Profiles of frequent geriatric users of emergency department with ambulatory care sensitive conditions: A research protocol

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CONTEXT

A large proportion of older adults (65 years old or older) with ambulatory care sensitive conditions (ACSCs) are considered frequent users of emergency department¹.

- ACSCs: Chronic conditions;
 - Optimal care provided in primary care².
- Frequent users: Small group of individuals; Disproportionate number of ED visits³; More than 4 visits/year 4.

Frequent ED use for ACSCs implies a high risk of adverse effects;

Health and quality of medical follow-up³.

The adequate identification of this population would allow health professionals to refer them more efficiently to services where their needs can be best managed and assisted:

Primary care and case management.

LITERATURE REVIEW

Factors more often associated with ED frequent use among older adults⁵:

- Past hospitalization and ED visits;
- Location of residence;
- Low income;
- High number of prescribed drugs;
- History of heart disease.

Some variables are only little or not accounted for:

- Comorbidity;
- Dementia;
- Primary care related variables.

Literature shows:

- Heterogeneity of the population;
- No classification of frequent geriatric users of ED with ACSCs.

OBJECTIVES

General objective: Develop a classification of frequent geriatric users of ED with ACSCs.

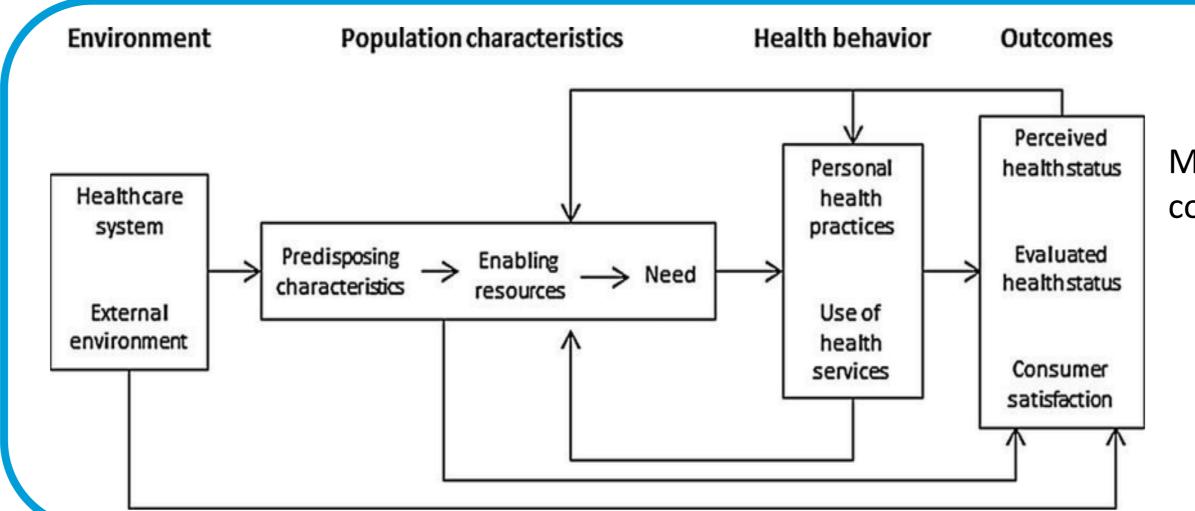
Specific objectives:

- Identify the personal, organizational and contextual variables that predict frequent ED use among older adults with ACSCs.
- Develop potential classification solutions of frequent geriatric users of ED with ACSCs.
- Determine the optimal classification of frequent geriatric users of ED with ACSCs.

METHODS

Conceptual model

The Andersen Model of Health Care Utilization (1995)⁶



Multilevel model that incorporates both individual and contextual determinants of health services use, according to:

- Predisposing factors
- Enabling resources
- Needs

Cluster Analysis Approach (Hair, 2010)⁷

Objective 1

Objective 2

Objective 3

Retrospective cohort study

Secondary data analysis of the SUPPORT Unit demonstration project Data provided by the Régie de l'assurance maladie du Québec (RAMQ)

Target population

People 65 years and over with ACSCs, from the Quebec province (Canada), who had at least 4 ED visits during an index period (2012-2013)

About 290,000 people

Cluster analysis

Context definition Logistic regression models

Exemple of included variables

Age/ Sex/ ACSCs type/ Comorbidity/

Dementia/ Polypharmacy/ ED service

proximity/ Affiliation to a primary care

provider/ Past hospitalization and ED

- 2. Data analysis plan
- 3. Review and processing of data
- 4. Clustering algorithm selection Hierarchical and nonhierarchical Methods

5. Definition and interpretation of the classification solutions

6. Validation and profiling of the classification solutions

> **Cross-validation** Content validity

Technique for Research of Information by Animation of a Group of Experts (TRIAGE)⁸

Objective: Obtain an expert consensus on the most adequate classification solution

4 phases

- Preparation
- Individual production
- Compilation
- Interactive production

12 experts (Saguenay and Sherbrooke) Physicians, nurses, managers, researchers and patients from ED and primary care settings

STRENGTHS AND LIMITATIONS

- Strengths:
 - First profiles of frequent geriatric users of ED with ACSCs, in Quebec;
- Rigorous approach;
- Representative sample;
- Clinical validation.
- Limitations:
 - Index period (2012-2013);
 - Unavailability of certain variables (e.g. spoken language);
 - Cluster analysis always create clusters, regardless of the structure in the data.

CONCLUSION

- Relevance of a cluster analysis approach:
 - Heterogenous population;
 - Multiple individuals characteristics;
 - Clarify the patterns underlying ED use.
- Profiles development is prior to:
 - Development of screening methods;
 - Implementation of appropriate interventions (e.g. case management).

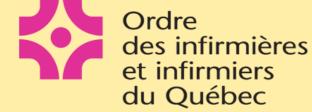
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