

Exploring the Motivations That Drive Paper Use in Clinical Practice Post-Electronic Health Record Adoption: A Nursing Perspective

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Abstract : Continued paper use in the clinical area post-Electronic Health Record (EHR) adoption is regularly linked to hardware and software usability challenges. Although paper is used as a workaround to circumvent challenges, including limited availability of a computer, this perspective does not consider the important role paper, such as the nurses' handover sheet, play in practice. The purpose of this study is to confirm the hypothesis that paper use post-EHR adoption continues as paper provides both a cognitive tool (that assists with workflow) and a compensation tool (to circumvent usability challenges). Distinguishing the different motivations for continued paper-use could assist future evaluations of electronic record systems. **Methods:** Qualitative data were collected from three clinical care environments (ICU, general ward and specialist day-care) who used an electronic record for at least 12 months. Data were collected through semi-structured interviews with 22 nurses. Data were transcribed, themes extracted using an inductive bottom-up coding approach and a thematic index constructed. **Findings:** All nurses interviewed continued to use paper post-EHR adoption. While two distinct motivations for paper use post-EHR adoption were confirmed by the data - paper as a cognitive tool and paper as a compensation tool - further finding was that there was an overlap between the two uses. That is, paper used as a compensation tool could also be adapted to function as a cognitive aid due to its nature (easy to access and annotate) or vice versa. Rather than present paper persistence as having two distinctive motivations, it is more useful to describe it as presenting on a continuum with compensation tool and cognitive tool at either pole. Paper as a cognitive tool referred to pages such as nurses' handover sheet. These did not form part of the patient's record, although information could be transcribed from one to the other. Findings suggest that although the patient record was digitised, handover sheets did not fall within this remit. These personal pages continued to be useful post-EHR adoption for capturing personal notes or patient information and so continued to be incorporated into the nurses' work. Comparatively, the paper used as a compensation tool, such as pre-printed care plans which were stored in the patient's record, appears to have been instigated in reaction to usability challenges. In these instances, it is expected that paper use could reduce or cease when the underlying problem is addressed. There is a danger that as paper affords nurses a temporary information platform that is mobile, easy to access and annotate, its use could become embedded in clinical practice. **Conclusion:** Paper presents a utility to nursing, either as a cognitive or compensation tool or combination of both. By fully understanding its utility and nuances, organisations can avoid evaluating all incidences of paper use (post-EHR adoption) as arising from usability challenges. Instead, suitable remedies for paper-persistence can be targeted at the root cause.

Keywords : cognitive tool, compensation tool, electronic record, handover sheet, nurse, paper persistence

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