ABSTRACT:
Singapore is one of the fastest-aging populations in the world. In addition, obesity and the burden of chronic diseases are both increasing as lifestyles change. Future health expenditures are determined by multiple factors: age, sex, health status, obesity and smoking. Resource allocation and cost-containment pose growing challenges to policy makers. The goal is to model future health status and healthcare expenditures based on current trends and evaluate the impact of alternative interventions such as increase physical activity on hospital expenditures.

To project the health and functional status of future cohorts of the elderly and to understand their cost implications, we have developed a version of the Future Elderly Model (FEM) adapted to the context of Singapore. The FEM is a dynamic Markov micro-simulation model first developed in the US in 2004, and was adapted for Chinese aged 55 years and older, accounting for Singapore-specific trends in background drivers such as aging, obesity, physical disability, and chronic diseases. Our main source of population data is the Singapore Chinese Health Study (SCHS), a cohort study of over 63,000 respondents followed in three waves from 1993-2010. The SCHS is linked with a detailed cost database from the Ministry of Health, Singapore that captures all hospitalization episodes and cost for the same period. I will discuss the micro-simulation model, transition probabilities for diseases, and projections of future health states and healthcare expenditures.