

Planning the delivery of Long-Term Care: Predicting demand and designing a network of services

Multiple economic, demographic, epidemiologic and social changes are currently affecting European countries, posing extra challenges to the health care sector in general, and to the Long-Term Care (LTC) sector in particular. Particularly, the current ageing phenomenon together with an increasing prevalence of chronic diseases and with an increasing participation of women in the labour market has resulted in an increasing demand for formal LTC services, and this growing demand is expected to continue in coming years. As a result, LTC planning ranks high in the health policy agenda of many European countries, especially in National Health Service (NHS)-based countries. To ensure a proper planning there is need to depart from information on the need for LTC, but this information is not commonly available.

Accordingly, an integrated planning approach based on simulation and optimization techniques is proposed so as to address two key planning issues: How to predict future need for LTC? And how to design a network of LTC services for the coming years, in terms of where to locate LTC services, how to plan capacities and to which patients deliver services? Recognizing the complexity inherent to the planning of networks of LTC, the developed planning approach considers i) the multi-service nature of LTC (comprising a combination of institutional, home-based and ambulatory services), ii) the pursuit of multiple, and often conflicting, policy objectives, such as the maximization of health and wellbeing, the maximization of equity and the minimization of costs, iii) the uncertainty surrounding future LTC demand and iv) the impact of adopting a variety of policy strategies (for instance, opting for institutionalized or community-based models of care).

The applicability of the proposed planning approach is illustrated with a case study in the Great Lisbon region in Portugal. The obtained results allow for multiple analysis, including: i) how needs for multiple LTC services will evolve in coming years; ii) how and when to dimension existing and new services when different objectives are set; iii) which equity, health and wellbeing improvements can be obtained, and at which costs; and iv) which is the impact of both uncertainty and policy strategies on LTC planning decisions.