

MEASURING NURSES' RESPONSE TO CONFIGURATIONS OF WORK SYSTEM
PARAMETERS
A DATA MINING APPROACH

Shaghayegh Parhizi

Dr. Linsey M. Barker Steege, Dissertation Supervisor

Abstract

Medical error, patient safety and nurses' performance are some of the critical concerns within healthcare systems. Several factors contribute to nurses' performance and patient safety including fatigue, sleepiness and work system parameters. Also, health care researchers and decision makers are interested in developing policies and tools that help decrease nurses' errors and increase their performance.

Thus, there is a need for a promising approach to understanding nurse fatigue and its causes and consequences that is able to capture the dynamic nature of the problem. This study aimed to address this need. In the first step, data were collected from a private hospital and prepared for the study. Next, a data mining technique was applied to uncover the associations among contributing factors that affect performance and patient safety. Finally, a model was developed to measure nurses' responses to different work system parameters. The results of this study could be used to help decision makers to make more precise decisions about nurses' assignment to work schedules and work system design.