# Challenges in addressing and measuring access to care for vulnerable groups from a realist review of eHealth, mobile & telehealth interventions

**Authors: Prince A[1], Parker S[2], Harris M[2], Dahrouge S[3] On behalf of the IMPACT team**

[1]South Western Sydney PHN, [2]University of NSW, Centre for Primary Health Care and Equity, [3]C.T Lamont Primary Health Care Research Centre, Bruyere Research Institute

## Background

The Innovative Models Promoting Access-to-Care Transformation (IMPACT) research program is an Australian-Canadian collaboration that aims to identify, refine and trial an organisational intervention to improve access to primary healthcare (PHC) for vulnerable populations. This study was conducted in South Western Sydney, one of six research areas across Australia and Canada.

## Innovative Contribution to Research

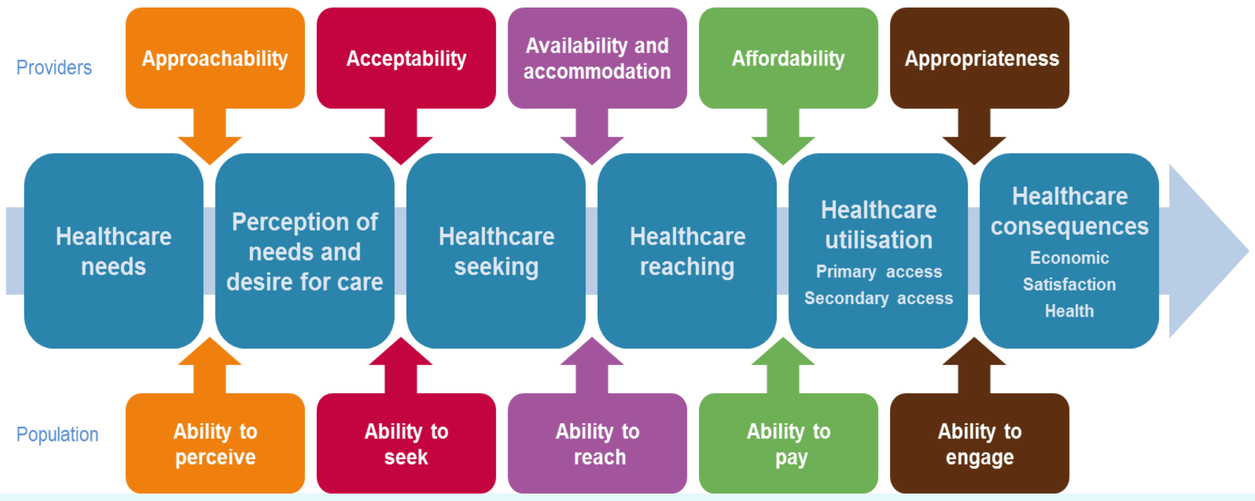
This review provides insight into the experience of vulnerable participants across the domains of access. The research found that e/m/telehealth interventions do have the capacity to ultimately improve access to primary healthcare for vulnerable populations. The review found that interventions can be improved when supporting infrastructure is present and made relevant to need. The research highlights the challenges of defining and measuring improvement in primary health care access.

## Context and Aims

Vulnerable populations experience many access related barriers to health care. Within a rapid realist review we applied a conceptual framework to understand the impact of eHealth, mobile and telehealth interventions on access to primary healthcare for these population groups.

The Access Framework[1] (figure 1), proposes a multidimensional approach to understanding access to health care. The model compromises five domains representing structural features of health systems (supply), matched with features of individuals (demand), which interact across the care continuum to promote or inhibit access.

**Figure 1. A conceptual framework of access to health care**




## Methods

We conducted a comprehensive search of both peer reviewed and grey literature and screened 785 citations. We applied the framework to 15 included studies that implemented e/m/telehealth interventions to vulnerable people with chronic disease. These included socioeconomically disadvantaged, rural and culturally diverse and medically underserved populations.

Studies were categorised according to the primary access domain the intervention aimed to address. A determination was made on the studies' overall impact on access via analysis of reported health and process outcomes.

## Findings

These interventions addressed acceptability/ability to seek (n=3) or appropriateness/ability to engage (n=12) domains. The interventions either used staff or peers from within the participant community to improve use and satisfaction with telehealth services or interventions to address deficiencies in the quality and capacity of primary care services.

Eight studies were shown to have a positive influence on access based on a number of proxy study outcomes (table 1). Impact on access could not be assessed for two studies due to study design.

Studies which had no effect on intended outcomes or low completion rates were assessed as not enhancing access. Poor fidelity or low completion rates suggested that the intervention did not consistently enhance access in the target population as a whole, although e/m/telehealth interventions may ultimately have a positive impact on access to healthcare for vulnerable groups.

**Table 1. Impact on proxy measures for access determined from the included studies**

| Dimension | Process | Health behaviour | Health outcome | Service use |
|---|---|---|---|---|
| Acceptability/ ability to seek (1 study) | ✓ Moderate to high completion rates | | ✓ Reduced symptom severity and incidence | ✓ Increased PHC appointments |
| Appropriateness /ability to engage (7 studies ) | ✓ Moderate to high completion rates | ✓ Improved lifestyle indicators (diet)<br>✓ Improved self management (compliance to goals, problem solving skills) | ✓ Treatment response<br>✓ Remission (symptom severity, depression scores)<br>✓ Improved disease biomarkers (HbA1c, BP) | ✓ Reduced ED visits<br>✓ Reduced length of stay |
| **No evidence of impact on access** | | | | |
| No impact (5 studies) | × Low completion rate<br>× Poor intervention fidelity | × no change self management (knowledge, self-efficacy, behaviour) | × no change in disease biomarkers (HbA1c, cholesterol, BP) | |

**Footnote:** Access could not be assessed in two studies; one being a retrospective analysis of clinical records and one which was a qualitative study

References: 1. Levesque J.F, Harris, M.F., Russell G. (2013) Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *International Journal for Equity in Health* 12(18).

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Contact: amy.prince@swsphn.com.au

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