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The MyHealthRecord System Impacts on Patient Workflow in General Practices

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Abstract. Digital health is widely believed to have vast potential in improving patient care. MyHealthRecord (MyHR) is a digital health information system which enables Australian citizens to access their health information centrally, making it available anywhere, at anytime. The aim of this study is to explore the adoption of MyHR in general practices in Victoria and understand its impacts. A qualitative case study research method was used to underpin this investigation. Ten general practices were engaged where MyHR was implemented/used. Detailed interviews with MyHR implementers were held and GPs were engaged in short interviews. Twenty observations were made during GP/patient consultations for health summary uploads. Findings indicate that the practice incentive payment (PIP) funding policy change encouraged the use of MyHR, but the adoption was limited to satisfy funding criteria. Change management was often extemporised. Health summary upload was a quick and easy process but was influenced by clinical system data quality and GP familiarity with the system. Community awareness and GP interest in MyHR was lacking. The conclusion is that MyHR was not well integrated in general practices nor the community. As a result, an improved engagement approach between healthcare organisations, the MyHR system operator and Australians is required.

Keywords. My Health Record, MyHR, PCEHR, General Practice, Digital Health, health information systems, health care

Introduction

Digital Health (DH) is widely believed to have strong potential in addressing modern world challenges related to healthcare delivery and its future sustainability [1]. The Australian government has invested $1 billion over a 10 year period from 2004 to build national infrastructure for an electronic health record (EHR) system [2]. Considered a foundational element in its DH infrastructure, the personally controlled electronic health record (PCEHR), was launched in July 2012 [3-5]. It was established with a vision that centralising fragmented medical records using PCEHR would simplify a patient's journey, delivering better healthcare, enabling informed consumer decision making and minimising healthcare costs resulting from medical errors and information inaccessibility [3, 6, 7]. Rebranded as 'MyHealthRecord' (MyHR) in 2015, it can be defined as a hybrid digital health information system (HIS) that stores citizens' key summary health information in a digital format at a central database shared among healthcare providers and consumers [8].

Being a gateway to the health system, general practitioners (GPs) are the most consulted health service providers [9, 10]. They are also considered culturally complex for any change management [10]. Government has encouraged an incremental increase

in ICT maturity and DH readiness in these GP organisations since 1999 using practice incentive payments (PIP) [3, 11]. However, out of 85% of signed-up general practice organisations (GPOs) prompted by the PIP, only 16% were actually using MyHR [12]. In July 2016, the PIP criteria were revised to incorporate meaningful usage of MyHR system [13, 14]. This initiated a change in GPO patient workflow and raised concerns about the use of MyHR being time consuming [7, 15]. to work, the workflow of the GPOs must be positively disrupted in order to realise the potential benefits [3, 15]. But the impact of the MyHR disruption in the patient workflow has not been addressed in literature to date [16] and is the goal of this research.

Funding policy changes and an opt-out policy [17] are catalysts for healthcare provider participation [2]. It is vital to understand the impact of these changes and develop measures for adoption sustainability. This paper presents a summary of interview and observation findings of this research project.

1. Method

Ten general practices in different suburbs of Victoria were engaged during Jan-Dec 2017. Their MyHR implementers, GPs, other staff and patients aided in data collection by participating in interviews, observations and surveys. This paper presents findings of the interviews and observations. The survey results have been published separately [18]. Two GPOs (4 participants, practice management and MyHR implementers) were first studied in detail using one-to-one, structured and face-to-face interviews (60 questions) with MyHR implementers, and observations (20) of the interaction of two GPs with MyHR during patient consultations. Inter-case analysis was conducted, and lessons learnt were used to develop further questions for the other eight cases/GPOs. These questions (15) were put forward in face-to-face, one-to-one and semi-structured interviews with the GPs (8 participants) of eight other cases/GPOs. The responses were analysed using thematic analysis and depicted below.

2. Results

2.1. Interview Findings

The GPO participants were a mix of small, service based, busy and complex organisations with limited staff, under both private and corporate ownership. They all had similar patient workflow and were using clinical information systems (CIS) for patient record keeping. Many of them (9 out of 10) had completed MyHR implementation and the use of MyHR began with the PIP policy intervention in July 2016. Participants reviewed their patient workflow and use different approaches to integrate MyHR, i.e. engaging GP, administration/GP or administration/GP/nurse. Some (4 out of 10) associated its use with their internal existing policies such as care plans, flu vaccinations, etc. Technical issues with MyHR were resolved in most cases and the system was noted to be available and reliable. There was no performance improvement reported with their MyHR interaction, however, it was believed that extensive efforts were required in participation. There were a few instances where GPs were able to facilitate patient care by accessing patients' records from MyHR following a relocation from interstate. The MyHR service provider dealings have improved over time, however,

the need for better education and training was recognised. GPs were mostly supported by their practice manager for MyHR implementation and believed better ways of informed engagement were required. Most of them (6 out of 10) were satisfied with CIS-MyHR usability, but were less satisfied with its integration into their patient workflow. Generally, they found other GPs was unaware about this system and there was no platform for its discussion. Only on one occasion was there a team discussion about secondary usage of data in MyHR, resulting in user resistance and limited usage only to satisfy funding criteria. Other impacts included extra workload for administration staff, opportunity to clean-up CIS patient records and increase in patient base. Three themes were developed and described below: patients workflow review, professional roles, policies, procedures and manuals updates, and user engagement improvement.

2.1.1. Patient Workflow Review

In MyHR adoption, the change required in patient workflow and roles was realised by the GPOs but not always managed well. After initial cross-case analysis, the researcher suggested an administration↔GP↔nurses' approach, with proposed workflow change. According to this proposition, additional workload could be shared among these roles of administration, GP and nurses, depending on CIS patient record complexity and the GP's available time. It also offered to introduce the idea of 'MyHR triggers' in internal policies to enforce system usage. Trigger events could be flu vaccinations, chronic illness care plans, immunisations, pregnancy, young children, clinic or GP transfers.

Participants were shown this proposed workflow and their opinions/feedback were sought about the idea of MyHR triggers and the role of GP and GP/nurse shared responsibility in MyHR tasks. Overall response welcomed the idea of reception, nurses and GPs sharing the workload. However, some participants believed it might not be practical with their current nursing staff resources and management may need to arrange more staff. The idea of MyHR triggers was appreciated as way of prioritising, and it was found to be a common practice among participants who moved towards frequent use.

2.1.2. Professional Roles, Policies, Procedures and Manuals Updates

The change in patient workflow brought required changes in internal policies, procedures and professional roles. It was vital to clarify these role changes, reflecting them in their position description and highlighting additional duties. This change also required education opportunities and updated manuals with more contextualised references. Participants were asked about any updates required to role descriptions, policies, procedures with the integration of MyHR in their practice. They were also asked whether staff received training and manual/handouts to facilitate the change. Overall response indicated that updated roles, policies and procedures did not seem to be of any significance to the participants, as they believed it was required only for administration staff and essential for accreditation/legal purposes. Nearly all of them attended some type of training and were seeking more ongoing structured but flexible arrangements to educate themselves better. They were not interested in user manuals because they found the system easy to use or had no time to read such documentation.

2.1.3. Users Engagement Improvement

Participants were asked if they felt engaged with MyHR and majority of the participants believed there was room for improvement. They were keen to talk to MyHR champions

(such as trainers, policy makers, ADHA technical support) to know more about the system and wanted to be regularly updated. Some thought constant communication about latest developments would make them feel engaged. Others were convinced that the information being provided needed to be influential, not just abundant. Participants were asked about their suggestions to improve MyHR engagement in their practice, and this resulted in a suggested approach (figure 1). According to this, mainly practice

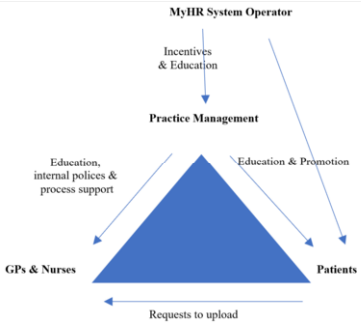

Figure 1. Suggested Users Engagement Approach

management and the System Operator were responsible for facilitating GP trainings and educating the community. They believed a '*patient drive*' to engage GPs would prove to be the most effective strategy. It was recognised that this was an additional task for GPs who may or may not always be able to handle this themselves. As the PIP funding was offered to GPOs, practice management should support GPs with practical internal policies and procedures to participate in MyHR. At the same time, the MyHR system operator needs to do more towards promotion and education to remove misconceptions about system security, data privacy breaches, misuse of health data, loss of data control, etc. in the community. If they ask their GP about MyHR more frequently, it would exercise pressure to use it in patient care. Practice management should also participate in patient education and promotion through different means, so patients are better informed, saving time in the GP/patient consultation. Other ideas discussed included more MyHR training / team meetings / discussions showcasing MyHR benefits to demonstrate real time cases, improving clinicians' understandings of their roles, encouraging holistic use of MyHR, GP incentives, offering flexibility for GPs to upload at a time that was convenient to them, mandating the use for certain patient types e.g. chronic illness, pregnancy etc, influential communication for GPs and defining new policies, such as uploading every patient record at least once a year.

2.2. Observations Findings

Twenty observations were completed at two GPOs/cases during GP/patient consultation which included an upload of health summary in MyHR. Process steps with upload timings, GP experiences and patient intentions were captured. In participant clinics, GPs were completing only SHS uploads, therefore, observations were limited to that type of interaction. Two themes were identified and given below: MyHR upload process and time consumed and GPs/patients experience with MyHR interaction.

2.2.1. MyHR Upload Process and Time Consumed

There are five steps involved in this process once a patient record is displayed in CIS: (1) clicking on 'PCEHR button/menu option', (2) reviewing display of existing patient conditions details, (3) updating the record, (4) checking the summary and (5) hitting upload button. Overall it was observed that the upload process took longer (2-8 minutes) when there was internet connectivity and CIS usability issues (CS1). Otherwise the process was no longer than 1-3 minutes (CS2). Lack of system familiarity and the need to review an extensive existing patient history were found to be the causes of longer transaction times.

2.2.2. GPs'/Patients' Experience with MyHR Interaction

At the end of every MyHR transaction, GPs were asked about their experience, in terms of ease of ability to remember steps, system response time, screen switching time or any other feedback. The GPs found the interactions were user-friendly and easy to follow but they struggled to remember "where to start" in their next few transactions. After some initial confusion, though, they were relaxed and comfortable in conducting their tasks, by the end of the 10th observation. CS1 had CIS usability issues due to slow MyHR connectivity, impacting on the system response time and they also received insufficient user notification when processing in the back end. GPs used that time lag to consult with the patient about his/her health and the reason for their appointment. They could not switch to the patient record screen, as the system was unresponsive. The GP in CS2 was reluctant at the outset, but later reported to feel 'comfortable' with MyHR. CS2 provided their GPs with monitor stickers with a quick snapshot of the steps required to use MyHR, but the GP found it difficult to comprehend during observation and struggled initially.

Patients were also asked about their intention of consenting to MyHR. Health information accessibility when travelling or when presenting to hospitals/emergency was the most common reason. Another reason was "advised by their GP that it's good for us". The majority had no prior knowledge but were able to relate to MyHR benefits after a brief discussion with their GPs/clinics.

3. Conclusion and Future Work

This research is the only one of its kind to date which has approached GPOs and presented insights on MyHR based on their experiences. It demonstrates the impact of the 2016 PIP policy change and the influence of system integration in patient workflows, routines and roles. Change management was not always formalised and time-consuming related perceptions were vague, resulting often in ad hoc approaches and limited adoption to satisfy funding criteria. But even in this limited usage there were information accessibility benefits in patient care, signalling potential for positive outcomes with mass participation and frequent use. Caution must be taken when implementing, supporting GPs, nurses and administration with effective and efficient policies and training opportunities to drive internal system adoption. Engaging patients with better awareness and education programs would also encourage their GPs towards MyHR use.

Although the setting of this research is limited to the state of Victoria, the results provide useful insights about MyHR adoption generally in the GPO environment. It portrays the need for improved support for organisational change management and a

better engagement approach for sustaining user adoption. Furthermore, observations were limited to SHS uploads, other types of MyHR transactions could offer more detailed perceptions about the system use.

In future work, these case study results will be merged with survey findings to analyse MyHR adoption in general practices, its challenges and recommendations.

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