

## **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**

Vovanese K., X. Shan, M. Khasawneh. "A predictive framework to identify potential diversion by health care providers", Proceedings of the 7th Annual World Conference of the Society for Industrial and Systems Engineering, Binghamton, NY, 2018.