

Estimation of Incidence of HIV Using Modified Back-Projection Method and a Log-Normal Incubation Distribution

Gurprit Grover

Department of Statistics, Faculty of Mathematical Sciences, University of Delhi, Delhi 110007, India.

Nezhat Shakeri

Department of Statistics, Faculty of Mathematical Sciences, University of Delhi, Delhi 110007, India.

Email: nezhat2000@yahoo.com

Abstract

For monitoring and projecting the extent of HIV several approaches have been adopted. The modified back-projection method using HIV data provides precise estimation of incidence of HIV, subject to the correctness of the incubation and induction distributions (Chau et al., 2003). Previous researches have shown that log-normal model describes well the incubation period of AIDS, therefore in this paper using Hong Kong HIV data as well as Iran HIV data we have applied a log-normal function as an incubation distribution in modified back-projection method and found that log-normal distribution produces more consistent results for incidence of HIV compared to Weibull distribution in modified back-projection model.

Keywords: Acquired immune deficiency syndrome, back-projection, bootstrap, human immunodeficiency virus; incidence; log-normal distribution.

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