Abstract

Unaddressed drug diversion in hospitals is one the largest sources of medication related illegal activity in the U.S., directly linking to the current opioid epidemic. There is a misconception that opioids originate from some shady, easy to catch, back-room deal, when in fact, the supply can just as likely come from someone who on the surface is a "perfect" worker – someone who has all their paperwork done properly and would give no indication that illicit activity would take place on their behalf. Aside from that point, diversion puts patient safety at risk – controlled substances diverted from patients means can have consequences such as higher pain scores, increased cost, longer hospital stays, etc. By addressing diversion on a macro-level, healthcare corporations and teams will be able to maintain a higher standard of care for their patients.

The purpose of this project is to develop a tool for quantifying and improving upon the existing Drug Diversion artificial intelligence program, and to use the data it gathers to find specific diversion related trends in an in-patient setting. This AI flags certain potential drug diverting behavior signals (such as administration delay, dispense amount, waste delay, etc.), based on criteria set by the partner company and the end user, such as informaticist pharmacist. Then that end user, such as a pharmacist or technician is able to review this flagged behavior to determine if the actions taken were appropriate - if diversion had truly occurred, or otherwise. The current problem with the A.I. is that certain signals either flag too much, too little, or not at all – resulting in data noise, and subsequently reduced use and trust by the end userbase.