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Estimation of multi-state life table functions and their variability from complex survey data using the SPACE Program

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Abstract
The multistate life table (MSLT) model is an important demographic method to document life cycle processes. In this study, we present the SPACE (Stochastic Population Analysis for Complex Events) program to estimate MSLT functions and their sampling variability. It has several advantages over other programs, including the use of microsimulation and the bootstrap method to estimate the sampling variability. Simulation enables researchers to analyze a broader array of statistics than the deterministic approach, and may be especially advantageous in investigating distributions of MSLT functions. The bootstrap method takes sample design into account to correct the potential bias in variance estimates.

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