



Applying Rehabilitation Strategies to Population Health: Use of Technology to Support Self-Management and Prevention

PRESENTER: LORI LETTS, MCMASTER UNIVERSITY

TEAM: J RICHARDSON, L LETTS, S SINCLAIR, R BARCLAY, D
CONNELLY, C DONNELLY, J GRAVESANDE, C HAND, C
MCARTHUR, J MILLER, T PACKER, J RIPAT, J SMITH-
TURCHYN, L THABANE, E SYKES, F XIE

Objectives

1. To describe development of a web-based app designed to support rehabilitation self-management strategies to support people with chronic conditions
2. To focus discussion on policy and research directions for the app as our team considers next steps.

Background

Chronic conditions often result in ongoing and residual disability and functional impairments

Chronic conditions require a long period of supervision, observation, or care.

Health care system and care offered by OT and PT are not set up for the periodic support needed by patients to optimize their own self-management.

Self-Management

Self-management

involves the person with the chronic condition in activities to:

monitor and manage the symptoms and signs of illness

manage and minimize the impact of illness on functioning, emotions and interpersonal relationships

make informed choices and develop generic skills that can be applied to new problems as they arise

practice new health behaviours

take a lead role in managing their condition

There is no consensus about the **common elements, principles and approaches** for the integration of rehabilitation into SM service delivery.

lamAble: A web-based app applying rehabilitation self-management strategies

- ▶ Prior research that led to **lamABLE**: RCT and cohort study demonstrated potential for rehabilitation strategies to support chronic disease self-management in primary care contexts
- ▶ **lamAble** emerged as an approach to develop a web-based app that could disseminate rehabilitation strategies to support self-management in primary care (and beyond)
 - ▶ Funding: Health Research Foundation Academic Interdisciplinary Team Research Grant
- ▶ Feasibility, Useability & Heuristic Evaluation undertaken as second step
 - ▶ Funding: AGE-WELL-MIRA Catalyst Program

Process of lamABLE app development and evaluation



Phase 1: Determine App Content

- ▶ 7 OT and 8 PT SM research or clinical experts across Canada participated a web-enabled consensus meeting to generate major themes, concepts and principles
- ▶ 6 self-management strategies were identified:
 1. Physical Activity
 2. Falls Prevention
 3. Fatigue Management
 4. Pain Management
 5. Stress Management
 6. Exercise

Phase 2 & 3: App Design and Content Development

- ▶ See: [rehab_v8i1e19519_app1.pdf](#) for screenshots of the aimable user interface

Phases 4-6: Usability, Heuristic and Focus Group Evaluation

Usability testing using think-aloud methods (n=11 participants with chronic conditions)

Heuristic evaluation by 6 clinical experts to identify challenges in use and application

Focus group with 6 experts after heuristic evaluation to identify strengths, areas for improvement and insights into clinical application

App revisions/refinements completed after testing

Phase 4 – 6 Findings

- ▶ Think aloud evaluation identified 7 usability issues; navigation, layout. Overall System Usability Scale (SUS) Score: 71.14 (SD 19.67) (n=11)
- ▶ Heuristic evaluation: identified 6-24 violations (most rated as mild) across 4 app tasks; comprehensive, succinct accurate content, help and documentation were most common violations
- ▶ Focus group identified strengths (app interactivity and tailoring) and areas for improvement (progress markers).
- ▶ Primary care identified as a setting in which the app could be introduced 1:1.
- ▶ Digital and health literacy required for use
- ▶ Access between rehabilitation visits and in rural/remote areas a benefit

Phase 7: Clinical Simulation

18 therapist patient dyads in primary care

4 PTs

2 OTs

6 week trial

Patients rated IAMABLE app high on performance expectancy and effort expectancy (more analyses underway)

Policy challenge: Conceptualizing *IamABLE* for next phases of research

- ▶ Health Service
- ▶ Knowledge Translation & Exchange
- ▶ Population Health

- ▶ Implications:
 - ▶ Research design and potential funders e.g., CIHR Committee
 - ▶ Promotion / marketing / increasing access
 - ▶ Sustainability



Questions / Discussion

CONTACT: LETTSL@MCMMASTER.CA