

Current National Treatment Trends for Gastric Adenocarcinoma in the United States

Kelly R. Bates, BA¹; Norah N. Zaza^{1,2}, MD; Dominic J. Vitello, MD¹; Lauren M. Janczewski, MD, MS¹; Gladys Rodriguez, MD, MS³; David J. Bentrem, MD, MS^{1,2}

¹Department of Surgery, Northwestern University Feinberg School of Medicine, ²Department of Surgery, Jesse Brown Veterans Administration Medical Center, Chicago, Illinois ³Department of Hematology and Medical Oncology, Northwestern University Feinberg School of Medicine

Background

The treatment of gastric adenocarcinoma (GA) continues to evolve. While neoadjuvant chemotherapy (NAC) has demonstrated emerging benefit, the precise, optimal treatment regimen and sequence remain to be firmly established.

Research Objectives

This study aimed to assess how non-metastatic GA treatment has evolved over time, from 2006-2020, and to identify predictors of neoadjuvant and adjuvant therapy.

Methods

The National Cancer Database was analyzed for patients with stage IB-IIIC GA between 2006 and 2020. 25,897 patients were included in the analysis. Patients were compared between the mutually exclusive treatment groups of neoadjuvant chemotherapy (NAC), neoadjuvant chemoradiotherapy (NCRT), adjuvant chemotherapy, adjuvant chemoradiotherapy (CRT) and surgery only. The primary endpoint was receipt of any neoadjuvant therapy (NAC or NCRT). By year of diagnosis, groups were analyzed using the Cochran-Armitage test for trend. Patients were 1-to-1 propensity score matched for receiving any neoadjuvant therapy. Multivariable logistic regression was used to identify predictors of receipt of any neoadjuvant therapy and receipt of any adjuvant therapy.

Figure 1. Treatment Sequence Trends by Year

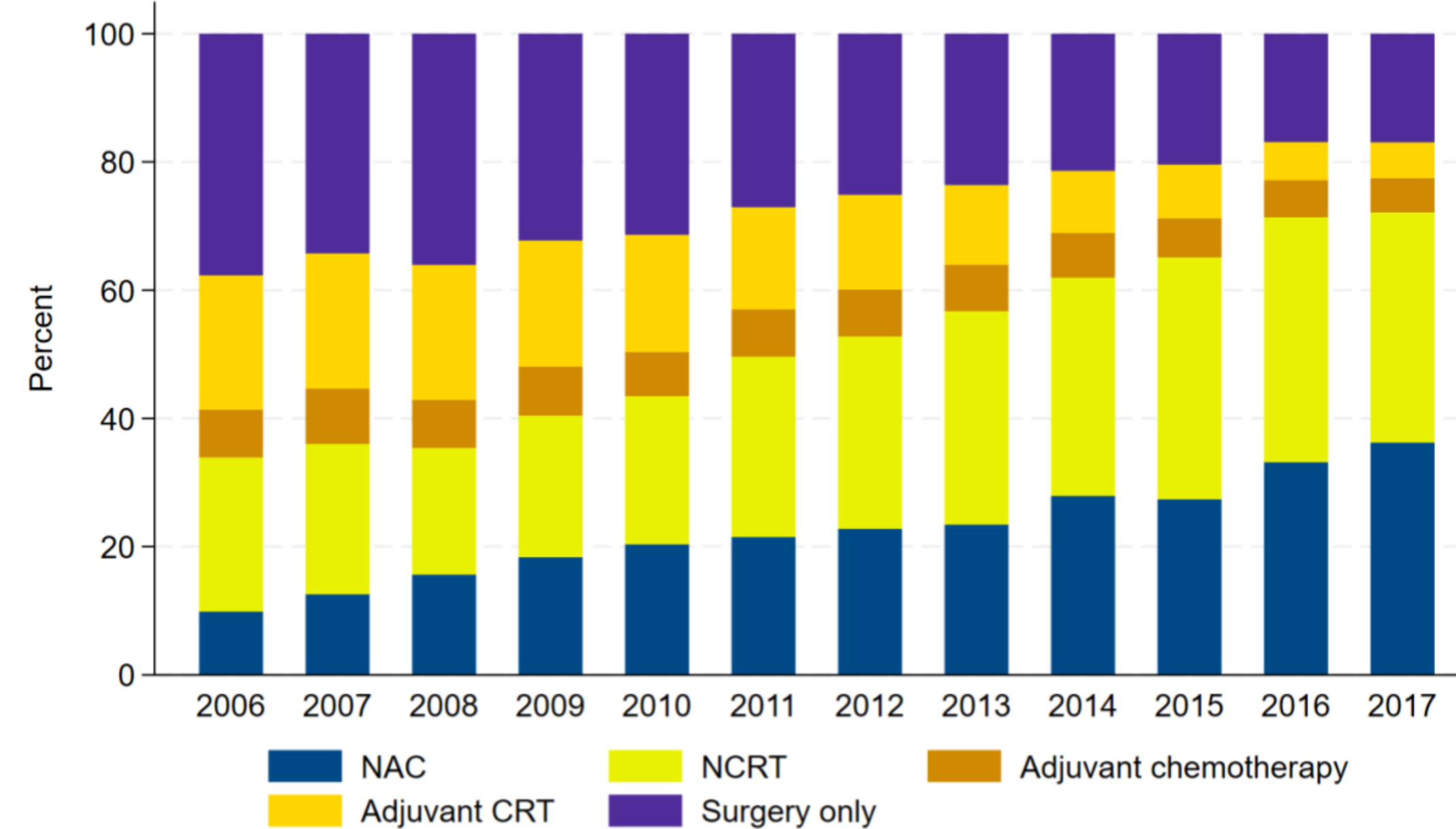
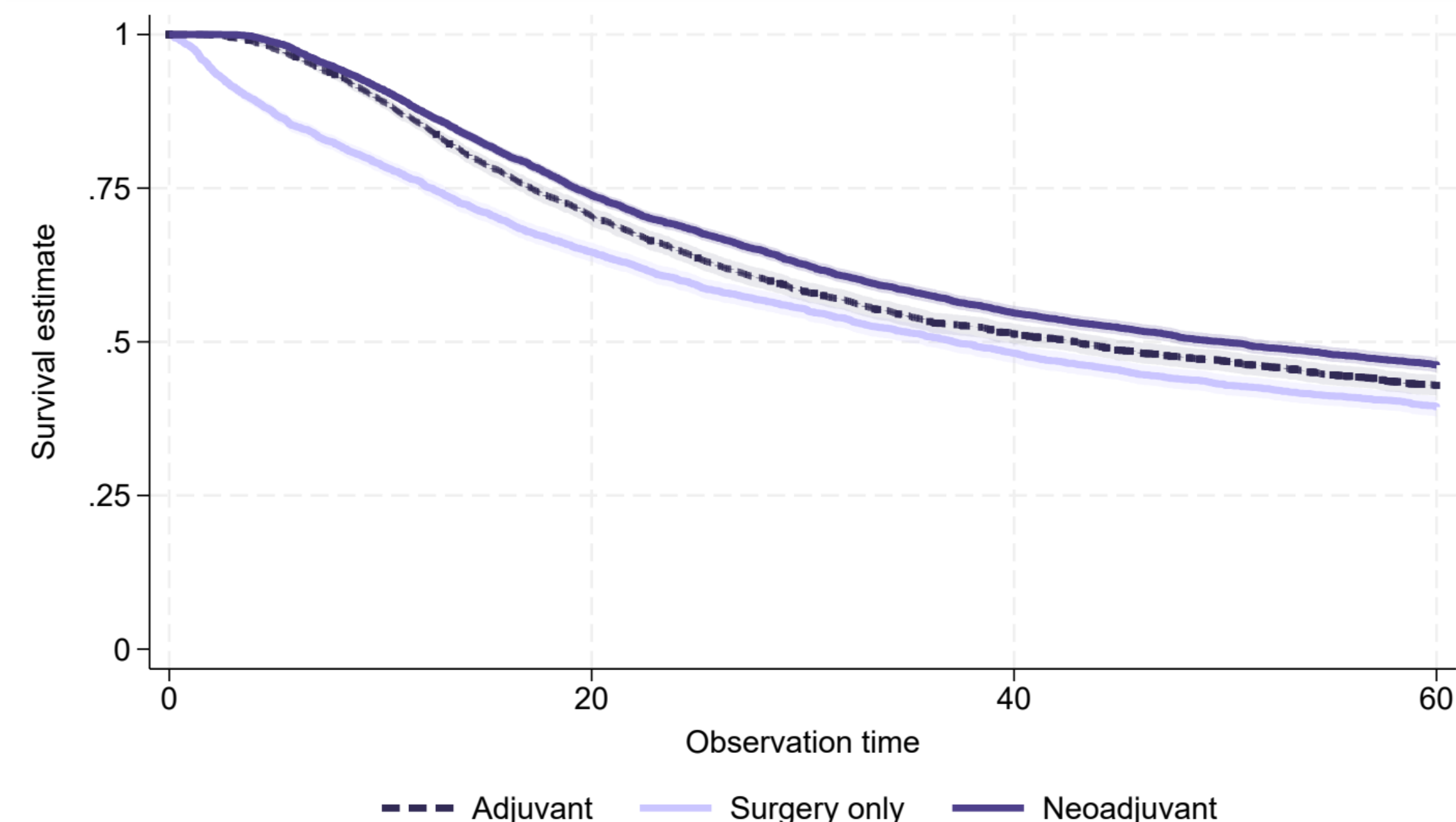


Figure 2. Kaplan-Meier Survival Curve Estimates



Results

- Patients had a mean age of 65, were predominantly male (70.46%), white (67.8%), insured by Medicare (48.1%), in the highest income quartile (37.4%), and had tumors in the cardia (50.2%).
- Patients were treated with NAC (24.2%), NCRT (30.4%), adjuvant chemotherapy (6.9%), adjuvant CRT (13.2%), and surgery only (25.2%).
- Compared to 2006-2011, patients diagnosed between 2012-2017 experienced the greatest increases in NAC (17.7% vs. 28.5%; $p < 0.001$) and NCRT (23.7% vs. 34.9%; $p < 0.001$).
- OS was longer for patients who received any neoadjuvant therapy (48.1 vs. 38.0 months; $p < 0.001$).
- Patients who were Black, in the lowest income quartile, or treated at lower volume facilities were less likely to receive neoadjuvant therapy ($p < 0.001$).
- Treatment at lower volume facilities and non-cardia tumor location were predictors of receiving only adjuvant therapy ($p < 0.001$).

Conclusions

- There has been significant acceleration in the use of NAC and NCRT for GA with a corresponding decrease in the use of adjuvant therapy.
- Patients with a lower socioeconomic status or non-cardia tumor location, along with patients treated at sites with lower case volumes, were less likely to receive neoadjuvant therapy.