



## RESEARCH BRIEF

# Development of a Mobile Application to Support Evidence-Informed, Client-Centred Community Care for Stroke Survivors with Multiple Chronic Conditions

### KEY POINTS

- ✓ A mobile application called "My Stroke Team" (MYST) was developed to improve communication, collaboration, and evidence-informed care for stroke survivors with multiple chronic conditions who are receiving homecare
- ✓ End-user input was used in an iterative manner to inform and provide feedback on the functions and usability of MYST

## What is the topic of this research?

Stroke rehabilitation services after discharge from hospital or in-patient rehabilitation programs do not consistently address the challenges of life after stroke for older adults and their family caregivers.

Most stroke survivors also have other chronic conditions such as hypertension, heart disease, and diabetes, which can complicate stroke rehabilitation and community reintegration.

Mobile technologies have the potential to improve the delivery of community-based services by facilitating communication and collaboration between health care providers, clients, and family caregivers.

## What is the research objective?

The research objective was to collaborate with frontline homecare workers (e.g. care coordinators, nurses, physiotherapists, occupational therapists, and personal support workers) and key stakeholders (e.g. Registered Nurses' Association of Ontario, Heart and Stroke Foundation) to inform, design and build an innovative mobile health application to support communication and collaboration.

The end goals of the application are to promote evidence-informed care for older adults who have experienced a stroke and have multiple chronic conditions (MCC), and to provide a communication tool for all members of the homecare team, including healthcare providers, clients, and their family caregivers.

## How was the study done?

Qualitative focus groups with 41 frontline homecare workers (end-users of the application) and consultations with 23 key stakeholders were conducted to inform the design and development of "My Stroke Team" (MYST), the web-based mobile application.

Initially, key barriers to quality homecare were identified as well as a "wish list" of application functions. Next, end-user input was used in an iterative manner to inform and provide feedback on the tool's functions and usability throughout the development of MYST.

## What did the researchers find?

Stakeholders and end-users identified the following barriers to the delivery of quality homecare for stroke survivors with MCC:

- 1] fragmented communication between healthcare providers;
- 2] no consistent means to track patient status;
- 3] limited access to information and resources at the point-of-care,
- 4] safety issues resulting from communication gaps; and
- 5] a lack of consideration of MCC in common guidelines



## RESEARCH BRIEF

# Development of a Mobile Application to Support Evidence-Informed, Client-Centred Community Care for Stroke Survivors with Multiple Chronic Conditions

MYST was developed to address these barriers through the following features:

- 1] a platform for real-time, secure communication between all homecare providers (e.g. care coordinators, nurses, physiotherapists, occupational therapists, and personal support workers) within the circle of care;
- 2] information for stroke survivors with MCC and their family caregivers about local community supports and online resources;
- 3] secure point-of-care access to patient information and other resources including practice guidelines for the circle of care; and
- 4] promotion of client safety through evidence-informed assessments and alerts to relevant providers.

## What does this mean for practice and policy?

MYST has the potential to improve the efficiency and the quality of home-based healthcare for stroke survivors with MCC. We expect that MYST will result in:

- Improved communication between homecare providers, thereby reducing the risk of errors, facilitating seamless care, and resulting in better patient outcomes.
- Easy access to best practices for stroke management, thereby promoting evidence-informed, client-centred care.
- Enhanced client/caregiver-centred care and engagement

## Where do we go from here?

The feasibility and acceptability of MYST and its effects on health-related quality of life will be evaluated in a pilot study (Study 8). Access to MYST will be provided to patients, their family caregivers, and homecare providers in their circle of care.

## Who are the researchers?

**Nancy Matthew-Maich**, RN, PhD, Professor Health Science Research & Innovation, School of Nursing, Mohawk College of Applied Arts & Technology

**Duane Bender**, B.Eng.Mgmt., P.Eng., Professor Software Engineering Technology, Director mHealth and eHealth Applied Research, Mohawk College of Applied Arts & Technology

**Christy Taberner**, OT Reg. (ON), Professor Innovation, Applied Health Research, Mohawk College of Applied Arts & Technology

**Maureen Markle-Reid**, RN, MScN, PhD, Associate Professor and Canada Research Chair, Aging, Chronic Disease and Health Promotion Interventions, Scientific Director, Aging, Community and Health Research Unit, School of Nursing and Associate Member, Clinical Epidemiology and Biostatistics, Faculty of Health Sciences, McMaster University

**Jenny Ploeg**, RN, PhD, Professor, Scientific Director, Aging, Community and Health Research Unit, School of Nursing, Faculty of Health Sciences and Associate Member, Department of Health, Aging and Society, McMaster University

**Amiram Gafni**, BSc, MSc, PhD, Professor Department of Clinical Epidemiology & Biostatistics, Member of Centre for Health Economics and Policy Analysis (CHEPA), Research Associate, Program for Quantitative Studies in Economics and Population

**Ruta Valaitis**, BA, BScN, MHSc, PhD, Associate Professor, McMaster University, Dorothy C. Hall Chair in Primary Health Care Nursing



This work is part of a program of research (Aging, Community and Health Research Unit) supported by the Ontario Ministry of Health and Long-Term Care Health System Research Fund Program (Grant #06669)