

Chapter XV

Using Pocket PCs for Nurses' Shift Reports and Patient Care

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Abstract

Nurses working in hospitals with paper-based systems often face the challenge of inefficiency in providing quality nursing care. Two areas of inefficiency are shift-to-shift communication among nurses, and access to information related to patient care. An integrated IT system, consisting of Pocket PCs and a desktop PC interfaced to a hospital's mainframe system, was developed. The goal was to use mobile IT to give nurses easier access to patient information. This chapter describes the

development of this system and reports the results of a pilot study: a comparison of time spent in taking and giving shift reports before and after the study and nurses' perceptions of the mobile IT system. Results showed a significant difference in taking shift reports and no significant difference in giving shift reports. Nurses stated that quick and easy access to updated patient information in the Pocket PC was very helpful, especially during mainframe downtime.

Introduction

The quality of the American healthcare delivery system has been problematic. The Institute of Medicine (IOM, 2001) identified six dimensions of quality: safe, effective, patient-centered, timely, efficient, and equitable. However, in hospitals with paper-based delivery systems, nurses often face challenges in meeting these expectations. Two areas of inefficiency are communication among nurses, and accessing information relevant to patient care.

Nurses use shift reports (also called handoffs or handovers) to communicate pertinent patient information to maintain the continuity of safe and effective care. However, the quality of shift reports has been criticized in several areas: missed information, irrelevant information, inaccurate information, inefficiencies, and lack of standardization (Currie, 2002; Sexton, Chan, Elliott, Stuart, Jayasuriya & Crookes, 2004). A better means to improve the quality of shift reports is urgently needed.

Three types of shift reports are commonly used: audiotape reports, face-to-face reports, or walking rounds. Audiotape reports do not require the presence of outgoing nurses and incoming nurses simultaneously. Outgoing nurses give reports by speaking into an audiotape recorder about one hour before the end of the shift. Incoming nurses listen to the audiotape reports at the beginning of the shift. Face-to-face reports occur in a designated room, such as an office or a conference room. Walking rounds occurs at the patient bedside. Face-to-face reports and walking rounds require all outgoing and incoming nurses be present at the same time. Face-to-face reports and walking rounds require more time than audiotape reports.

Audiotape reports have become prevalent since the 1990s. Audiotape reports may save about 15 minutes in each shift because outgoing nurses do not need to wait for incoming nurses to give reports (Mason, 2004). However, incoming nurses may spend about 30 to 60 minutes taking shift reports from the audiotape reports before starting to take care of their assigned patients. The majority of the time is spent on transcribing key information from audiotape reports to their self-designed paper worksheets. Nurses use self-designed paper worksheets to write key patient information (e.g., diagnosis, physical or psychosocial status, treatments, tests, etc.) and to organize patient care activities. Incoming nurses listen to the audiotape re-

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