

Chapter 35

Use of Mobile Applications for Hospital Discharge Letters: Improving Handover at Point of Practice

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ABSTRACT

Handover of patient care is a time of particular risk and it is important that accurate and relevant information is clearly communicated. The hospital discharge letter is an important part of handover. However, the quality of hospital discharge letters is variable and letters frequently omit important information. The Cork Letter-Writing Assessment Scale (CLAS) checklist is an itemized checklist developed to improve the quality of discharge letters. The CLAS checklist, with an inbuilt scoring system, is available as the CLAS mobile application. Mobile applications offer an exciting opportunity for 'point of practice' knowledge acquisition and are widely used by medical students. Content quality is integral to the success of educational mobile applications. In a recent study, the CLAS checklist improved the quality (content, structure and clarity) of discharge letters written by medical students. Though retention of these skills into the work-place and effects on patient safety have yet to be demonstrated, the development of standardized electronic discharge letters allows faster and safer transfer of information between healthcare providers and is a welcome advance. Using Near Field Communication for mobile applications to seamlessly transfer discharge letters between devices is another important feature.

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INTRODUCTION

Handover

Handover is the transfer of patient care from one care-giver to another and is a time of particular risk for medical error. At handover, it is important that accurate, reliable and relevant information is clearly communicated from one caregiver to another. Improperly conducted handovers lead to medical error, delay in diagnosis, life threatening adverse events, patient dissatisfaction, increased health care expenditure and increased length of hospital stay, and other effects that impact on the healthcare system (Forster et al., 2004). The World Health Organization (WHO) lists accurate handovers as one of its 'High 5' Patient Safety initiatives (WHO, 2011). Training of handover skills is an important step in improving patient safety. However, the lack of handover training in undergraduate medical education and the need to address this deficiency have been succinctly elucidated (Gordon & Findley, 2011). Research has identified dissatisfaction amongst junior medical staff as a result of lack of handover policies and training. In Europe, handover training is unstandardized in medical curricula and undermined by the lack of research assessing appropriate educational strategies for handover (Gordon & Findley, 2011; Jeffcott, Evans, Cameron, Chin, & Ibrahim, 2009; Johnson & Barach, 2009; Riesenberger et al., 2009).

Communication errors specifically have been reported to be a contributing factor in up to half of all preventable adverse events in patient care (Forster, Murff, Peterson, Gandhi, & Bates, 2003). Written communication is an intrinsic part of handover and the quality of handover is enhanced by the availability of printed information (Bhabra, Mackeith, Monteiro, & Pothier, 2007). In order to ensure good continuity of care during a patient's transition from hospital care to primary care, good communication between healthcare practitioners is of vital importance in the discharge process. The

doctor taking over the patient's care needs timely access to information about a patient's hospital stay in order to optimize patient care and decrease risk of medical error.

The HANDOVER Project (FP7-HEALTH-F2-2008-223409) was the first large-scale international study that addressed this increasingly important area in medical education research. HANDOVER identified handover training needs and developed innovative handover teaching tools including the HANDOVER Toolbox (Johnson & Barach, 2009; Stoyanov et al., 2012), a learning network (Drachsler et al., 2012) that acts like an online community of practice for medical professionals. The toolbox (www.handovertoolbox.eu) contains standardized ready to use handover tools, training material, and guidelines on training content and course design.

The purpose of this paper is to report the development and subsequent evaluation of one of these handover tools – the CLAS mobile application, an innovative tool designed to improve the quality of hospital discharge letters.

The CLAS mobile application and other HANDOVER toolbox resources are part of a handover training module currently being developed in the multi-lateral EU-funded PATIENT project (www.patient-project.eu). PATIENT aims to standardize handover training in medical schools across Europe by developing an evidence-based handover study module and to provide evidence-based research on the effectiveness of various handover interventions. A pilot training module will initially be implemented and evaluated. The module will use simulation-based teaching and technological tools including the CLAS app, other innovative mobile applications, and tools from the HANDOVER toolbox.

The focus of this paper is on the development of the CLAS mobile application, including the rationale and need for such a tool, the development of the CLAS discharge letter checklist, the development of the CLAS checklist as a mobile application, and the evaluation of the CLAS

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