

Impact Project Abstract

Introduction/Background: A large majority of hospitals worldwide use electronic health records and other technologies to facilitate patient care. Downtime events are frequent and unavoidable due to the nature of these records being electronic. During downtime events, vital EHR functions and other hospital technologies may have limited to no functionality. With these vital technologies and software having limited accessibility during downtimes, patient care may be suboptimal from a medication usage standpoint. The goal of this project is to see how medication usage rates were affected by a long-term outage at Hospital Sisters Health System (HSHS), a health system comprising of 15 hospitals in the Midwest.

Methods: Data was gathered from Pyxis machines, C-II safes, and Medkeeper across all HSHS hospitals. This data was gathered over a 15-day downtime period. This data was then compared to an arbitrary 15-day uptime period. The data was analyzed to see how medication usage rates changed between the uptime and downtime periods.

Results: Medication usage rates from Pyxis machines decreased by 26.76% during the downtime period. The top 10 most commonly dispensed medications stayed mostly the same between the two time periods. Batch compounds were found to have decreased by 26.56%. Patient specific compounds and C-II safe vends decreased by 81.73% and 90.42% respectively. The rate of reported adverse events at St. Elizabeth's was found to surprisingly decrease during the downtime from 21 to 14.

Conclusion: Medication usage from Pyxis machines, C-II safes, and compounding logs were found to have decreased in number during this extended period of downtime at HSHS. The hospital staff needed to adapt to using technologies and software with limited or no functionality in order to continue providing safe and efficient patient care. Staff members may have been too

occupied with other matters to report documentation of adverse events. The loss of certain functionalities likely led to the decrease in medication usage. The staff reported that they would have liked to have more internet hotspots and more computers with downtime procedures within the computers. This unfortunate event serves as a reminder of the importance of being prepared for unplanned periods of downtime, because there is no guarantee how often they will occur, and how long they will last.