

# User Acceptance of My Health Record System in General Practices

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## ABSTRACT

The user acceptance of technology determines its success and failure. Digital health is having a major impact on the improvement of health care and its delivery. My Health Record (MyHR) is the digital health solution that Australia implemented nationally to facilitate accessibility of health summaries data anywhere and anytime. The objective of this study is to explore the adoption of MyHR in general practices – one of the vital key players – in the state of Victoria. This article presents the current status of adoption in these general practices, using the lens of a proposed conceptual framework. This framework is based on a novel integrated model of user acceptance that merges three well-known user acceptance theories with some contextualisation to MyHR. It enables a comprehensive review of current system adoption, as well as factors such as the organisation, technology, people and perceived task fitness.

## KEYWORDS

Digital Health, General Practice, Myhr, PCEHR, Personally-Controlled Electronic Health Records, Primary Care Organisation, Technology Adoption

## 1. INTRODUCTION

Digital health (DH) is widely believed to have great potential in offering solutions for improved health and healthcare delivery, influencing effectiveness, efficiency, accessibility, safety, and personalisation (Murray et al., 2016). Australia commenced its DH journey in the 1990s, with various initiatives across the country. Establishment of an electronic health record (EHR) solution at the national level was considered a foundation for Australian DH infrastructure (Bartlett, Boehncke, & Haikerwal, 2008; Bennett, 2009; Garrety, McLoughlin, Wilson, Zelle, & Martin, 2014; Jolly, 2011; Xu, Gao, Sorwar, & Croll, 2014). Hence, the personally controlled electronic health record (PCEHR) was launched in July 2012 and is now called My Health Record (MyHR).

A gateway to the Australian health system, GPs are the most consulted health service (ABS, 2015; Willis, Reynolds, & Keleher, 2014) and play a vital role in data uploads into the MyHR. MyHR implementation required change in general practice organisation and potentially the doctor-patient relationship. Therefore, understanding the acceptance of users is essential. The system had been evaluated by many researchers (Gajanayake, Sahama, & Iannella, 2013; Lehnbohm, Brien, & McLachlan, 2012, 2014, 2016; Muhammad, Teoh, & Wickramasinghe, 2013; Pullen, 2012; Raza Khan, 2013; Srur & Drew, 2012; Xu, Gao, Sorwar, & Croll, 2013), yet the user acceptance and adoption of

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MyHR specifically in general practice organisations (GPOs) was little known (Khan, Zia, Perera, & Pearce, 2018a). This research aimed to explore MyHR adoption at GPOs in the state of Victoria and study workflow of patient's journeys in this setting with/without MyHR. It drew on the viewpoint that success or failure of any system implementation largely depends on user acceptance of technology. Findings of users' views and perceptions obtained through literature, interviews, observations and surveys are published elsewhere (Raza Khan et al., 2018a; Raza Khan, Zia, Perera, & Pearce, 2018b, 2019). The aim of this paper is to triangulate the findings to understand the user acceptance of MyHR in GPOs and evaluate its adoption using the proposed research conceptual framework. We first outline the conceptual framework summarised, then findings are analysed using the framework components, and evaluation results presented.

## 2. METHOD

A qualitative approach with social constructivism philosophical assumptions and interpretative framework was used to underpin this research. A case study research method (Yin, 2014) was deemed the most suitable and relevant method, where the MyHR system is the main focus for its adoption in this environment. The study benefits from exploratory collective case study research variation with multiple cases (10) and descriptive evidence collection to facilitate cross-case analysis. In order to design this case study research process and methods, the researcher took guidance from established methods. (Eisenhardt, 1989; Yin, 2014).

Literature findings were examined to understand the knowledge gap (Raza Khan et al., 2018a) and conceptual framework was developed (Raza Khan & Zia, 2017) before commencing field research. Ten different GPO cases (CS1-10) around Victoria were studied (Jan-Dec 2017), involving their MyHR implementers, GPs, other staff and patients for data collection. Two cases were first studied in detail, using one-to-one, structured and face-to-face interviews with MyHR implementers. Twenty observations of two GPs interacting with MyHR during patient consultations were made. Surveys for staff working in these general practices were distributed to gather their views/experiences. Intra-case analysis was conducted by comparing the results of these data collection activities and lessons learnt from inter-case analysis were used to develop further questions for the other eight cases. These questions were then put forward in face-to-face, semi-structured interviews with the GPs of the eight other cases. A survey was also conducted (Jun-Dec 2017) through different platforms to reach as many general practice users as possible. The results of these activities were collected and triangulated in the light of the conceptual framework to examine user acceptance.

## 3. CONCEPTUAL FRAMEWORK

In order to determine effectiveness and benefits, implementation of any IS requires evaluation. Defined as 'an act to judge the quality and value of the system', evaluation is usually carried out to seek answers to five questions: Why, What, Who, When and How. For this evaluation of MyHR, answers to these questions are as following:

It is essential for evaluation that a framework is chosen to inform the constructs and their relationships (Mohamad ali & Garibaldi, 2009). With a viewpoint that success or failure of system implementation depends largely on user acceptance, this study takes its conceptual framework from the *Integrated Model of User Acceptance of Technology* (Mohamad ali, 2013; Mohamad ali & Garibaldi, 2010), later revised (Muslimin, Sasongko Pramono, & Nugroho, 2017). The revised integrated model is contextualised for this study by reviewing it in the light of other work (Bloomrosen et al., 2011; Harrison, Koppel, & Bar-Lev, 2007; Nguyen, Bellucci, & Nguyen, 2014) and explained in the sub-headings below:

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