ADDENDUM to:

Use of a Rapid Assessment Process to Compare Three Mobile Multifunction Devices for Nurses` Rounds

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Abstract

Nurses' workflow is a very complex process. In recognitions of this, multiple technological advances have been made in the shape of mobile devices. Although these advances seem appropriate and are well received by many, it is indispensable to understand the level of usability they have, the effect on nurse's workflow, and user satisfaction. The purpose of this study was to compare 3 mobile devices for nurse's rounds using an innovative methodology known as Rapid Assessment Process (RAP).

We collected data in a simulated clinical environment using structured assessment instruments; interviews, field surveys and direct observation. Analysis was made with an inductive approach, in which the data obtained is labeled and then organized. We were able to identify and compare 5 themes: 1- Efficiency, 2- Portability, 3- General ease/intuitiveness, 4- Security/safety, 5- Nurse-patient relation.

We found that the three mobile devices are well accepted and despite the PDA seems to be the preferred mobile solution, each device should be asses having in consideration the settings and characteristics of where they are going to be implemented.

Keywords: Mobile health, nurses rounds, rapid assessment process, PDA, C5t, Qualitative/ethnographic field study, nursing informatics, clinical informatics, clinical research informatics

Methods

In order to understand nurses and their interaction with mobile devices, we chose a RAP methodology, a qualitative, observational method taken from ethnography and refined by Joan Ash and POET team at Oregon Health and Science University to be used in clinical informatics. We used structured assessment instruments, expert interviews, field surveys and observational data collected in a simulated clinical environment, by a multidisciplinary research team.

We analyzed our data using an inductive approach in which transcribed interview and observation data are labeled and then organized into themes as they emerge.

We studied an "all-in-one"mobile hand-held PC, the "Mobile Clinical Assistant" (or MCA C5t); a barcode reader associated to a Dell latitude notebook over a mobile cart and personal digital assistants (PDA) "Unitech" these devices were chosen upon completion of the literature review and a revision of the mobile device available in the market.

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Data was collected in a simulated clinical environment as subjects completed a series of tasks designed by a key nurse informant to represent the normal workflow of the nurses in Hospital Italiano: a health center that offers attention in over 40 specialties, has an inpatient capacity of 750 beds and a fully implemented web-based system (Italica-Enterprise) that manages clinical records, medical data, diagnostic imaging and drug prescriptions. This electronic health record is permanently available to the hospital's professional staff. Study subjects were a convenient sample of clinical nurses at Hospital Italiano of Buenos Aires that had no prior experience with the use of mobile devices in the clinical environment.

We conducted this study within a patient care simulation laboratory which is structured to represent a 2-bed hospital room with the exact same measures and characteristics as hospital Italiano´s rooms. Within this room, there's full-size mannequin simulator

Results

The data clustered into five themes from which comparison could be made.

1- Efficiency.
2- Portability
3- General ease /intuitiveness
4- Security/safety.
5- Nurse-patient relation

Conclusions

With this study we were able to find out that the 3 mobile devices studied are well accepted. Even though the PDA seemed to be the preferred mobile device, each device should be asses having in consideration the settings and characteristics of where they are going to be implemented.

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