

On the evolution of a Markov open long term care population

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Abstract

Long Term Care Insurance provides a combination of medical, nursing, social and community services designed to help people who have disabilities or chronic care needs. It may be provided in the person's home or in nursing homes. Our starting point is a continuous time Markov chain model for a Long Term Care population with 5 states, three of them corresponding to different degrees of dependence, one being the healthy state and the last one representing the withdrawals of population elements for which intensities are known. The Stochastic Vortices theory is used to estimate, through an open population perspective, the evolution of the population structure, which will be crucial for an accurate risk measurement and portfolio management.

Keywords

Markov chains, Stochastic Vortices, Long term care.

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