



Health professionals' expectations of a national patient portal for self-management

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ARTICLE INFO

Keywords:

Patient portal
Patient empowerment
Self-care
Self-management
Adoption
User acceptance
Health professionals

ABSTRACT

Objective: Patient portals have the potential to support patient empowerment, self-care, and management, but their adoption and use have reported to be limited. Patients' more active role creates tension, as health professionals need to change their traditional expert role and share control with patients. Professionals may also have other expectations and concerns that influence the acceptance of patient portals supporting patient empowerment. This study explores the health professionals' expectations influencing their support for a new patient portal for self-management prior to implementation.

Design: The study empirically evaluates the impact of several variables on health professionals' support for a new patient portal for self-management. The study variables include 1) expected influences on professionals' work, 2) expected influences on patients, 3) usability, 4) professional autonomy, 5) informing, 6) implementation practices, and 7) user participation.

Methods: Data was collected through an online survey of 2943 health professionals working in 14 health organizations in Finland. The participating organizations run a joint Self-Care and Digital Value Services (ODA) project, developing a national patient portal for self-management. Three main services of the patient portal are well-being coaching, diagnostic tool, and a health care plan.

Results and conclusions: The results show that health professionals' positive expectations about the new patient portal, adequate informing of professionals ahead of time, and the organization's good implementation practices had a positive impact on their support for the patient portal. Perceived threat to professional autonomy had a negative impact on professionals' support for the portal. Age, gender, and user participation did not influence support. Professionals' concerns were related especially to patients' willingness and capability to use the patient portal. The findings can guide health care providers to facilitate professionals' support and remove obstacles to introduce patient portals already in the pre-implementation phase.

1. Introduction

Patient empowerment is one of the key goals of eHealth [1]. Patients are increasingly encouraged to take responsibility for their own health and be active players in self-care, self-management, and decision making [2–4]. Widespread patient web portals are often considered to have the potential to support patients with self-managing their health. Patient portals provide various self-management services such as access to personal health information, health metrics recording, educational materials, appointment scheduling, patient-provider communication tools, and self-management diaries [5–9].

While patient empowerment and activation is expected to have a positive impact on patient health and satisfaction [10–12], many

studies have reported limited adoption and use of patient portals supporting patient empowerment [8,13]. There are several different patient groups; reaching and engaging them to use new technical solutions for self-care and self-management is not self-evident or easy [14]. Health professionals are in a key role in supporting and engaging patients: Their attitudes and behaviors influence a patient's capacity to use services [9], and their endorsement, in particular, increases patients' trust towards a technical solution [15]. However, health professionals are not always willing to recommend new patient portals or support patients. For example, patient empowerment and self-management are changing the traditional expert role of professionals and creating a tension associated with sharing control with patients [16,17]. Like other attitudes, this tension can influence acceptance of

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professionals and efficient use of patient portals [18].

Health professionals may also have previous negative experiences with health information systems [19], which creates negative expectations and concerns towards new information-technology-assisted approaches to patient empowerment. User expectations are also known to influence later experiences and acceptance [20,21]. Health professionals may have many concerns, especially related to the changing provider-patient relationship. Earlier studies recommend that these concerns are proactively addressed as a mean to manage resistance [22]. For example, Kirkendal et al. [23] highlight the importance of adapting training and implementation to support users who have concerns.

The goal of this survey study was to identify the health care personnel's expectations about a national patient portal for self-management developed by a Self-Care and Digital Value Services (ODA) project. We performed the survey study in collaboration with the ODA management team, which wanted to collect information about health professionals' expectations in the pre-implementation phase of the project. The aim was to use the information for supporting the implementation of the ODA services in the participating 14 health care organizations. This study also tests the hypothesis that health professionals' expectations influence their support for the patient portal for self-management in a pre-implementation phase. Findings provide a better understanding of the professionals' views of patient portals and patient empowerment in their work as a first step in encouraging them in adopting the new services.

2. Research model

The attitudes of health care professionals are important as they reflect the acceptance and efficient use of the services [18]. Several studies have identified factors influencing the acceptance of information and communication technologies by health care professionals. We propose that professionals' expectations of these factors influence their attitudes prior to actual implementation. In their systematic literature review, Gagnon et al. [24] reported that the perceived benefits of the technology was the most common facilitating factor, followed by ease of use. In the case of the patient portal for self-management, the main expected benefits are targeted to patients, and patient benefits may be in conflict with the benefits of the health care professionals. Thus, we separated these two types of benefits and hypothesized the following:

H1. The expected positive influences on the work of professionals are positively associated with their support for a patient portal.

H2. The expected positive influences on patients are positively associated with professionals' support for a patient portal.

H3. The expected usability of the patient portal is positively associated with professionals' support for a patient portal.

Hart and colleagues, and Walter and Lopez [25,26] have also found that technical innovations change professionals' role and can threaten professional autonomy. Being a professional is commonly associated with power, prestige, and autonomy that, for example, an Electronic Medical Records (EMR) systems, the Clinical Decision Support (CDS) systems [25], and patients' internet use [26] have been found to threaten. Thus, our hypothesis is as follows:

H4. The perceived threat to professional autonomy is negatively associated with professionals' support for a patient portal.

The first step towards professionals' support for a new patient portal is that they are aware of it. For example, in Flynn and colleagues' [27] qualitative case study, many professionals had not heard about the new service to be implemented, and clinical and practice manager staff felt that they were only partially informed about its objectives. Several studies have shown that if professionals do not know about the new innovation and its benefits, adoption and implementation will not take

place [28]. Thus, informing professionals and communicating the benefits of the new patient portal is an important first step in implementation; therefore, we hypothesized the following:

H5. Informing professionals about the new patient portal and its benefits is positively associated with professionals' support for a patient portal.

In addition to the quality of the innovation, the organizational processes by which innovations are introduced to professionals are important for implementation success [29]. Organizations change slowly, so we can expect that professionals already have good or bad experiences in implementation practices that may influence their views on how well they are supported when a new patient portal is implemented.

H6. The expected good implementation practices are positively associated with professionals' support for a patient portal.

The on-going involvement of professionals as users at design stages has been found to support their acceptance of a new system [29]. User participation and involvement are important for ensuring good requirements, usability, and user satisfaction [30,31] as well as for building users' feelings of ownership toward the system [32]. Thus, we hypothesized the following:

H7. User participation in the planning of the patient portal is positively associated with professionals' support for the patient portal.

3. Methods

A survey study was designed to capture the health care personnel's expectations about a national patient portal for self-management developed by a Self-Care and Digital Value Services (ODA) project. This survey study focused on health professionals such as nurses, social workers, doctors, physiotherapists, and psychologists, as their work will be influenced by the new patient portal.

3.1. Study setting

At the time of the study, in spring 2017, the role of information and communication technology (ICT) was widening in Finnish public health care. The objective of the national eHealth and eSocial Strategy 2020 is to support the active role of citizens in promoting their own well-being by improving information management and implementing self-management and online services [33]. The aim of the strategy is to support the prevention of health problems, self-assessment of the need for services, and independent coping.

To build online services for citizens, the government funded the ODA project. ODA is run as a joint project of 14 of the largest cities and hospital districts in Finland – e.g. Helsinki, Espoo, Tampere, Turku, Oulu – with 1,766,334 inhabitants in 2014 (32.3% of the Finnish population). The ultimate aim is to provide a national patient portal for self-management and self-care in 2018. In addition to the technical development, a strong emphasis has been put on changing the operational processes using a participatory approach. The three main services are patient self-assessment and well-being coaching, diagnostic tool, and a health care plan.

The ODA project has trained lean approach to groups of health professionals representing each city and hospital district in 2016 and 2017. These groups have planned the operational processes to be supported by the technical solutions in individual services. At the time of the study, none of the organizations had yet started to pilot the services. The first pilots started in June 2017, and the whole patient portal entity is planned to start in the autumn of 2018.

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