

The Impact of Information Technology on Interprofessional Collaboration for Chronic Disease Management: A Systematic Review

Neil Barr

Health Policy PhD Program

Diana Vania, Glen Randall, & Gillian Mulvale
DeGroote School of Business

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Background

- ◆ Chronic care = higher health care service use.
- ◆ Interprofessional Collaboration (IPC), “...when multiple health workers from different professional backgrounds work together” (World Health Organization, 2010, p. 7).



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Background

- ◆ IPC may enhance the management of chronic disease.
- ◆ Effective collaboration is dependent upon the timely exchange of accurate, applicable information.
- ◆ Information technology (IT) allows for multiple provider interactions – synchronously (real-time) and asynchronously (time-delayed).



Archer et al., 2012; Reeves & Freeth, 2003; Smith et al., 2007.

Objective

- ◆ To identify, summarize, compare and contrast the peer-reviewed academic literature related to the use of IT to enhance communication that facilitates IPC in chronic disease management.

Method

- ◆ Electronic platforms: HealthSTAR & Web of Science (11 databases); January 2016.
- ◆ Keywords related to IT, IPC, & CDM
- ◆ Eligibility criteria:
 - Peer-reviewed academic articles
 - English language
 - Focused on how IT supports, or might support, IPC (through enhanced communication) in the provision of chronic disease management.

Method

- ◆ Quality assessment: qualitative & quantitative using Kmet et al.'s (2004) tool “QualSyst”
- ◆ Results of the individual studies were compared and contrasted to create a synthesis of findings regarding the impact of IT on IPC in chronic disease management.



Search Results

HealthSTAR: 86

Web of Science (all databases): 203

Total: **289**



Title/Abstract Review and Removal of Duplicates

No collective examination of IT, IPC, and chronic disease management: 258

Duplicates between databases: 8

Total remaining: **23**



Full-Text Review

No discussion of how IT might support IPC in chronic disease management: 10

Review/viewpoint paper: 4

Article not available: 1

Commentary: 1

Methodology/design article: 1

English abstract, French only article: 1

Additions from reference tracking: 1

Final number of articles: 6

Qualitative: 3

Descriptive: 2

Mixed Methods: 1

Results

◆ Participants (providers):

- Directors of care
- Family physicians
- Nurses
- Pharmacists
- Physical and occupational therapists
- Software and technical engineers...

◆ Participants (patients):

- Chronic obstructive pulmonary disease, depression, frail older adults, hypertension, “medically complex”...

Results

Technologies:

◆ **Electronic health records (n=1)**

- Reduce cognitive load and error.
- Difficulty regarding accountability.

◆ **Telehealthcare (n=3)**

- GPs not fully engaged, which is problematic for nurses.
- Tensions between telehealth staff and practice staff.
- Greater fragmentation of care?

◆ **Online communities and learning resources – blogs, wikis (n=2)**

- Can enhance communication channels and motivation for learning.
- Need physician acceptance, a willingness to learn, and security of information.

Results

Quality ratings

- ◆ Qualitative elements: 0.79 (0.65 – 0.90); high quality.
- ◆ Quantitative elements: 0.88; high quality.

High scoring items

- ◆ Clear description of the objective/research question.
- ◆ Design appropriate for answering the study question.
- ◆ Connecting the research to a theoretical framework or wider body of knowledge.

Results

Low scoring items

- ◆ Rationale for sampling strategy.*
- ◆ Use of verification procedure(s) to establish credibility of the findings.
- ◆ Reflexivity of the account.

*Both qualitative and quantitative.

Discussion

Three themes emerged that may have implications for the ability of IT to enhance IPC:

1. Professional conflict

IT to enhance information-sharing may contribute to conflict over professional roles/cultures.

2. Collective engagement

The need to incorporate all stakeholders in IT, IPC, and chronic disease management.

3. Continuous learning

Participants' time constraints and willingness to learn in the implementation of IT.

Limitations

- ◆ Literature from the two platforms deemed most relevant and restricted articles to those that were peer-reviewed.
- ◆ One study appeared to couch the investigation in a theoretical framework.

Recommendations

Moving forward:

- ◆ Incorporate sociological perspectives and theories (e.g., organizational/institutional behaviour).
- ◆ Obtain ongoing input from stakeholders.
- ◆ Establish clear channels of responsibility/accountability.
- ◆ Protected training time.

Conclusion

- ◆ The success of IT in enhancing communication in support of IPC for chronic disease management will ultimately depend upon the existing social relations in which the technology will be placed.
- ◆ Decision-makers should take into account, and work toward balancing, the impact of IT and the professional/cultural characteristics of diverse health care teams.

barrn@mcmaster.ca