Machine learning to identify attributes that predict patients who leave without being seen in a pediatric emergency department

Take Home Message: Machine learning models can sensitively predict left without being seen patients using administrative data.

Up to 17% of patients leave without being seen (LWBS) by a physician in an ED.

Five machine learning methods were appraised.

The most influential attributes in this model were:
- Triage time
- ED patient load
- Length of stay
- Driving distance
- Age

101,266 patients included
80% TRAINING DATA
20% TESTING DATA

XGBoost model performance:
97% recall
87% sensitivity

QUESTION: Can we create predictive models using machine learning to identify key attributes of patients with LWBS?

Sarty et al. CJEM. Aug 2023
https://doi.org/10.1007/s43678-023-00545-8
Infographic by: S Wilson, MD