Measles incidence, vaccine efficacy, and mortality were examined prospectively in two districts in Bissau where vaccine coverage for children aged 12-23 months was 81% (Bandim 1) and 61% (Bandim 2). There was little difference in cumulative measles incidence before 9 months of age (6.1% and 7.6%, respectively). Between 9 months and 2 years of age, however, 6.1% contracted measles in Bandim 1 and 13.7% in Bandim 2. Even adjusting for vaccination status, incidence was significantly higher in Bandim 2 (relative risk 1.6, P = .04). Even though 95% of the children had measles antibodies after vaccination, vaccine efficacy was not more than 68% (95% confidence interval [CI] 39%-84%) and was unrelated to age at vaccination. Unvaccinated children had a mortality hazard ratio of 3.0 compared with vaccinated children (P = .002), indicating a protective efficacy against death of 66% (CI 32%-83%) of measles vaccination. These data suggest that it will be necessary to vaccinate before age 9 months to control measles in hyperendemic urban African areas.