

Designing and Implementation of Computerized Provider Order Entry Software on Mobile Device in Iran

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Abstract

Background: This study aimed to identify the functional requirements of computerized provider order entry (CPOE) software, design, and implementation of this software on mobile devices in Shiraz Nemazi hospital in Iran.

Methods: This applicable study was conducted using review documentation, interview, and focus group discussions in Shiraz University of Medical Sciences (SUMS), as the medical pole in Iran, during 2013 - 2015. The study sample consisted of physicians (n = 12) and nurses (n = 2) in the largest hospital in south of Iran as well as information technology (IT) experts (n = 5) in SUMS. The CPOE functional requirements were examined in 3 phases. Finally, the functional requirements were distributed in 4 levels and, accordingly, the CPOE was designed and implemented on the users' (nurses and physician) mobile devices.

Results: The CPOE software had 7 main dimensions, namely: 1, data entry; 2, drug interactions management system; 3, warning system; 4, treatment services; 5, ability to write in software; 6, reporting from all sections of the software, and 7, technical capabilities of the software. The nurses and physicians emphasized quick access to the CPOE software, especially installation of the software on the mobile devices, and applicability of the software. Accordingly, the CPOE was designed and implemented on the users' (nurses and physician) mobile devices. The software had some items that had not been mentioned in other studies.

Conclusions: This study was the first specific investigation of the CPOE software design in Iran. Based on the results, this software could be implemented on the mobile devices in hospitals for improvement of health care.

Keywords: Computerized Provider Order Entry System; Mobile Device; Hospital