

Linking long-term care selection behaviors and care resource distribution assessment in China

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1 Background

Over the past decades, there has been an increasing attention to develop systems of ageing-related services in China to meet the swelling long-term care (LTC) needs along with a rapid aging population¹⁾. However, it is challenging to design and evaluate integrated LTC service systems, especially of the resource distribution among various care service types, i.e. home-based care, hospital care and nursing home care, and districts. Furthermore, the divergent LTC needs and biased LTC service supply lead to unclear implications of any policy changes on distributional impacts.

2 Research objectives

This paper aims to evaluate quantitatively the equity and effectiveness of LTC service resource distribution, in terms of bed provision, among types of care of a pilot LTC scheme in China, the Qingdao Long Term Care Insurance. We deploy an innovative bottom-up simulation approach to link the micro-level heterogeneous service needs and service selection behaviors to the macro-level resource distribution evaluation.

3 Methods

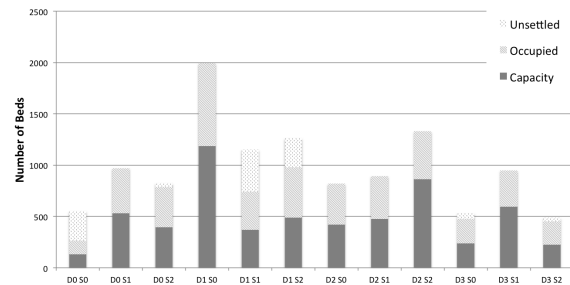
We first estimate age/sex/district-specific LTC needs of each type of LTC service provided in Qingdao taking into account their physical condition (ADL assessment), social-economic status, household living arrangement and health-related information. Those data are derived from samples of the first wave of the China Health and Retirement Longitudinal Study²⁾, whilst the district-wide demographic information refers to Qingdao's demography statistics. Subsequently, by adopting Andersens behavioral model of health services use³⁾, we simulate individuals' dynamic selection behaviors of particular service providers considering not only their service preference but also service providers' properties and regulations drawn from interviews with relevant governmental officials and service providers, and official documentations.

4 Results

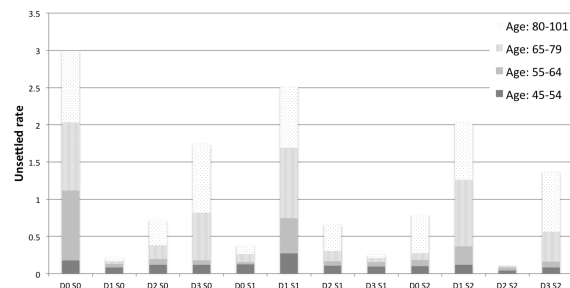
Simulation results (Fig. 1) imply the co-existence of a waste of LTC service resource and unmet needs of LTC service in certain districts. By scrutinizing into the micro-level simulated data, partially it could be explained by imposing regulations on the enrollment eligibility of LTC service, which hinders people in need from taking up the services. Another explanation could be the relatively low quality of some service providers with which most of the users may not be satisfied, thus lead to a high opt-out rate.

On the other side, disparities among social groups are revealed that the unsettled rate of individuals older than 65 is relatively high compared with other age groups, which is partially due to a relatively lower

household income for the elderly, thus nursing houses with high service charge are not affordable.



(a) Home-based care



(b) Unsettled rate by age group

Fig. 1: Effectiveness and equity of distributive plans by district and scenario

5 Conclusion

Agent-based simulation offers alternative explanations of the macro-level distributional impact from a micro-level perspective. It has the potentials to facilitate policy-makers to evaluate any long-term effect of “to be” resource distribution plans with insight on the heterogeneous LTC needs and adaptive behaviors of individuals across social groups and districts.

Due to a lack of detailed social-economic data and service provider information at district-level, certain assumptions are embedded in the models that simulation results should be interpreted with attention under those assumptions.

References

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