

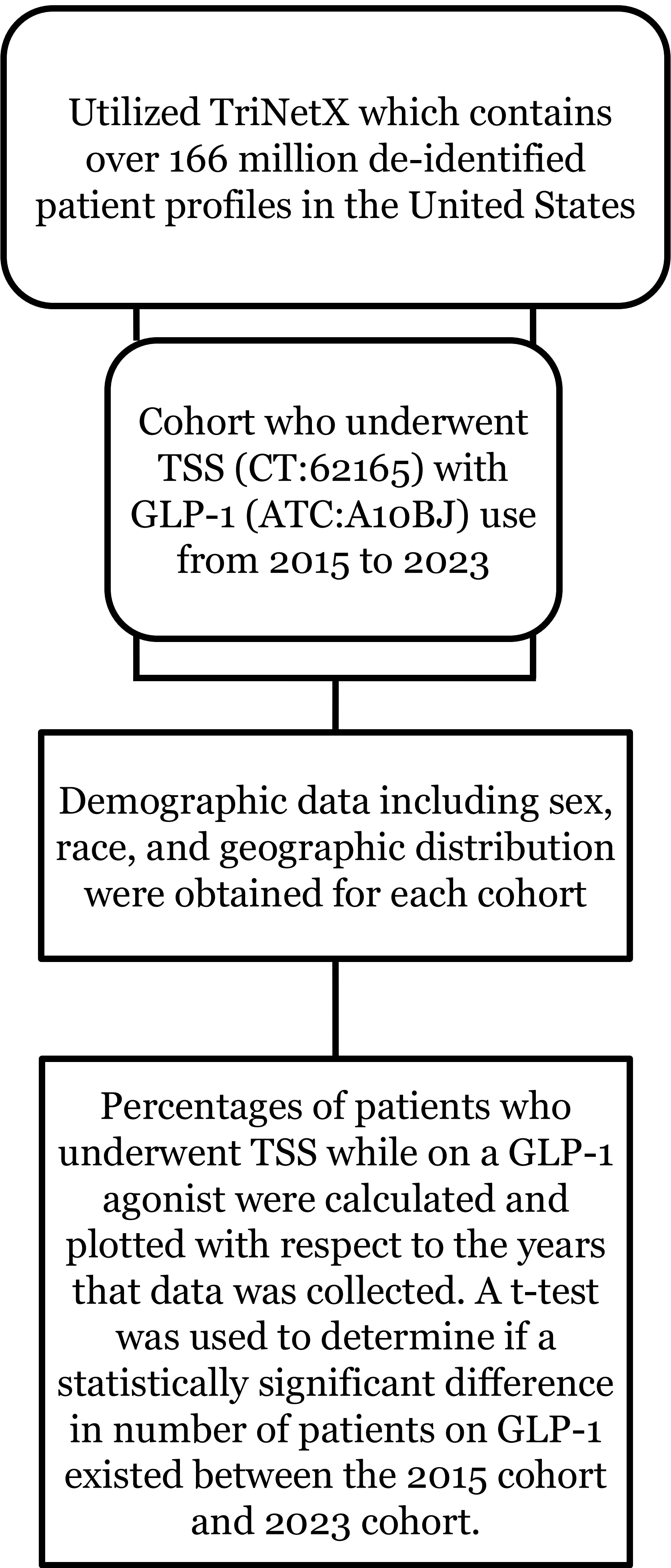
Analysis of Glucagon-Like Peptide Agonist Use in Patients Undergoing Transsphenoidal Surgery for Pituitary Adenoma Over Time

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Introduction

Since the FDA approved Wegovy and Ozempic for weight loss in June 2021, the national utilization of glucagon-like peptide-1 (GLP-1) receptor agonists has surged (1). To better understand this trend, we analyzed GLP-1 receptor agonist use in patients undergoing transsphenoidal surgery (TSS) for pituitary adenoma from 2015 onward, assessing how utilization has evolved over time. Our investigation focuses on identifying shifts in adoption patterns, particularly in the wake of their approval for weight management.

Methods



Sources

1. U.S. Food and Drug Administration. FDA approves new drug treatment for chronic weight management, first since 2014. Published June 4, 2021. Accessed January 27, 2025. Available at: <https://www.fda.gov/news-events/press-announcements/fda-approves-new-drug-treatment-chronic-weight-management-first-2014>.

2. Law MR, Heard D, Paquette E, Persaud N, Morgan SG. The impact of the COVID-19 pandemic on prescription drug use: a national cross-sectional study. *BMJ Open*. 2023;13(1):e070031. doi:10.1136/bmjopen-2022-070031

Results

We identified a total of 654 patients from 2015-2023 with TSS who were on GLP-1 agonists. Of these patients, 64.8% were female, 32.5% were male, 62.2% were white, 19% were African American, and 2.3% were Asian (Table 1).

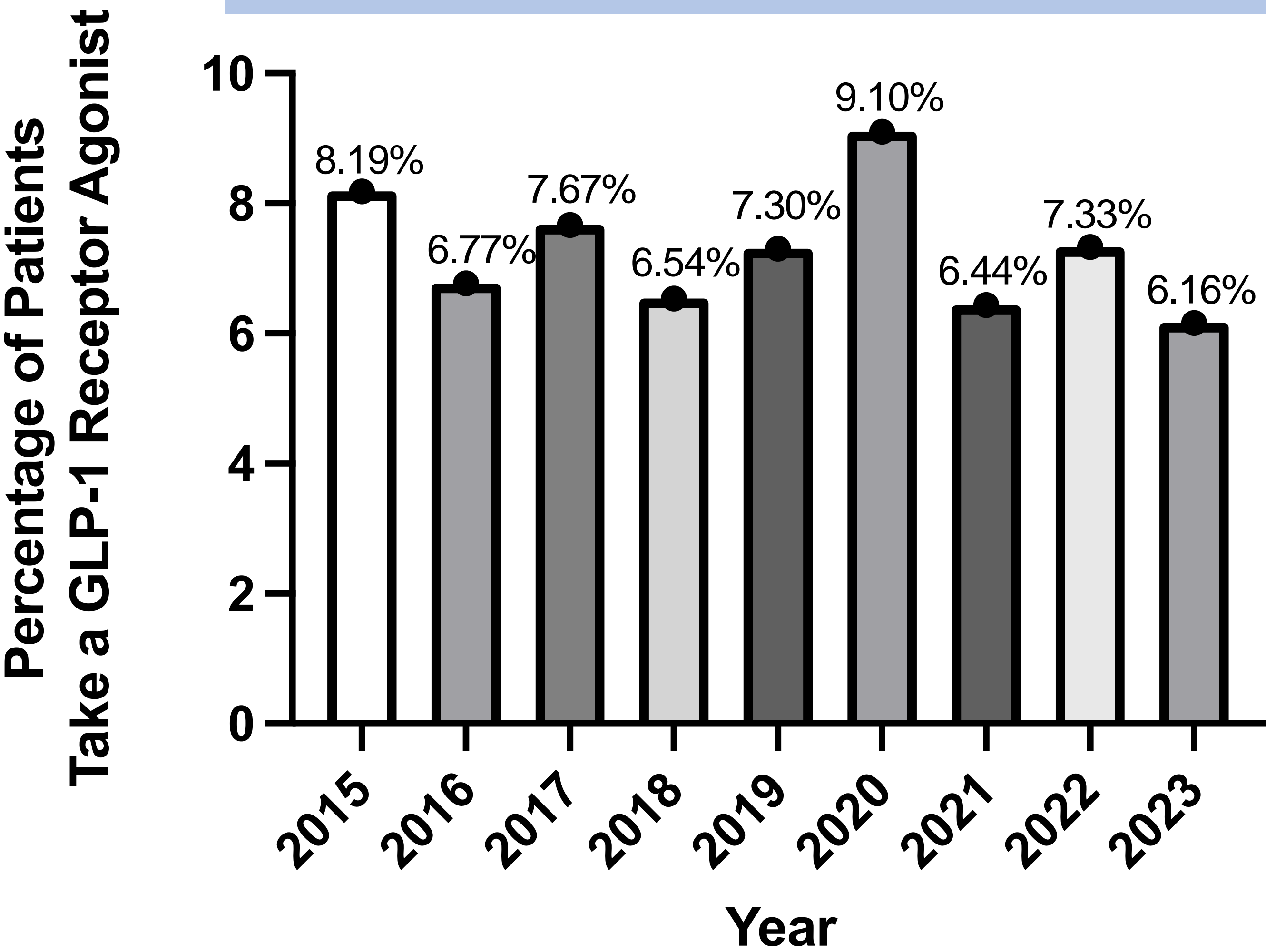
The geographic distribution of patients consisted of 49% residing in the South, 24% in the Northeast, 19% in the Midwest, and 8% in the West (Table 1).

The total number of patients who underwent TSS in TriNetX increased from 464 patients in 2015 to 1,087 patients in 2023. However, the percentage of patients on GLP-1 agonists decreased overall from 2015 (8.19%) to 2023 (6.16%), though this was not statistically significant ($p=0.07$). The peak percentage of use was 9.10% in 2020 (Figure 2).

Table 1. Demographical information of Transsphenoidal Pituitary Surgery Cohort

| Demographics | Percentage of patients with Transsphenoidal Pituitary Surgery and GLP-1 use from 2015-2023 |
|-------------------------|--|
| # of Patients in Cohort | 645 |
| Sex | |
| Female | 64.8% |
| Male | 32.5% |
| Unknown | 2.6% |
| Race | |
| White | 62.2% |
| African American | 19.0% |
| Asian | 2.3% |
| Other Race | 3.1% |
| Geographic Distribution | |
| Northeast | 24.0% |
| Midwest | 19.0% |
| South | 49.0% |
| West | 8.0% |

Fig 2. Trends of GLP-1 use in patients with Transsphenoidal Pituitary Surgery



Discussion

Overall, GLP-1 agonist utilization decreased from 2015 to 2023, despite the FDA’s approval of Wegovy and Ozempic for weight loss in 2021.

One potential explanation is that the emergence of the COVID-19 pandemic shifted physician prescribing practices, leading to lower GLP-1 agonist utilization in this patient population (2). Notably, the peak percentage occurred in 2020 at the height of the pandemic, followed by a decline thereafter.

Further studies could delve deeper into the reasons behind this decline. Additionally, a study incorporating a broader temporal window may provide greater clarity and a more comprehensive understanding of how GLP-1 agonist utilization has changed over time in patients undergoing TSS.