Background: Chemotherapy is used to treat various types of cancer. Many of these medications can cause nausea and vomiting, referred to as Chemotherapy-Induced Nausea and Vomiting (CINV), which is one of the patient's highest concerns associated with chemotherapy.[1] These patients should receive delayed antiemetic medication, so they do not experience CINV throughout treatment. The National Comprehensive Cancer Network (NCCN) stratifies chemotherapy regimens based on emetic-risk and provides recommendations for CINV prevention for each risk group. The Mercy Hospital Springfield protocol is in accordance with these recommendations. This study is designed to determine adherence to the protocol.

Methods: Data ranging from July 1, 2018 through June 30, 2019 was gathered for patients admitted to Mercy Hospital Springfield receiving chemotherapy. Patients were included if they meet the following criteria: adult males and females (> 18 years old) admitted who were diagnosed with any form of cancer and received moderate to high emetic risk chemotherapy as defined by NCCN. Patients diagnosed with any form of cancer, younger than 18 years of age, and/or received minimal to low emetic risk chemotherapy were excluded. Using these criteria, a patient list was generated, and data collection was complete via retrospective chart review. Data collection included: the emetic risk of the patient's chemotherapy regimen, delayed antiemetic therapy on order, rescue antiemetic therapy on order, gender, age, and if the patient has history of anxiety. All data was analyzed using descriptive statistics to determine adherence to the current antiemetic protocol.

Results: A total of 84 patients charts from July 1, 2018 to June 30, 2019 were reviewed with 83 of these meeting inclusion criteria. Of those, 47 (57%) were female, 18 (22%) were younger than 50 years of age, and 15 (18%) were previously diagnosed with anxiety disorder. There were only 44 (53%) patients who received delayed antiemetic therapy in accordance to NCCN guidelines. The most common medication omitted from treatment plans that did not follow NCCN guidelines was dexamethasone on days 2 through 4 of highly emetogenic chemotherapy. Forty-three percent of patients who did not receive antiemetic therapy for delayed N/V in accordance with NCCN guidelines required rescue antiemetics. While only 22% of patients who did receive antiemetic therapy for delayed N/V in accordance with NCCN guidelines required rescue antiemetics. The most common rescue antiemetic used throughout the study period was prochlorperazine (31%).

Conclusion: This study found that Mercy Hospital Springfield is only following NCCN recommended CINV guidelines 53% of the time. Possible factors which may have contributed to the lack of adherence may include: Mercy protocols are designed for treatment within outpatient facilities, patient specific factors (drug interactions, uncontrolled hyperglycemia, etc.), availability of differing guidelines (ASCO and MASCC), and variability in emetogenicity of chemotherapy agents based upon dose. In addition, the risk factors for CINV did not have a significant impact on determining if the patients would require rescue therapy. Instead, the majority of the patients requiring rescue therapy did not receive NCCN recommendations. This suggests that if NCCN guidelines are followed more closely, there would likely be a decrease in the number of patients requiring rescue antiemetics. Efforts to increase the number of patients treated in accordance to NCCN guidelines include a gap analysis on dexamethasone to determine why it was the most common antiemetic that was not given in accordance to NCCN guidelines. Additional steps to correct this process may include education of nursing staff and revision of the standard pre-medications for moderate to high emetic risk treatment plans.