

Identifying and Modelling Unmet Healthcare Needs in Older Australian Women: A Latent Class Analysis Approach

Extended Abstract

Australia's ageing population presents unique challenges to the healthcare system, necessitating a comprehensive understanding of unmet healthcare needs among older adults. This research focuses on women aged 60 and above, aiming to develop archetypes that model unmet healthcare needs. These archetypes will inform policy development, resource allocation, and service provision to improve healthcare delivery and accessibility.

Theoretical Focus:

The study is grounded in the theoretical framework of healthcare needs and access disparities. It examines the relationship between individual characteristics, healthcare needs, and service utilization to identify patterns of unmet needs. The theoretical focus includes understanding how sociodemographic factors, health conditions, and healthcare experiences influence access to and satisfaction with healthcare services.

Data:

The primary data source is the [Australian Longitudinal Study on Women's Health \(ALSWH\)](#), which provides comprehensive information on healthcare needs, service use, personal characteristics, and health outcomes. The survey includes variables related to physical and mental health, symptoms, healthcare service utilization, pain interference, and satisfaction with self-care abilities.

Research Methods:

The study employs Latent Class Analysis (LCA) to identify distinct subgroups (archetypes) of women with similar healthcare needs and experiences. The methodology includes:

Estimating Healthcare Use Relative to Need:

These data will be analysed to describe and estimate healthcare use relative to need. Variables will include a range of explanatory variables for healthcare use and physical health.

The variables in the model to predict health care use relative to need:

- Healthcare need
 - Physical and mental health: the Short-Form 36 (SF- 36) covers the major aspects of health and has been validated on adults of all ages (Ware & Sherbourne, 1992; McCallum, 1994). Physical and mental health component summary scores were calculated for each woman (Mishra & Schofield, 1998).
 - Symptoms: defined as the number of symptoms (from a list of 25) suffered “sometimes” or “often” in the previous twelve months.
 - Number of conditions: the number of health conditions identified as having been previously diagnosed.
- Healthcare use
 - Use of healthcare services: the number of visits to healthcare services over the past 12 months (GP, specialists, allied health)
 - Hospital admittance: the number of hospital admittance over the past 12 months.
 - Care seeking: indication of having sort care for symptoms identified above.

Estimated unmet healthcare need

These data will be analysed to describe and estimate unmet healthcare need. Variables will include a range of explanatory variables for pain and life satisfaction. The variables in the model to predict health care use relative to need:

Satisfaction with abilities to care for self: the ADL's and IADL are calculated from a variety of questions on daily function (aggregated).

Pain index: is calculated by the indication of pain and the level at which pain interferes with daily activities. This index is calculated by the ALSWH.

Archetype modelling matrix

Profiles of need and unmet need will be derived from the data to produce archetypes using a variety of statistic approaches. A visual of the matrix is provided in figure 1.

Variables used to model archetypes:

- Health service experience
 - Satisfaction with visit: responses to five items from the Group Health Association of America visit- specific questionnaire (VSQ) relating to the quality of the interaction with the service were summed to give a single measure with a higher score reflecting greater satisfaction (Davies & Ware, 1991).
 - Access to healthcare service rating: is calculated on the local availability, cost, travel difficulties, and wait times to see a specialist.
- Individual factors
 - Education: coded as: school qualifications only, trade certificate/diploma qualifications, or tertiary (university level) qualifications.
 - Marital status: coded as 'married/defacto' or 'other', due to small numbers of women who were divorced, separated, never married or widowed.
 - Area of residence: four categories were defined according to remoteness, defined in terms of population density and distance to large population centres (Department of Primary Industries and Energy and Department of Human Services and Health, 1994). The categories were urban, large rural centre, small rural centre and the remaining rural/remote areas.
 - Area socioeconomic status (Area SES): an index of relative socioeconomic disadvantage for each postcode area where a higher score indicates less disadvantage, such as fewer families with low income and fewer people with little training or in unskilled occupations (Australian Bureau of Statistics, 1994).

To obtain the archetypes a number of tests will be used:

Exploratory Data Analysis (EDA):

- Descriptive Statistics will be use to summarise the variables to understand the distribution and central tendencies.
- Correlation Analysis will be used to examine relationships between variables to identify potential clusters or patterns.

Archetype Characterization:

- Profile Development: Describe each archetype based on key demographic, socioeconomic, and health-related characteristics.
- Identification of Unmet Needs: For each archetype, analyse the extent and nature of unmet healthcare needs, including barriers to care and disparities in access.

Expected Findings:

The study is expected to produce archetypes that illustrate profiles of need and unmet need among older Australian women. Key findings will include:

1. Distinct subgroups with varying healthcare needs and access patterns.
2. Barriers to care and disparities in access among different archetypes.
3. Insights into the relationship between individual characteristics and healthcare experiences.

Tables and Figures:

1. **Table 1:** Descriptive Statistics of Study Variables – work in progress
2. **Table 2:** Latent Class Analysis Results – work in progress
3. **Figure 1:** Conceptual Model of Relationships Among Variables and archetype modelling matrix

Conclusion:

By identifying and modelling unmet healthcare needs, this research will provide valuable insights for improving healthcare delivery and accessibility for older Australian women. The findings will guide policymakers and healthcare providers in developing targeted strategies to address the unique needs of this population, ultimately enhancing their well-being and quality of life.

Figure 1: Conceptual Model of Relationships Among Variables and archetype modelling matrix

