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Clinicians and Pharmacists Satisfaction with the In-Patient Medication Order Entry System (IPMOE) in a Regional Hospital – Areas that Correlated with Satisfaction

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Introduction

End-user satisfaction directly affects the usage of a computer application. The In-patient Medication Order Entry System (IPMOE) is an important new computer application in the Hospital Authority, and had been implemented in the Princess Margaret Hospital for more than a year. Evaluation of users' attitudes would facilitate its continual enhancement and subsequent developments.

Objectives

To evaluate the satisfaction of clinicians (physicians/nurses) and pharmacists with IPMOE, and its correlates in the Princess Margaret Hospital

Methodology

Based on user satisfaction questionnaires for other contexts, two similar questionnaires, one for clinicians and one for pharmacists, were constructed to evaluate the overall end-user satisfaction, and the satisfaction in specific areas (namely, order entry characteristics, user characteristics, features' usefulness, training and help seeking behaviors), using a seven-point Likert scale. A pilot study of the questionnaires showed good instrument reliability with a Cronbach's Alpha of 0.835 for clinicians (n=42) and 0.822 for pharmacists (n=30) on the items about general feedback. The survey was then conducted in the Departments of Medicine & Geriatrics, Surgery, Orthopedics & Traumatology and Pharmacy. Descriptive statistics of the survey, and the correlation between the overall satisfaction and the satisfaction

in various areas were analyzed.

Result

A total of 195 (39 physicians, 133 nurses and 23 pharmacists) questionnaires were administered. The mean overall user's satisfaction was 4.61. Pharmacists (mean 5.61) were more satisfied than the physicians (4.75, $P=0.002$) and nurses (4.39, $P=0.000$). The satisfaction were similar among the specialties for physician and nurses ($P=0.275$). On the whole, 86% (168) of the subjects reported an overall satisfaction score of four to seven. These subjects' satisfaction correlated most strongly with Efficiency ($r=0.609$). In a descending order of correlation with overall satisfaction, the other areas were Productivity ($r=0.596$), Quality ($r=0.544$), Reliability ($r=0.505$), Error-reduction ($r=0.473$), and Usefulness ($r=0.430$). For subjects with low overall satisfaction score of one to three (27 or 14%), they were discontent on the Productivity ($r=0.666$) and Slowing ($r=0.462$). These correlations are all significant at the level of $P=0.05$. Also, no significant correlation was found between the Usefulness and overall satisfaction ($r=0.100$) among this low rating group.

From these findings, we believed users focused on the features of Efficiency rather than the transformational aspect of IPMOE. This is compatible with experience from other similar initiatives.