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Software for multistate analysis

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Abstract

Background: The growing interest in pathways, the increased availability of life-history data, innovations in statistical and demographic techniques, and advances in software technology have stimulated the development of software packages for multistate modeling of life histories.

Objective: In the paper we list and briefly discuss several software packages for multistate analysis of life-history data. The packages cover the estimation of multistate models (transition rates and transition probabilities), multistate life tables, multistate population projections, and microsimulation.

Methods: Brief description of software packages in a historical and comparative perspective.

Results: During the past 10 years the advances in multistate modeling software have been impressive. New computational tools accompany the development of new methods in statistics and demography. The statistical theory of counting processes is the preferred method for the estimation of multistate models and R is the preferred programming platform.

Conclusions: Innovations in method, data, and computer technology have removed the traditional barriers to multistate modeling of life histories and the computation of informative lifecourse indicators. The challenge ahead of us is to model and predict individual life histories.

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