

# What are the outcomes associated with the use of online consumer health information? Insights from a systematic mixed studies review

Vera Granikov, Reem El Sherif, Pierre Pluye  
School of Information Studies and Department of Family Medicine, McGill University

## Background

- Online consumer health information (OCHI) associated with improved knowledge, involvement, and health
- Little is known about its “value” in primary care
- No comprehensive tool to assess information-use

## Objectives

- Identify types of OCHI outcomes
- Revise conceptual framework
- Identify conditions associated with positive outcomes

## Methods

### Eligibility criteria

- Qualitative, or quantitative, or mixed methods study
- French or English (1990-2014)
- Community-based primary health care setting
- OCHI use

### Information sources

Medline, Embase, PsycINFO, CINAHL, LISA, and grey literature (search strategy developed and peer-reviewed by librarians)

### Selection

2 reviewers (DistillerSR)

### Appraisal

2 reviewers using the Mixed Methods Appraisal Tool (MMAT)

### Data extraction and synthesis

#### Phase 1:

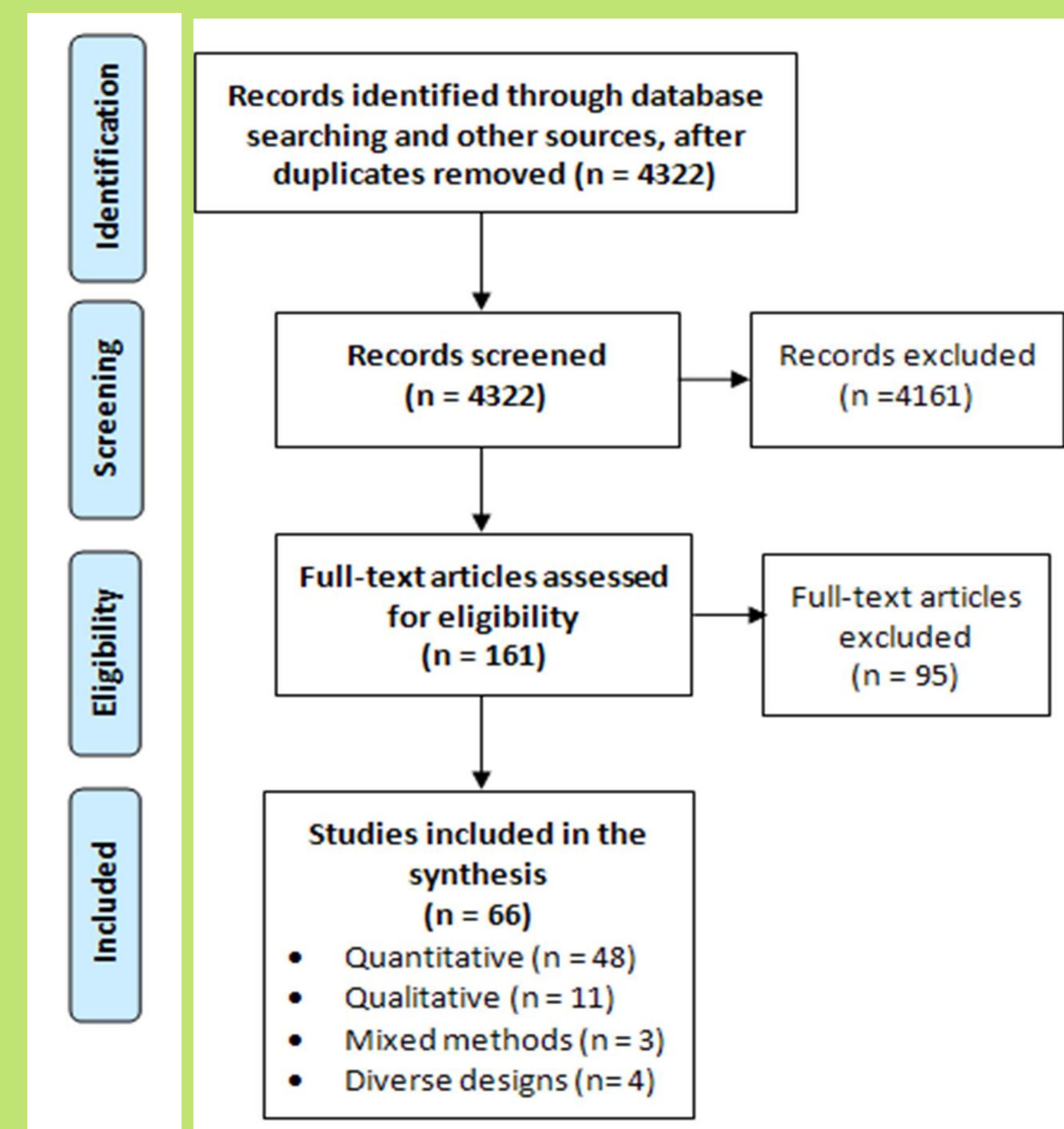
- Deductive-inductive thematic analysis (Nvivo)
- Harmonization of themes to develop terminology
- Card sorting exercise to organize influencing factors
- Framework synthesis

#### Phase 2:

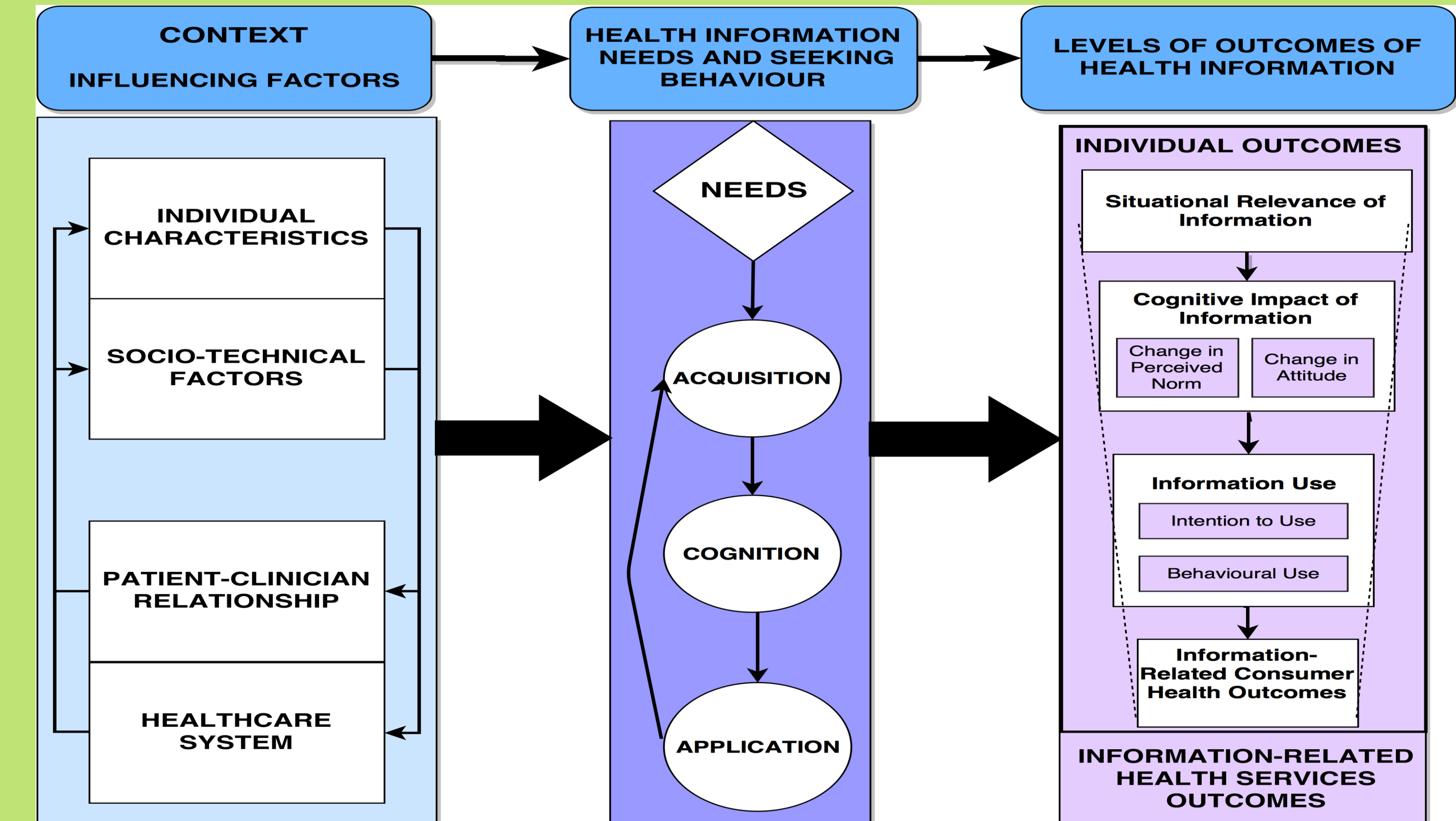
- Configurational Comparative Method (Boolean analysis)
- 3 conditions: health problem, health information literacy, and confidence in OCHI
- Aim to identify conditions that are necessary and sufficient for a positive outcome

## Phase 1 - Results

### PRISMA flow diagram



### Revised model: Factors and outcomes of online consumer health information



## Main results from the thematic analysis, harmonization of themes, and card-sorting

### Influencing factors

- Individual characteristics: e.g. age, health status, health information literacy
- Socio-technical factors: e.g. social support system, access to Internet
- Patient-clinician relationship: e.g. perception of clinicians towards OCHI
- Healthcare system: e.g. access to health care services

### Individual health outcomes

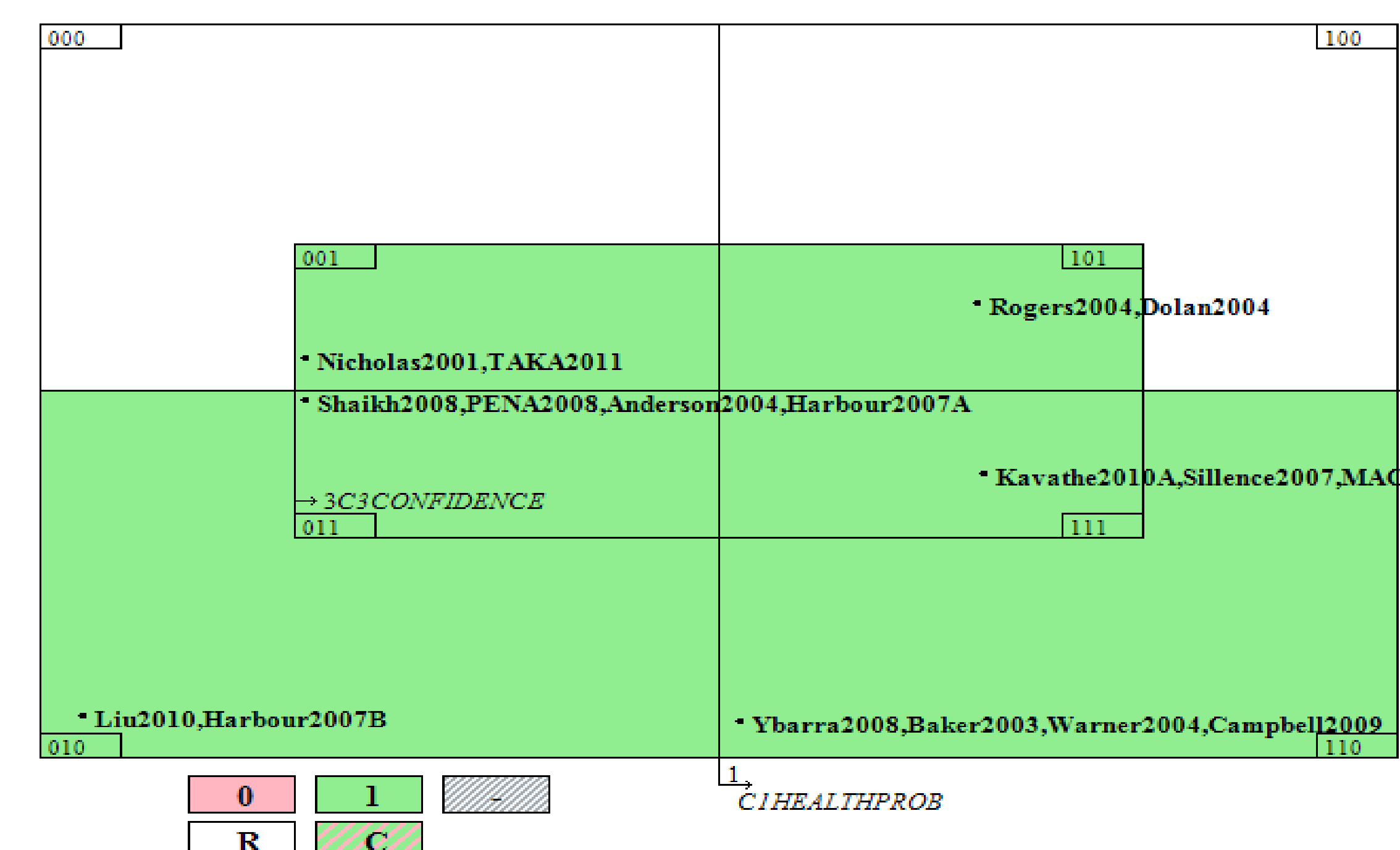
- Positive: increased involvement in health care, health improvement, better communication with health care providers
- Negative: deterioration of the patient-clinician relationship, increased worry, overuse or misuse of health services

### Health services outcomes

- Increased physician’s responsibilities, excessive ER visits and longer wait times

## Phase 2 - Preliminary results

Case ID	Health problem	Health literacy	Confidence	Outcome
Shaikh2008, PENA2008, Anderson2004, Harbour2007A	0	1	1	1
Rogers2004, Dolan2004	1	0	1	1
Nicholas2001, TAKA2011	0	0	1	1
Kavathe2010A, Sillence2007, MACIAS2008, Fox2007, Powell2011, Porter2007	1	1	1	1
Ybarra2008, Baker2003, Warner2004, Campbell2009	1	1	0	1
Liu2010, Harbour2007B	0	1	0	1



- It appears that whenever there is “high confidence” OR “high literacy”, there is a positive outcome
- NEXT STEPS: Results will be used to develop a *Patient Information Aid* to help people find and use relevant OCHI
- [Contact: veragranikov@gmail.com](mailto:veragranikov@gmail.com)

## References

1. Pluye et al. JASIST, 2013, 64(1): p. 108-125
2. Pluye, et al. (2011) <http://mixedmethodsappraisaltoolpublic.pbworks.com>
3. Pluye et al. JMIR Res Protoc 2014; 3(1):e7
4. Granikov et al. JCHI, 2015