

Health Care Information Systems - the Outcomes of the Integrated Use of Health Information

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Abstract. The objective of this study is to formulate a clearer picture of how a regional healthcare information system affects the completeness of patient health care and health care delivery. The purpose is to study how the implementation of regional health information systems has influenced outcomes in health care delivery in one hospital area in Finland. The essential concepts in this study are health care information systems and outcomes. The research consists of four different phases. Research material will be processed through qualitative and quantitative research methods and statistical tests.

Keywords: regional healthcare information system, outcome, qualitative, quantitative research methods

1. Introduction

There is a shift towards shared or integrated care, where a team of professionals across all levels of the health care system hierarchy is responsible for the health care of an individual. According to previous national and international research, communities are moving forward with health information exchange to create regional health information organizations (RHIOs) or regional health information infrastructures (RHINs). The aim is to improve continuity of care; enhance access to health care information, patient health records, and medical history; improve decision-making and the supply of effective, quality care; and increase patient safety and cost-effectiveness. [1-5]

2. Objectives

The objective of this study is to formulate more clearly how regional health care information systems affect the completeness of patient health care and health care delivery through their significant benefits and outcomes. How do regional health care information systems affect patient care, health and welfare itself, the effectiveness of health care, outcomes, and essentially the quality of life. This study consists of four phases. The purpose of the first phase is to find out how health information systems have been investigated, what has been investigated, what kinds of effects have been achieved, and what the outcomes are. The purposes of the second and third phases are to describe and identify the effects of the regional health information systems using quantitative statistics for 2004 – 2008 in a specific geographic area. The purpose of the fourth phase is to find a deeper understanding of the research results and the outcomes obtained in the first, second and third phases through qualitative interviews with the users of regional health information systems in fall 2009, when the regional health information system is to be used as a part of the normal workflow.

3. Materials and Methods

The research design in the first phase is a qualitative systematic review. In this study, the systematic review of health care information technology and implementation of health information exchanges will focus on research on regional or national health information systems or organizations. The research design in the second and third phase is quantitative outcome research. Outcome research is designed to document the effectiveness of health care services and the end results of patient care. The data is composed of viewed referrals to regional health information systems in 2004 – 2008 and computer-based statistics and reports of subsequent outcomes such as laboratory and radiology research and appointments, and referrals. The research design in the third phase also includes comparison groups. The research design in the fourth phase uses a qualitative interview approach. The research material will be collected through unstructured interviews or semistructured interviews in fall 2009, focusing on the particular users and other interest groups of the regional health information systems, where the use of the system is part of the normal workflow. The research material will be processed by means of qualitative and quantitative research methods and statistical tests.

4. Discussion

It is important to research how the patient benefits are received when developing regional integrated use of health information, because increasingly customer care requires better information about one's own health condition and taking steps for proactive prevention. [1]. Research on health care information systems is important because the systems are used within a variety of health care professional networks, in health care management and administration, and as tools of communication and decision making. Health care information systems have been researched extensively both nationally and internationally, but the real benefits or usefulness of evaluation information are incomplete and short-term. In Finland, there is a fairly systematic and comparative knowledge of health care information systems. [6] This indicates the need for further evaluation of health care information systems and their outcomes. Outcome research is one of the expanding fields in health care.

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