



ELSEVIER

journal homepage: www.intl.elsevierhealth.com/journals/ijmi

Review

The outcomes of regional healthcare information systems in health care: A review of the research literature

Tiina Mäenpää^{a,b,*}, Tarja Suominen^a, Paula Asikainen^b,
Marianne Maass^b, Ilmari Rostila^c

^a University of Tampere, Department of Nursing Science, Tampere, Finland

^b Satakunta Hospital District, Finland

^c University of Tampere, Faculty of Social Sciences, Tampere, Finland

ARTICLE INFO

Article history:

Received 20 June 2009

Accepted 2 July 2009

Keywords:

Regional health information systems

Regional health information organization

Information exchange

Systematic review

Outcomes

ABSTRACT

The resulting regional healthcare information systems were expected to have effects and impacts on health care procedures, work practices and treatment outcomes. The aim is to find out how health information systems have been investigated, what has been investigated and what are the outcomes. A systematic review was carried out of the research on the regional health information systems or organizations. The literature search was conducted on four electronic Cinahl Medline, Medline/PubMed and Cochrane. The common type of study design was the survey research and case study, and the data collection was carried out via different methodologies. They found out different types of regional health information systems (RHIS). The systems were heterogeneous and were in different phases of these developments. The RHIS outcomes focused on the five main areas: flow of information, collaboration, process redesign, system usability and organization culture. The RHIS improved the clinical data access, timely information, and clinical data exchange and improvement in communication and coordination within a region between professionals but also there was inadequate access to patient relevant clinical data. There were differences in organization culture, vision and expectations of leadership and consistency of strategic plan. Nevertheless, there were widespread participation by both healthcare providers and patients.

© 2009 Elsevier Ireland Ltd. All rights reserved.

Contents

1. Introduction	758
2. Methods	759
2.1. Search methods	759
2.2. Database searches	759

* Corresponding author at: University of Tampere, Department of Nursing Science, Lääkärintätku 1, 33014, University of Tampere, Finland. Tel.: +358 0447079706.

E-mail address: tiina.maenpaa@satshp.fi (T. Mäenpää).

1386-5056/\$ – see front matter © 2009 Elsevier Ireland Ltd. All rights reserved.

doi:10.1016/j.ijmedinf.2009.07.001

2.3. Inclusion and exclusion criteria.....	759
2.4. Retrieval of references and handling.....	759
3. Results.....	760
3.1. Scope of the studies.....	760
3.2. Types of regional healthcare information systems.....	766
3.3. The outcomes of regional healthcare information systems.....	767
4. Limitations.....	768
5. Discussion.....	768
6. Conclusion.....	769
Acknowledgements.....	769
References.....	769

1. Introduction

Powerful societal and economic forces are moving us towards an integrated, patient-centered health care information system that will allow providers to exchange up-to-date patient health information quickly and easily. These forces include patient safety, potential health care cost savings, and empowerment of consumers, new policies and growing regional health care initiatives [1-4]. The proper functioning of a healthcare information system requires an advanced health information network that supports clinical care, personal health management, the reduction of avoidable mistakes in population health and research, and evidence-based medicine [5,6]. These cause new challenges such as acceptable standards, choice of technologies, jurisdictional boundaries, up-front investment, and an element of risk to the privacy, confidentiality, and integrity of information [1,2,7,8]. The creation and management of mechanisms to support the exchange of data between organizations has been used in other industries, in manufacturing, retail and government [9].

The development of regional information exchange among health care organizations is viewed as an important step in the development of health information technology [1,2,10]. Operational health information exchange promises substantial financial and societal benefits and suggests that health care delivery costs can be reduced by making clinical data available at the time of care in all departments [11-13]. Information exchange is the key to the many initiatives underway including the development of regional health information systems or organizations [14]. According to the eHealth Initiative (2006), there is an increasing level of maturity in the functionality of these health information exchange efforts—the most common related to care delivery providing disease or chronic care management services, quality performance reporting for clinicians, purchasers or payers [15].

Many communities are now building a local or regional health information infrastructure or strategy to provide secure, ubiquitous access to complete healthcare information and to improve health care through the quality, completeness, and timeliness of public health data reporting from clinical care settings. These will improve the ability to monitor better-quality information through timely disease reporting, improve case management and care coordination, communicable disease patient management. These strategies have improved the analysis of patterns of care, and gaps in delivery of preventive services, and have improved the ability to

plan, and resource allocation for preventive services. These regional health information infrastructure or strategies provide the capability to move from a traditional paper-based retrospective data collection and review mode of operation, to real-time, interactive electronic data exchange and action response practice. They also reduce health care cost, prevent medical errors, improve administrative efficiency, reduce paperwork, and increase access to affordable health care [11,13,17,18].

Nevertheless there is little experience or data about the factors that contribute to the successful formation and sustainability of these exchanges, including the development of a framework for a health information network and funding for implementation. The most difficult challenge is that related to assessing the value of services that emerge from the health information exchange to various stakeholder groups such as providers, players, and employers. Communities have not yet achieved the specific technical approaches to ensure privacy and confidentiality, or the sustainable business model that will be required. Also, leadership commitment and strong support from stakeholders are needed to translate that interest into an operational reality [2,5,9,15,19,20].

Regional collaborations, termed Regional Health Information Organizations (RHIOs), which others have called Local or Regional Health Infrastructures (LHIIs) are multi-stakeholder organizations working together to connect health care communities with the goal of improving quality of care, the health and safety of individuals, and the efficiency of public health systems, and nations [20-22]. These stakeholders may include hospitals, nursing facilities, clinics, private physicians' offices, pharmacies, laboratories, radiology facilities, health departments, and possibly the patients themselves [15,23]. The inherent purpose of an RHIO is to facilitate the electronic exchange of health information in the community and requires collaboration among care delivery organizations. Assembling information from disparate sources and simplifying the flow and presentation of the information have a major impact on care delivery [2]. The RHIO can offer better patient-centered care, with possibilities ranging from regional, national and even to global care. It is to be expected that, in addition, care will become more specific and tailored for the individual, and that better personalized care will be achieved. In the near future, the citizen will have an active role participating in his own care and taking steps for pro-active prevention [24,25].

Most of the international literature on regional or national health information systems focuses on, discusses or describes

Download English Version:

<https://daneshyari.com/en/article/517063>

Download Persian Version:

<https://daneshyari.com/article/517063>

[Daneshyari.com](https://daneshyari.com)