BACKGROUND

- A large majority of hospitals worldwide use electronic health records and other technologies to facilitate patient care.
- 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.
- HSHS, a health system experienced a cyber-event in August 2023 which led to a downtime period from 08/27/2023 to 09/12/2023.

OBJECTIVE

- To see how patient care is impacted during an extended downtime period from a medication usage perspective.

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 of 08/23/2023 to 09/11/2023. This data was then compared to an arbitrary 15-day uptime period of 08/27/2023 to 08/21/2023.
- The data was analyzed to see how medication usage rates changed between the uptime and downtime periods.

RESULTS

- From C-II safe vends to Pyxis medication vends/refills to compounding, everything decreased in electronic activity.
- The rate of reported adverse events at St. Elizabeth’s was found to surprisingly decrease during the downtime from 21 to 14.
- The top 5 the largest medication usage decreases were seen in medication classes that may not be as crucial in patient care.
- A decrease in medication usage was seen in all 15 HSHS hospitals.

DISCUSSION

- Medication usage rates declined in all areas of investigation as originally hypothesized.
- Things that likely contributed to this decrease in medication usage were loss of order sets, transition to paper medication ordering, loss of communication methods, and chaotic workflow environment.
- Adverse event data was not able to be gathered from other HSHS facilities, only St. Elizabeth’s.
- Cloud-based features were completely unavailable at certain facilities.
- Decrease in reported adverse events was likely due to stressful work environment as well as dispensing less medications.

CONCLUSION

- Downtime events can have a strongly negative impact on medication usage rates.
- 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.
- The loss of many different functionalities likely had a combined effect which led to the decrease in medication usage.
- The pharmacy staff reported that having downtime procedures continue providing safe and efficient patient care.

REFERENCES