



RESEARCH BRIEF

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Unravelling patient diversity: Profiling high users of inpatient services based on medical complexity and psychosocial needs

Research article: Understanding the characteristics of high users of hospital services in Singapore and their associations with healthcare utilisation and mortality: A cluster analysis. *Published in PLOS One in July 2023. Click [here](#) to view the published article online.*

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KEY FINDINGS

1. Three different patient segments, each with contrasting medical complexity and psychosocial needs, were identified among high users of hospital services.
2. The identified patient segments were found to differ in their levels of functional dependency, healthcare utilisation and mortality.
3. Medical complexity, functional status and psychosocial needs are key factors in characterising different patient groups within high users of inpatient services.

IMPLICATIONS AND SIGNIFICANCE OF FINDINGS

1. Patient segmentation among high users of hospital services enables the development and delivery of more targeted care plans to address the specific needs of each patient segment.
2. By identifying homogenous patient segments that have shared characteristics and needs, healthcare service planning and resource allocation could be optimised, leading to a more efficient healthcare system.
3. Besides medical complexity and functional dependency, patients' psychosocial needs also warrant attention as they are important factors that characterise healthcare utilisation rates and mortality risk.
4. Future research could monitor the progression of each identified patient segment over longer follow-up period to develop and evaluate targeted healthcare interventions for each segment.

BACKGROUND

Given the interplay of age-related physical, cognitive and medical challenges, older adults often require comprehensive care and support. The increased susceptibility to chronic health conditions with age necessitates frequent medical attention for this population group. Consequently, older adults are often high users of inpatient services, and the associated increase in healthcare demand and expenditure poses a significant challenge for healthcare systems.

However, even within this high-user patient group exists significant patient diversity and medical complexity that warrants closer study and unravelling in order to better understand and cater for patients' varied health and psychosocial needs. By identifying distinct patient segments based on shared characteristics and needs, the allocation of finite healthcare resources and development of programmes and services could be enhanced.

FOCUS OF PROJECT

The study aimed to identify patient segments within a high-user patient population in the 'Ageing In Place-Community Care Team' programme, which is a hospital-led homecare service in Singapore that delivers multi-disciplinary care. A cluster analysis approach was employed to determine patient segments of differing medical complexity and psychosocial needs, and their relationship with healthcare utilisation and mortality within a 180-day follow-up period was examined.

PARTICIPANTS

The study recruited patients who were enrolled in the 'Ageing In Place-Community Care Team' programme between June 2016 and February 2017. These patients had intricate care needs due to progressive or life-limiting medical conditions and utilised substantial inpatient healthcare services. The study analysis sample consisted of 1,012 patients aged 75.8 years on average.

STUDY DESIGN

This study adopted a retrospective study design.

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