

# Real-World Antiemetic Utilization in Patients Undergoing Carboplatin Chemotherapy

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# Background

- More than 70% of patients receiving chemotherapy will experience chemotherapy-induced nausea and vomiting (CINV)<sup>1</sup>
- Chemotherapeutic regimens are classified as:

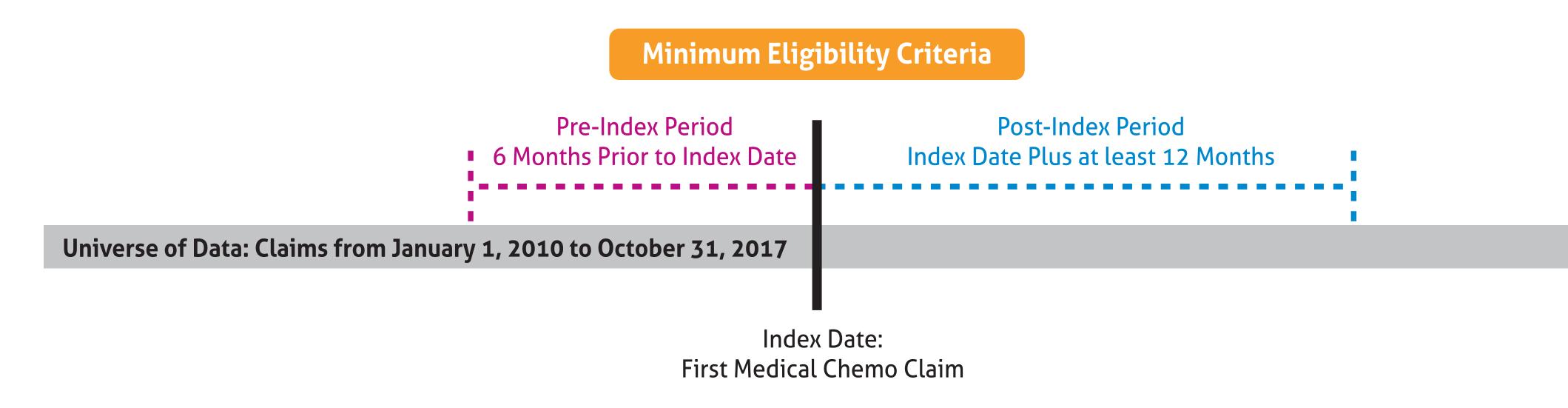
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- Highly emetogenic
- Moderately emetogenic
- Low potential
- o Minimal risk for emesis
- The National Comprehensive Cancer Network (NCCN) has classified carboplatin emetogenicity according to the AUC (target area under the concentration versus time curve) with a carboplatin AUC ≥4 classified as highly emetogenic and carboplatin AUC <4 as moderately emetogenic – but highly emetogenic in certain patients²
- This study assessed use of antiemetic agents in carboplatin-based regimens

# Methods

- This study consisted of a retrospective analysis of administrative claims from multiple commercial health plans
- Claims from January 1, 2010 through October 31, 2017 were analyzed (Figure 1)
- The index date for each patient was the first medical claim of the chemotherapeutic regimen of interest (Figure 1)
- Included patients:
- o Had at least one (1) medical claim for the selected chemotherapeutic regimen
- Were eligible for both medical and pharmacy benefits for at least six (6) months prior to and 12 months post-index date
- CINV-related hospitalizations and emergency department (ED) cost and utilization were assessed for patients treated with selected regimens

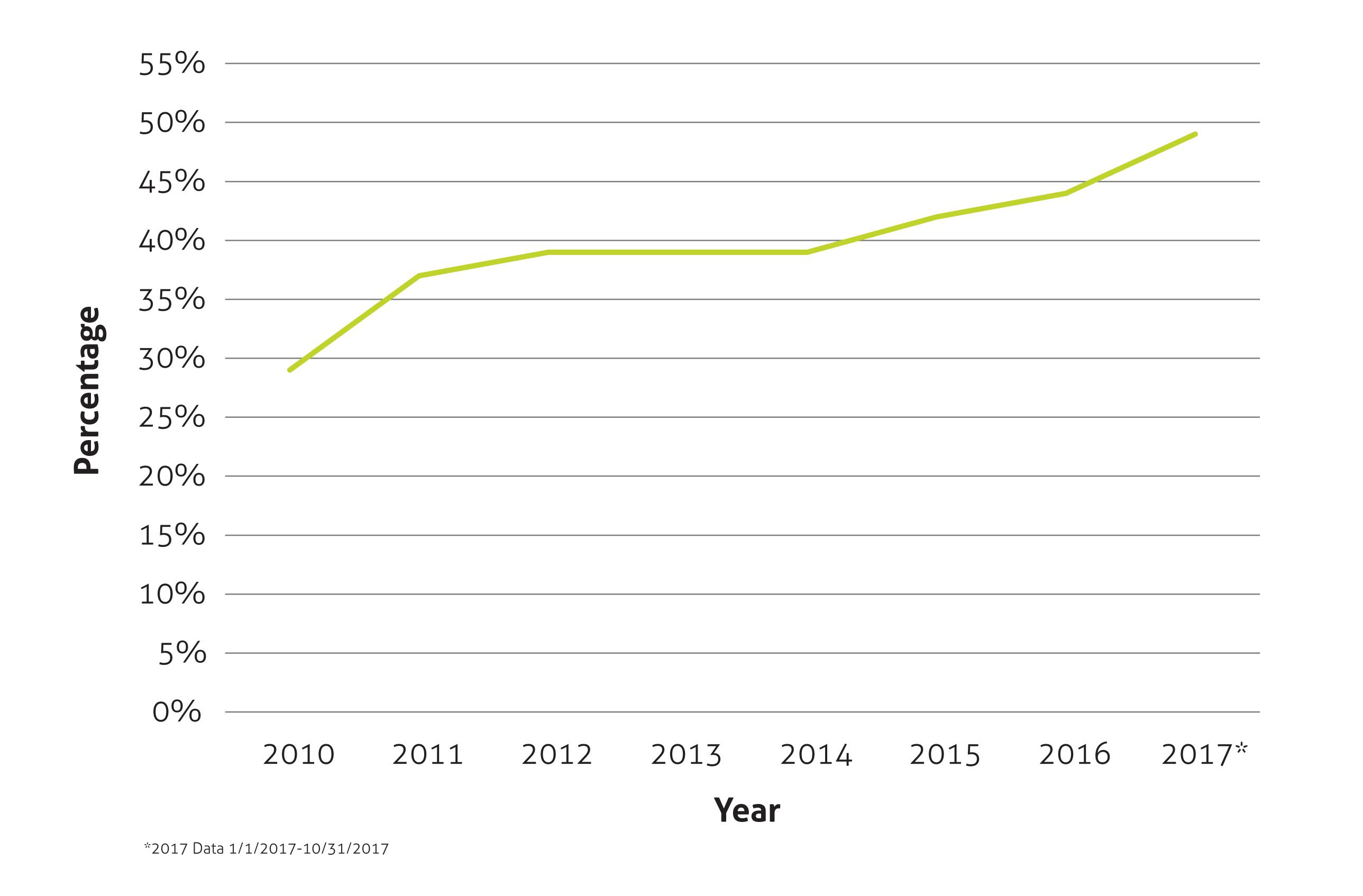
## Figure 1. Study Period Timeline



# Results

- In total, 4,430 mostly female (74%) patients met criteria for treatment with a selected index regimen
- Between 2010 and 2017, the following trends were noted in the study population:
- o Adherence to NCCN-recommended 3 drug CINV prophylaxis (triplet therapy) ranged from about 23% to 35% (Figure 2)
- 4.5% of examined chemotherapy cycles had an associated CINV-related emergency department (ED) visit with an average cost of \$5,654 per visit (Table 1)
- o 0.26% of examined chemotherapy cycles had an associated CINV-related inpatient admission with an average cost of \$14,488 per admission (Table 1)

#### Figure 2. Adherence To Triple Therapy, Selected Regimens for CINV Prevention By Year – Commercial



#### Table 1. Acute CINV-Related Costs

αAC=cyclophosphamide and doxorubicin combination

Line of Business	All	ACα	Carboplatin	Cisplatin	Oxaliplatin
Overall					
Commercial Emergency Department Cost	5,654 (11,359) [2,080]	2,680 (2,197) [2,236]	594	1,566	14,033 (20,492) [3,943]
Commercial Inpatient Cost	14,488 (16,931) [9,291]	15,283 (18,264) [10,519]	9,060 (4,431) [7,477]	40,393 (37,417) [20,011]	13,076 (14,266) [12,021]

Where only a single value is represented, there was only a single occurrence of that event Values represented as mean (standard deviation) and [median]

## Conclusion

- Guidelines recommend use of up to three agents in the prevention of chemotherapy-induced nausea and vomiting
- Use of a triplet therapy for CINV prophylaxis in carboplatin-based highly emetogenic regimens has increased over time in the plans analyzed and may offer and opportunity to reduce rates of CINV-related hospitalizations and ED visits, as well as associated costs

# Disclosures

This research was funded by TESARO, Inc.

## Resources

- 1. Rogers, M.P., & Blackburn, L. Use of neurokinin-1 receptor antagonists in patients receiving moderately or highly emetogenic chemotherapy. Clinical Journal of Oncology Nursing. 2010;500–04
- 2. NCCN Guidelines for Antiemesis V.1.2017 https://www.nccn.org/professionals/physician\_gls/default.aspx