Treatment Patterns in Advanced Gastric Cancer Across Racial and Ethnic Groups in the Immunotherapy Era: A Retrospective Claims Data Analysis in the United States

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CONCLUSIONS

- Utilization of PD-1 inhibitors is limited, with approximately one-third of patients receiving immunotherapy in the 1L setting. This underuse highlights an opportunity for increased uptake of novel therapeutic approaches as additional immunotherapy treatments are approved
- No significant differences in the utilization of PD-1 inhibitors by race were observed, suggesting equitable access to effective treatments among treated populations
- Effective 1L therapy is imperative to promote positive patient outcomes, as a substantial proportion of patients were unable to receive 2L potentially due to clinical deterioration or death

INTRODUCTION

- Globally, gastric cancer (GC) is the fifth most common cancer, with the United States having the sixth highest incidence rate[1]
- Immune checkpoint inhibitors, including programmed death protein 1 (PD-1) inhibitors, have been FDA-approved since 2021 as first-line (1L) GC treatment and are now established as 1L therapy for advanced GC[2-4]
- Limited prior real-world studies have reported treatment patterns among GC patients and across racial/ethnic groups since the introduction of anti-PD-1 therapies
- The objective of this study was to assess treatment patterns and the adoption of immunotherapy across racial/ethnic groups in patients with 1L GC using administrative claims data in the United States

METHODS

- This retrospective cohort study was conducted using Symphony Integrated Dataverse (IDV)® claims and a study period from April 1, 2020, to May 31, 2025
- The index period was defined as April 1, 2021, to February 28, 2025, and the date of 1L initiation during the index period was defined as the index date
- The 12 months preceding the index date was defined as the pre-index period; the 3 months following the index date was defined as the post-index date
- In the pre-index period, continuous enrollment was defined as at least one instance of medical or pharmacy claims activity in each of the four quarters preceding the index date. In the post-index period, at least one medical or pharmacy claim was required in each of the two quarters following the index date
- Adult GC patients who initiated 1L treatment were included in the study. Patient selection criteria are outlined in **Table 1**

Table 1. Patient Selection Criteria

Inclusion Criteria	Exclusion Criteria
• Presence of ≥2 claims for GC (ICD-10: C16.X) on different days during the study period • Initiation of 1L treatment during the index period • Age ≥18 years on index date • Continuous enrollment during 12-month pre-index period and 3-month post-index period	• Enrollment in a clinical trial during the study period • Presence of ≥1 claims for other primary cancer diagnoses (not including indolent cancers)

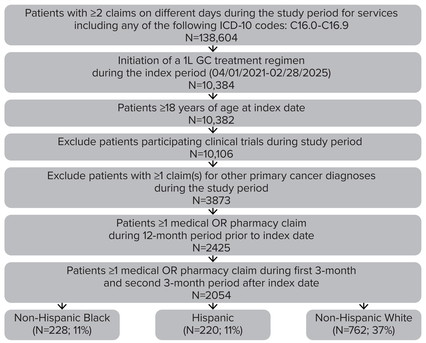
Abbreviations: 1L, first line; GC, gastric cancer.

- Patients included were stratified into sub-cohorts according to reported race/ethnicity and classified as either non-Hispanic Black (NHB), Hispanic, non-Hispanic White (NHW), Other, or Unknown
- Descriptive statistics were reported for baseline characteristics, 1L treatment distribution, duration of therapy (DoT), and treatment sequencing from 1L to second-line (2L) for all patients and racial/ethnic sub-cohorts
  - Line of therapy information is not explicitly captured in Symphony claims data, and was defined using an algorithm based on treatment regimens
- Patients were considered discontinued if they initiated a subsequent line of therapy, or had a >60 day gap in medication supply; otherwise, the survival analysis censored patients when they were lost to follow-up due to the end of study period or continuous enrollment
- The Kaplan-Meier method was used to estimate DoT

RESULTS

- A total of 2054 patients with advanced metastatic GC were included; among them, 228 (11.1%) were NHB, 220 (10.7%) were Hispanic, and 762 (37.1%) were NHW (**Figure 1**)

Figure 1. Patient Selection



Note: N=91 (4.4%) patients had a race classified as "Other"; N=753 (36.7%) patients had a race classification that was unknown or not reported.
Abbreviations: 1L, first line; GC, gastric cancer.

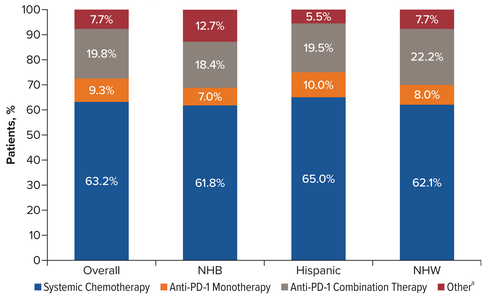
Table 2. Demographics/Clinical Characteristics During the Baseline Period

	1L Cohort			
Variable	Overall (N=2054)	NHB (n=228)	Hispanic (n=220)	NHW (n=762)
Sex, n (%)				
Male	1172 (57.1)	115 (50.4)	123 (55.9)	462 (60.6)
Female	882 (42.9)	113 (49.6)	97 (44.1)	300 (39.4)
Age (at index)				
Mean (SD)	66.7 (11.1)	67.1 (10.1)	66.4 (10.5)	68.3 (9.9)
Median	69	69	68	71
Payer type, n (%)				
Medicaid	120 (5.8)	10 (4.4)	14 (6.4)	17 (2.2)
Medicare	594 (28.9)	73 (32.0)	46 (20.9)	258 (33.9)
Commercial	1290 (62.8)	144 (63.2)	153 (69.5)	465 (61.0)
Self	4 (0.2)	0 (0.0)	0 (0.0)	1 (0.1)
Other	6 (0.3)	0 (0.0)	0 (0.0)	6 (0.8)
Unknown	40 (1.9)	1 (0.4)	7 (3.2)	15 (2.0)
Region,[a] n (%)				
Northeast	456 (22.2)	39 (17.1)	47 (21.4)	183 (24.0)
Midwest	336 (16.4)	41 (18.0)	16 (7.3)	163 (21.4)
South	714 (34.8)	139 (61.0)	85 (38.6)	288 (37.8)
West	514 (25.0)	8 (3.5)	71 (32.3)	124 (16.3)
Index year n (%)				
2021	393 (19.1)	38 (16.7)	49 (22.3)	142 (18.6)
2022	506 (24.6)	65 (28.5)	66 (30.0)	188 (24.7)
2023	559 (27.2)	56 (24.6)	57 (25.9)	211 (27.7)
2024	504 (24.5)	64 (28.1)	36 (16.4)	187 (24.5)
2025	92 (4.5)	5 (2.2)	12 (5.5)	34 (4.5)
Charlson Comorbidity Index				
Mean (SD)	6.1 (3.5)	6.4 (3.4)	6.5 (3.4)	6.0 (3.6)

Note: N=91 (4.4%) patients had a race classified as "Other"; N=753 (36.7%) patients had a race classification that was unknown or not reported.
[a]N=34 (1.7%) patients had unknown or other region among the overall patients.
Abbreviations: 1L, first line; NHB, non-Hispanic Black; NHW, non-Hispanic White; SD, standard deviation.

- More than half (57.1%) of the patients were male with a mean age of 66.7 years; a majority (62.8%) of the patients were commercially insured (**Table 2**)
- Patients had a mean Charlson Comorbidity Index (CCI) score at index of 6.1 (**Table 2**)
  - The most prevalent comorbidities at baseline were cardiovascular disease (64.8%), hypertension (57.6%), and anemia (42.5%)
- Hispanic and NHB patients were slightly younger compared to NHW patients (median age at 1L: 68 and 69 vs 71) and had a higher CCI score (mean: 6.5 and 6.4 vs 6.0; **Table 2**)

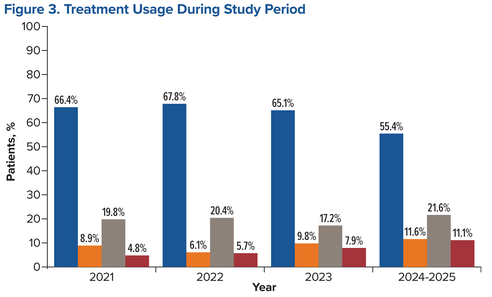
Figure 2. Treatment Regimen Distribution in 1L



[a]Other regimens include BRAF, NTRK, and trastuzumab-based regimens.
Abbreviations: 1L, first line; NHB, non-Hispanic Black; NHW, non-Hispanic White; PD-1, programmed death protein 1.

- Systemic chemotherapy only was utilized by 63% of 1L-treated patients; 29% of patients utilized anti-PD-1 therapies (**Figure 2**)
  - Anti-PD-1 combination therapy was more prevalent at 1L initiation compared to monotherapy (19.8% vs 9.3%)
- Anti-PD-1 use was highest among NHW patients (30.2%), followed by Hispanic (29.5%) and NHB (25.4%) patients (**Figure 2**)
  - Anti-PD-1 combination therapy use was highest among NHW patients (22.2%) while monotherapy use was highest in Hispanic patients (10.0%)

Figure 3. Treatment Usage During Study Period



Note: Data through February 28, 2025, was combined with 2024 data.
[a]Other regimens include BRAF, NTRK, and trastuzumab-based regimens.
Abbreviation: PD-1, programmed death protein 1.

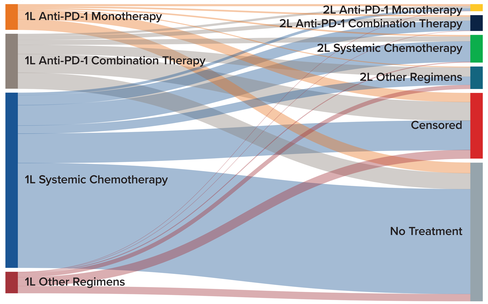
- The utilization rate of 1L anti-PD-1 treatment increased marginally during the study period from 29% of treated patients in 2021 to 33% from 2024 to 2025 (**Figure 3**)
- The mean follow-up time was the longest among Hispanic patients (549 days) and the shortest among NHW patients (507 days; **Table 3**)
- The median 1L DoT was 4.3 months (129 days) among all patients and varied slightly across racial groups (**Table 3**)

Table 3. Duration of 1L Treatment

	Overall (N=2054)	NHB (n=228)	Hispanic (n=220)	NHW (n=762)
Follow-up, days Mean (SD)	516.7 (367.4)	537.2 (377.7)	549.3 (388.3)	506.5 (357.4)
DoT, days Median (95% CI)	129.0 (120.0-141.0)	134.0 (114.0-165.0)	130.0 (98.0-160.0)	125.0 (106.0-146.0)

Abbreviations: 1L, first line; CI, confidence interval; DoT, duration of therapy; NHB, non-Hispanic Black; NHW, non-Hispanic White; SD, standard deviation.

Figure 4. Class-level Sankey Diagram



Abbreviations: 1L, first line; 2L, second line; PD-1, programmed death protein 1.

- The majority of patients (74%) did not have an observed 2L treatment (**Figure 4**)
- Conversely, among patients who were treated with chemotherapy in 1L, few of them (5%) switched to anti-PD-1 therapies in 2L (**Figure 4**)

LIMITATIONS

- This analysis was based on retrospective real-world data, which may be subject to coding errors and incomplete or miscategorized capture of clinical information
- The Symphony IDV database lacks detailed clinical variables such as death/progression (time to next treatment or survival outcomes were not summarized due to data limitation), disease stage at diagnosis, tumor biomarkers (eg, PD-L1 expression), and performance status
- Treatment intent and reasons for therapy selection or discontinuation could not be determined
- Results may not be generalizable to populations outside the dataset or to uninsured patients

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DISCLOSURES

ACL: reports grants or contracts from AbbVie and Apollo Therapeutics; received consulting fees from BeOne Medicines; received payment or honoraria from BeOne Medicines and Ipsen; received payment for expert testimony from BeOne Medicines; and participated on a data safety monitoring board or advisory board as a DSMC member for Revolution Medicines.

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