

# Readiness Assessment for Implementation of Electronic Patient Record in Ghana: A case of University of Ghana Hospital

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**Abstract.** Numerous challenges confronting the health system of developing countries makes implementation and the long term survival of ICT projects non-feasible in so far as there is no pre-determination of institutional readiness before rolling out any such. The current study examined the readiness of University of Ghana hospital towards the implementation of Electronic Patient Record (EPR). With an interpretive case study research method, data was mustered from the health workers and the administrators of the hospital using face-to-face in-depth semi-structured interview which was audio recorded. Document analysis and observation were also employed in the data collection process. Data was analyzed based on the approaches suggested by Miles and Huberman (1994). The result indicate some readiness commitment of the hospital administrators towards ensuring organizational readiness for EPR in the following areas; training of staff in computing, provision of alternate source of electricity, provision of internet and internet infrastructures, provision of EPR. The health workers indicated their readiness for EPR in the following areas; knowledge in and access to computers, motivation for EPR and anticipated changes in work schedules. Despite these somewhat promising readiness indicators from the hospital, there were however some conspicuous constraints relating to finance, a functioning ICT Department, ICT logistics and procurement of EPR that must be well addressed for a successful and sustainable EPR implementation.

## **INTRODUCTION**

Numerous challenges such as the scarcity of resources, poor telecommunication infrastructure, poor internet connectivity, non-technological issues such as organizational factors, human elements, policy and standards and socio-economic issues have been cited to impact negatively on the adoption of ICT in the health sectors in developing countries (Sood et al., 2008). A decade ago, research has found that large scale information technology projects are associated with 30% or more failure rates (More, 1990) and the problem is far more convoluted and visible in developing countries. Challenges confronting developing countries are not of the same magnitude and for that matter the problems that can hamper the operations of ICT in healthcare industry are not the same for all developing countries. One area in which discussions have been advanced for the purposes of initiating and sustaining health-related ICT projects in the health sectors of developing countries is readiness assessment. Readiness is defined as the cognitive precursor to the behavior of either resistance to or support for a change effort (Armenakis, Harris & Mossholder, 1993). Readiness assessment is particularly relevant for implementing EPR in healthcare institutions. As an information infrastructure, EPR has several characteristics-enabling, shared, open, socio-technical, heterogeneous and installed base (Hanseth & Monteiro, 1998) that make it unique and whose implementation can appear more challenging. These characteristics make EPR more complex and require that its implementation is preceded by readiness assessment to determine success factors. Readiness assessment and is one of the ways of reducing the risk of failures in organizational projects such as EPR (Jennet et al., 2005).

Readiness in this context involves organizational readiness and health workers readiness. Organizational readiness relates to organizational resources such as finance, ICT department, and ICT infrastructure necessary for EPR implementation. Health workers readiness also relates to current patient record practices in the hospital (e.g. challenges) and readiness for EPR (e.g knowledge in and access to computer, motivation for EPR and anticipated changes in EPR).

The following research questions were addressed by the study;

- (1) What are the organizational resources and infrastructure available for EPR implementation?
- (2) What are the characteristics of the health workers that could determine readiness to use EPR when implemented?

Interpretative case study approach was used. Two categories of participants were recruited for the study; the health workers and the hospital administrators. The health workers numbered 28 and they include doctors, nurses, pharmacist, laboratory technicians and workers at the record department. Data was collected from the health workers to determine their readiness for EPR implementation. The administrators were two (2), the Medical Director and the Hospital Administrator, who were interviewed to determine organizational readiness in terms of

infrastructure, finance and other necessary logistics for implementing EPR. Data was analyzed based on the approaches suggested by Miles and Huberman (1994).

## **RESULT**

The workers at record department which is the epicenter of all recording activities in the hospital were overwhelmed with the volume of work at the department. They indicated their frustration with work at the department. From the perspectives of the health workers, data gathered revealed dissatisfaction with the paper record despite the advantages it (paper record) offers. Out of this dissatisfaction, the health workers considered the EPR as an alternative to the paper record and were optimistic the EPR will help improve health care delivery. The participants indicated they have an average knowledge in computing and are motivated to use the EPR once it is implemented. They also stated an awareness of possible changes in work schedules should the EPR be implemented-changes they are willing to adapt to. The administrators of the hospital were in support of digitalization of the hospital and have stated some resources already committed into the digitalization plan. These resources include provision of computing training to the staff of the hospital, acquisition of the needed ICT infrastructure, networking of the hospital departments, wards and units, acquisition of electronic record system. Other areas for which readiness was demonstrated include the institutionalization of measures to ensure continuous supply of power in the face of erratic and unreliable power supply by the national Electricity Company. Despite this optimism, there are central issues regarding funding that must be well addressed.

## **DISCUSSION**

The result on the readiness assessment of University of Ghana hospital judging from the health workers and the administrators has yielded useful and pertinent insight into the readiness and the possibility of implementing electronic record system.

Despite the challenges confronting the hospital in almost all areas of readiness, the responses from the administrators were generally positive and are on the path of meeting the expectations of the health workers. From the organizational perspective, the administrators indicated the readiness of the organization to implementing EPR. For instance, the hospital plan to “go digital” in their quest to ensure quality care. The availability of internet in some departments as well as the availability of internet infrastructure in all most all the hospital departments attested the digital plan. The hospital can also boast of some ICT infrastructure

such as computers, printers, scanners among others. There is emergency power plant to cater for the erratic and unreliable power supply in the country. Efforts are in place to secure electronic record system. In effort to ensure the health workers are well equipped in computing, the hospital has sponsored the training of the health workers in computing. Besides, some miniature form of recording keeping takes place at Ward “A” the Pharmacy department and the Records department all indicating some readiness to digitalizing patient record.

The health workers who are the primary users of patient records have registered some displeasure with the paper based record system in use at the time of the data collection. The participants expressed optimism on the use of an alternative record keeping to the paper record. They were hopeful the use of the EPR would facilitate health care delivery by helping to circumvent the problems inherent in the paper based record. The general impression from the responses of the participants is their determination to use EPR in health care delivery. Per the findings of the current, the hospital authorities probably need to put in more effort for a successful and sustainable EPR.

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