the association between TB and AIDS and estimating the determinant effects and factors for TB incidence rates in Brazilian metropolitan regions from 2001 to 2003. Methods A Poisson longitudinal multilevel model was fitted to the annual TB case number by municipality and year, including the population as an offset variable, and AIDS incidence by metropolitan region, percentage low-income households, demographic density and TB cure rate by municipality and Brazilian geographic area as independent variables. Results All variables were found to be significantly associated with tuberculosis (except for cure rate %): low income, demographic density, AIDS and Brazilian area. Interaction between AIDS and low income was significant and modified the effect of AIDS on TB incidence. Empty model and full model variance reduction percentages from first to third levels were 40.2 %, 42.2 % and 77.3 %, respectively. Conclusions AIDS has become an impressive morbidity factor due to tuberculosis; this has not been found in previous studies in Brazil. The interaction between income and AIDS and the metropolitan regions’ important contribution towards tuberculosis distribution were heterogeneously manifest amongst large Brazilian areas.

Keywords
Tuberculosis, socioeconomic factor, statistical model, AIDS (source: MeSH, NLM).