Abstract

Drug diversion committed by health care providers is increasing in the United States. Automated dispensing systems (ADSs) are implemented in many hospitals and care facilities, and contain a wealth of information within its database of drug dispensing transaction history. The objective of this paper is to develop a predictive framework for identifying potential drug diverters by analyzing their transaction behavior with data mining algorithms. A 4-day sample of data (4/1/2015 - 4/4/2015) was studied. The results show that Decision Table classifier has higher accuracy than Logistic Regression, Decision Tree, Naïve Bayes, and K-means Clustering, with high sensitivity, precision (NPV), and Receiver Operating Curve (ROC) area, combined with a low false positive rate.

Citation