

032 Characteristics of Patients Initiating Glucagon-like Peptide-1 (GLP-1) Receptor Agonists (RAs) for Cardiometabolic Risk Reduction in a Medicare Population [467]



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Shivani Aggarwal¹, Jonathan Watts¹, Na An², David Goldfarb³, Sushma Reddy Vadyala², Puneet Budhiraja²

¹Landmark Science, Inc., Los Angeles, CA, USA, ²Humbi LLC, Nashville, TN, USA, ³Landmark Science, Inc., New York, NY, USA

Background & Rationale

- Glucagon-like Peptide-1 (GLP-1) receptor agonists (RAs) are approved for Type 2 diabetes (T2D) and obesity.
- In March 2024, Wegovy® (semaglutide) became the first GLP-1 RA approved for cardiovascular risk reduction.
- Further approvals include reducing kidney disease progression and cardiovascular death in adults with T2D and kidney disease (Ozempic®, Jan 2025) and treating metabolic dysfunction-associated steatohepatitis (MASH) (Wegovy®, Aug 2025).

- However, GLP-1 RA trends across these indications, particularly for cardiovascular risk reduction, have not been well characterized among Medicare beneficiaries.

Objective: to describe clinical characteristics, treatment patterns, and outcomes of GLP-1 RA initiators in the US Medicare 100% Fee-for-Service (FFS) population.

Methods



Study Design

- We conducted a retrospective observational cohort study of patients initiating GLP-1 RAs using the 100% Medicare FFS claims database.
- Data Source:** This study used data from the 100% Medicare FFS database and pharmacy data. The Medicare FFS is a traditional fee-for-service health plan with two parts: Part A [Hospital Insurance] and Part B [Medical Insurance]. Part B insurance contains information related to inpatient, outpatient, and office visits.



Eligibility Criteria & Outcomes

Eligibility Criteria

- All patients initiating GLP-1 RAs between January 01, 2018 – January 31, 2025.
- At least 18 years of age at index date.
- At least 6 months of continuous health plan and pharmacy enrollment (Part A, Part B, & Part D) prior to the index date.

Outcomes

- Real-world overall survival (rwOS), defined as death in the follow-up period.
- Myocardial infarction (MI), defined as the presence of ICD-10-CM code of I21.XX for acute myocardial infarction in the follow-up period.
- Discontinuation was defined as a gap of >90 days between one claim/pharmacy fill date plus days supply and the subsequent fill date.



Analysis

- Index date:** date of GLP-1 RA initiation within study period.
- Baseline and clinical characteristics within 6 months prior to index date were described.
- Utilization was described by generic drug over years.
- Outcomes (rwOS, MI) were presented overall and by generic drug.

Time to event analysis:

- Patients indexed between 2018-2024 were included to allow for ≥6 months of follow-up.
- rwOS:** time from index date to earliest date of death, or end of enrollment, discontinuation of any GLP-1 RA drug, or end of study period (censoring criteria).
- MI:** time from index date to earliest date of MI, or date of death, end of enrollment, discontinuation of any GLP-1 RA drug, or end of study period (censoring criteria).
- Additional censoring criteria for by-drug analysis included discontinuation of the specific generic, or date of switch to different generic drug.

Results

Figure 1. Attrition Diagram for Patients Initiating GLP-1 RAs in 100% Medicare FFS Population

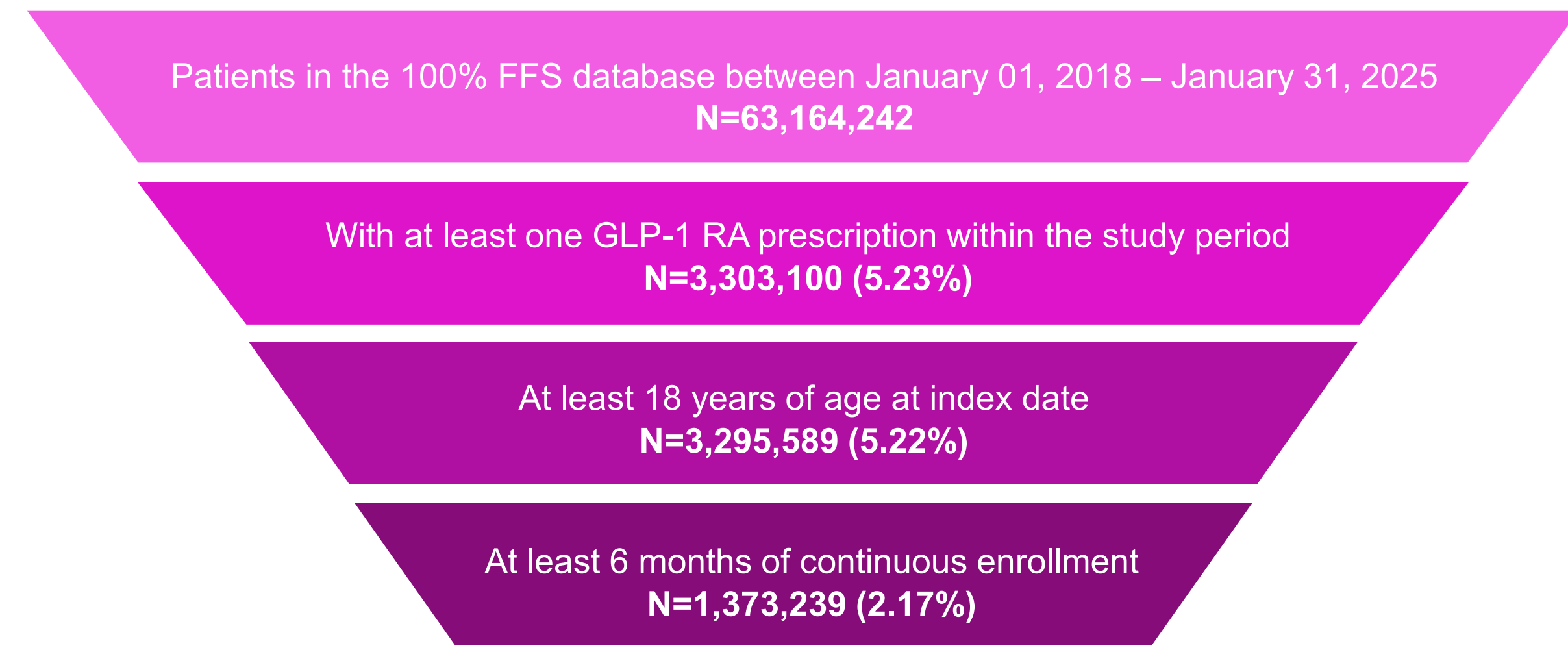


Table 1. Baseline Demographic and Clinical Characteristics

	All GLP-1 RA initiators N=1,373,239 n (%)
Age at GLP-1 RA initiation (years)	
Mean (STD)	68.1 (10.34)
Median (Q1-Q3)	69 (65-74)
Sex	
Male	612,174 (44.58%)
Female	761,054 (55.42%)
Unknown	1 (<0.01%)
Race/ethnicity	
White	1,034,257 (75.32%)
Black	131,177 (9.55%)
Asian	39,319 (2.86%)
Hispanic	114,560 (8.34%)
Other/Unknown	53,926 (3.93%)
Region	
Midwest	303,251 (22.08%)
Northeast	259,417 (18.89%)
South	539,158 (39.26%)
West	271,413 (19.76%)
Specialty of Provider Prescribing GLP-1 RAs	
Primary care physician	741,056 (53.96%)
Nurse practitioner	252,875 (18.41%)
Endocrinologist	196,907 (14.34%)
Other	179,735 (13.09%)
Unknown	2,666 (0.19%)

Specialty of the prescribing provider for the index drug is reported. STD = standard deviation; Q1 = quartile 1; Q3 = quartile 3.

Figure 2. Baseline Comorbidities

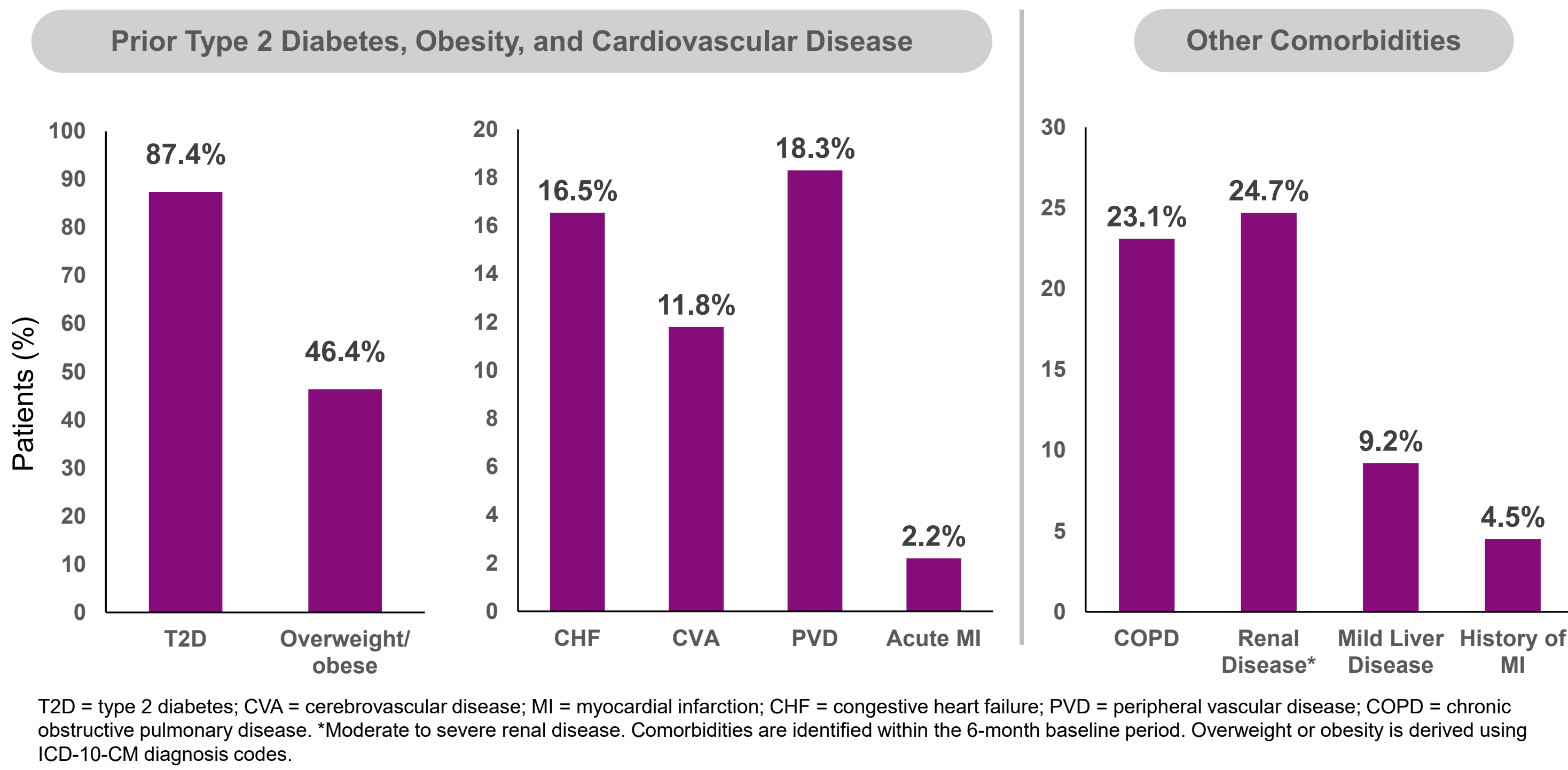


Figure 3. Yearly Uptake of GLP-1 RAs in 100% Medicare FFS Population

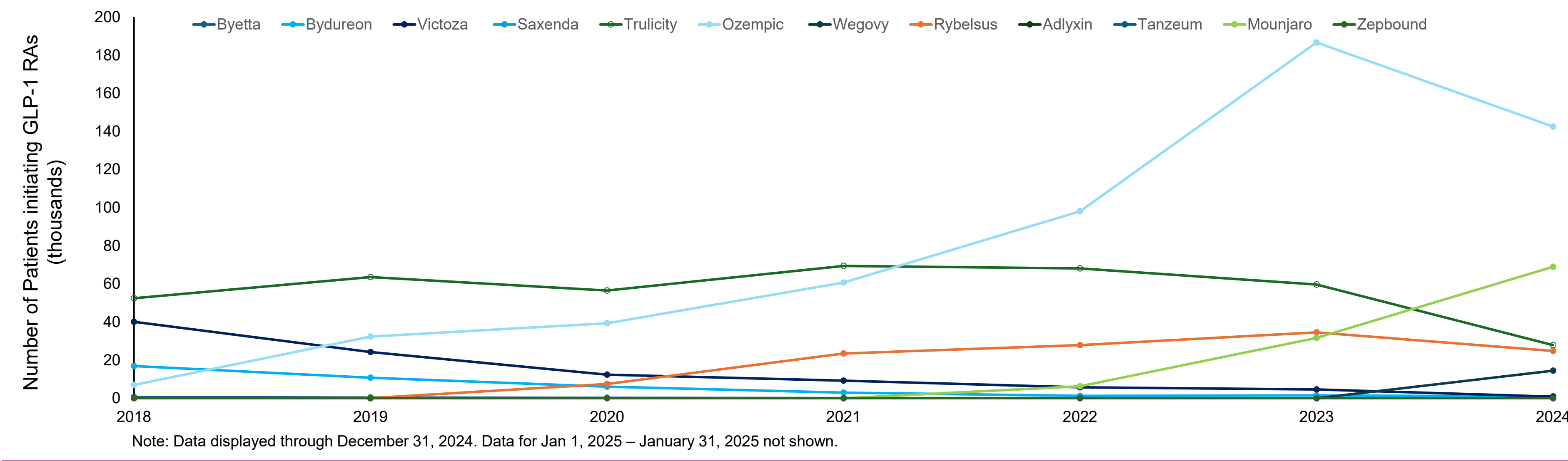


Table 2. Cumulative Incidence of Myocardial Infarction among GLP-1 RA Initiators

	Events/ Total	Number Censored	Total PT at risk (years)	1-year Cumulative Incidence (95% CI)	2-year Cumulative Incidence (95% CI)	3-year Cumulative Incidence (95% CI)
Overall	73,075/1,373,071	1,299,996	2,112,945	3.6% (3.6-3.7%)	6.4% (6.4-6.5%)	9.3% (9.2-9.4%)
Exenatide	4,018/41,921	37,903	124,029.6	3.6% (3.4-3.8%)	6.2% (6.0-6.5%)	8.9% (8.6-9.2%)
Liraglutide	9,849/97,272	87,423	263,498.1	4.1% (4.0-4.3%)	7.4% (7.3-7.6%)	10.5% (10.2-10.7%)
Dulaglutide	31,920/398,935	367,015	863,337.2	4.1% (4.1-4.2%)	7.2% (7.1-7.3%)	10.2% (10.0-10.3%)
Semaglutide	31,114/716,445	685,331	992,138.4	3.3% (3.2-3.3%)	5.8% (5.7-5.8%)	8.4% (8.3-8.5%)
Tirzepatide	2,606/118,498	115,892	89,932.7	2.8% (2.8-3.0%)	4.9% (4.6-5.1%)	NE (NE-NE)

Figure 4a, Overall

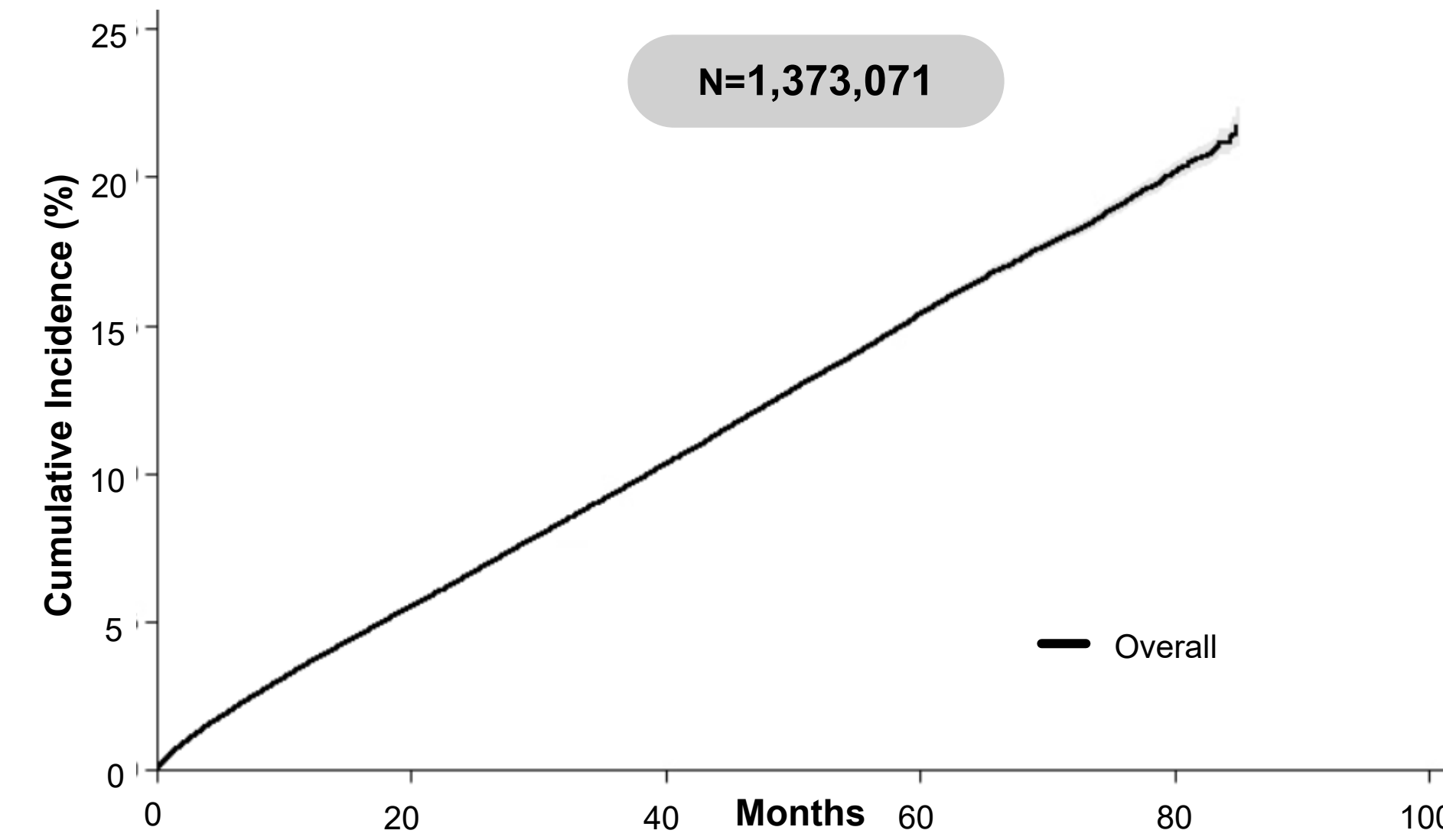


Figure 4b, by Generic GLP-1 RA

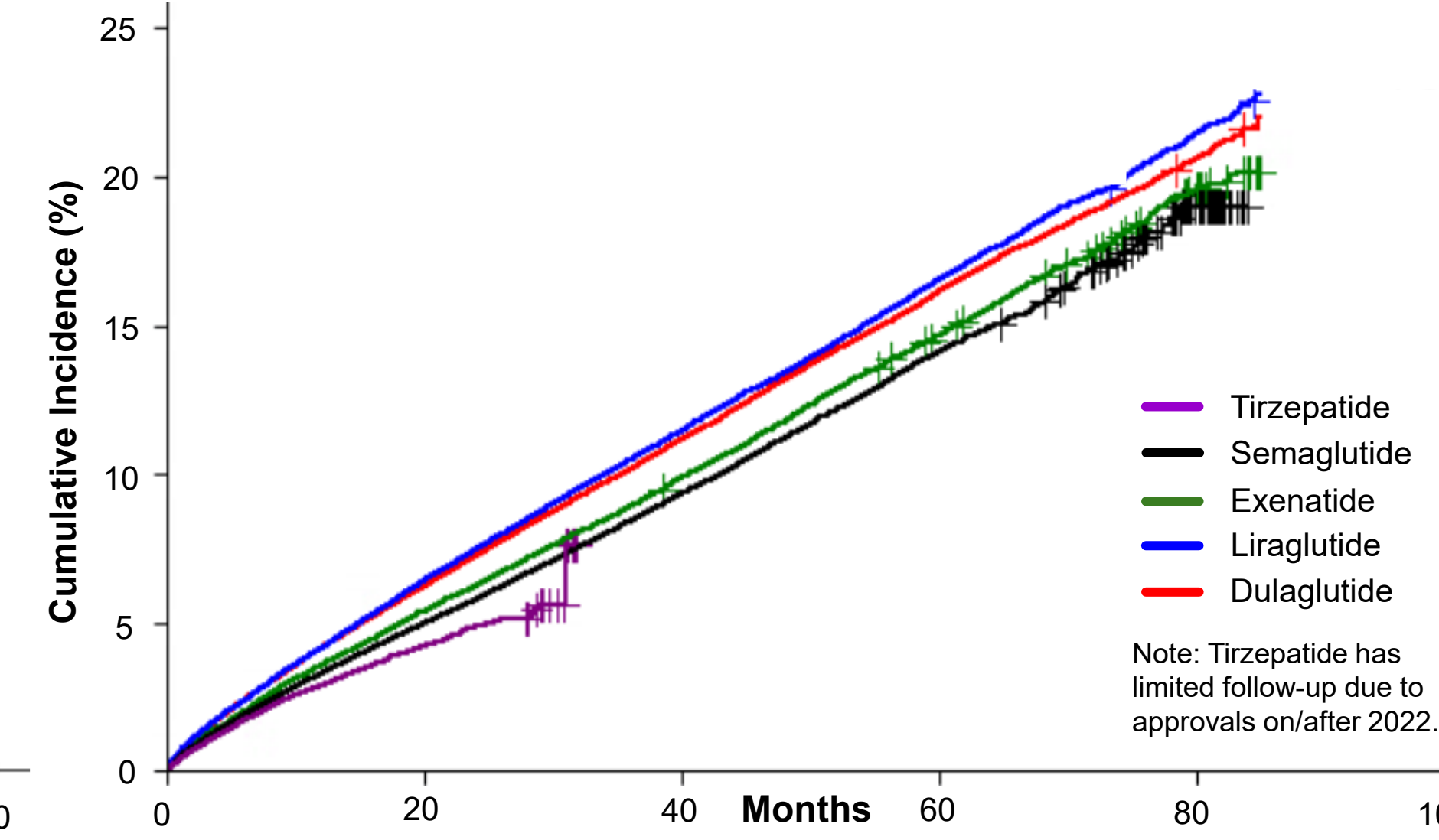


Table 3. Real-World Overall Survival among GLP-1 RA Initiators

	Events/ Total	Number Censored	Total PT at risk (years)	1-year rwOS (95% CI)	2-year rwOS (95% CI)	3-year rwOS (95% CI)
Overall	88,201/1,373,071	1,284,870	2,198,024	97.1% (97.0-97.1%)	92.9% (92.9-93.0%)	88.0% (87.9-88.1%)
Exenatide	5,886/41,921	36,035	130,963.4	96.9% (96.8-97.1%)	92.8% (92.5-93.0%)	88.3% (87.9-88.6%)
Liraglutide	12,385/281,053	97,272	281,053.2	96.7% (96.5-96.8%)	92.4% (92.2-92.6%)	87.6% (87.4-87.9%)
Dulaglutide	43,084/398,935	333,306	907,206.0	96.1% (96.0-96.2%)	91.5% (91.4-91.6%)	86.8% (86.6-86.9%)
Semaglutide	28,236/716,445	687,209	1,023,665.0	97.8% (97.7-97.8%)	94.7% (94.6-94.8%)	90.9% (90.1-91.0%)
Tirzepatide	1,426/118,498	117,072	91,377.8	98.4% (98.3-98.5%)	96.7% (96.4-96.9%)	NE (NE-NE)

Figure 5a, Overall

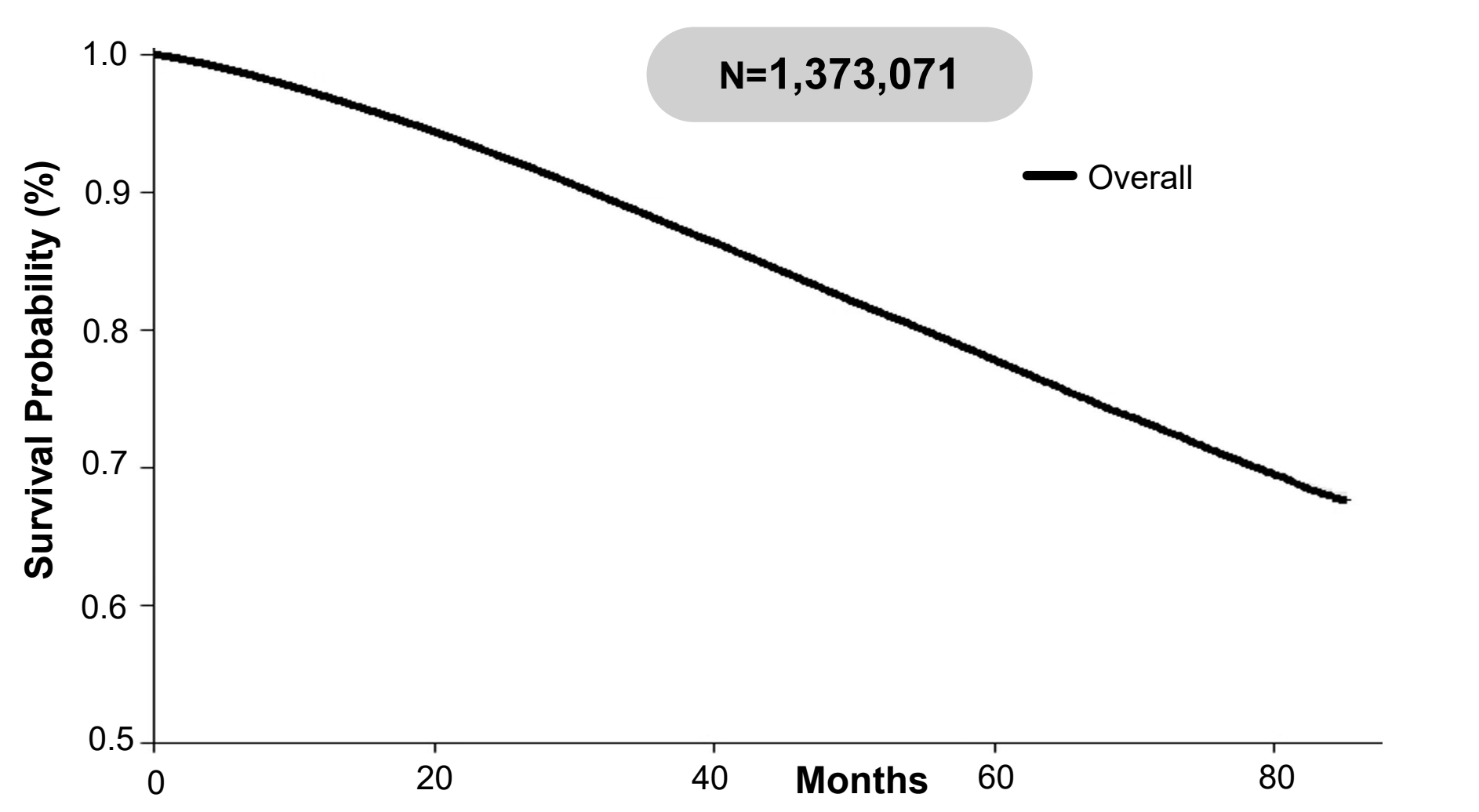
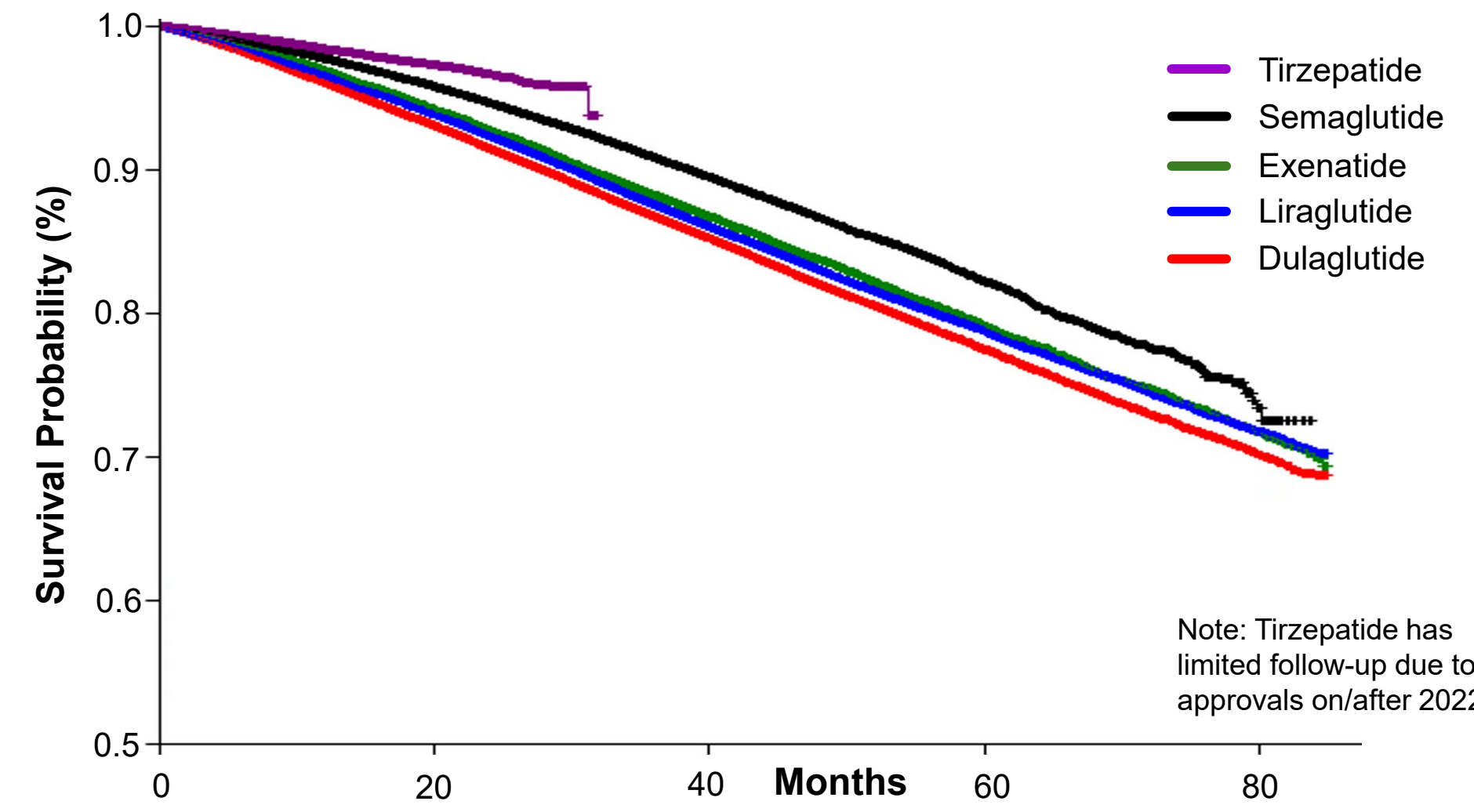


Figure 5b, by Generic GLP-1 RA



Conclusions & Key Findings

- The majority of prescribing providers were primary care physicians (54%), and nurse practitioners (18.4%).
- The majority of GLP-1 RA patients had T2D (87.4%) and 46.4% were obese/overweight.
- Semaglutides (Ozempic, Rybelsus, Wegovy) accounted for an increasing share of GLP-1 RAs from 6.0% in 2018 to 64.8% in 2024, or 52.2% overall (Fig. 3).
- The probability of MI at 3 years was 9.3% (Fig. 4a), and varied numerically by drug class from 8.4% among semaglutide initiators to 10.5% among liraglutide initiators (Fig. 4b).
- Three-year survival was 88.0% overall (Fig. 5a), ranging from 90.9% with semaglutide to 86.8% with dulaglutide (Fig. 5b).
- Tirzepatide initiators had numerically lowest cumulative incidence of MI (4.9%) and highest overall survival (96.7%) at 2 years. Limited follow-up is available for Tirzepatide due to its approval in 2022.

Limitations

- The study population was limited to Medicare FFS beneficiaries.
- This study is descriptive and does not establish causal relationships between GLP-1 RA use, cardiovascular outcomes, and death.

Why is this research important?

- Semaglutide use increased rapidly over the study period, becoming the most common GLP-1 RA by 2021.
- While endocrinologists can prescribe GLP-1 medications, most patients received theirs from primary care doctors or nurse practitioners.
- This study tracked MI and overall survival for 3 years among Medicare patients taking GLP-1 medications, providing real-world benchmarks across all GLP-1 indications.
- Patients initiating semaglutide and tirzepatide had numerically better survival and cardiovascular outcomes, indicating possible clinical benefits compared with other GLP-1 RAs.
- Further investigation is warranted to understand the factors contributing to these differences.

References: References are available upon request to the corresponding author: Shivani@landmarkscience.com;

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