RWD192
Real-world Use of Tirzepatide Among People Without Evidence of Type 2 Diabetes: Results from Merative MarketScan Commercial Database

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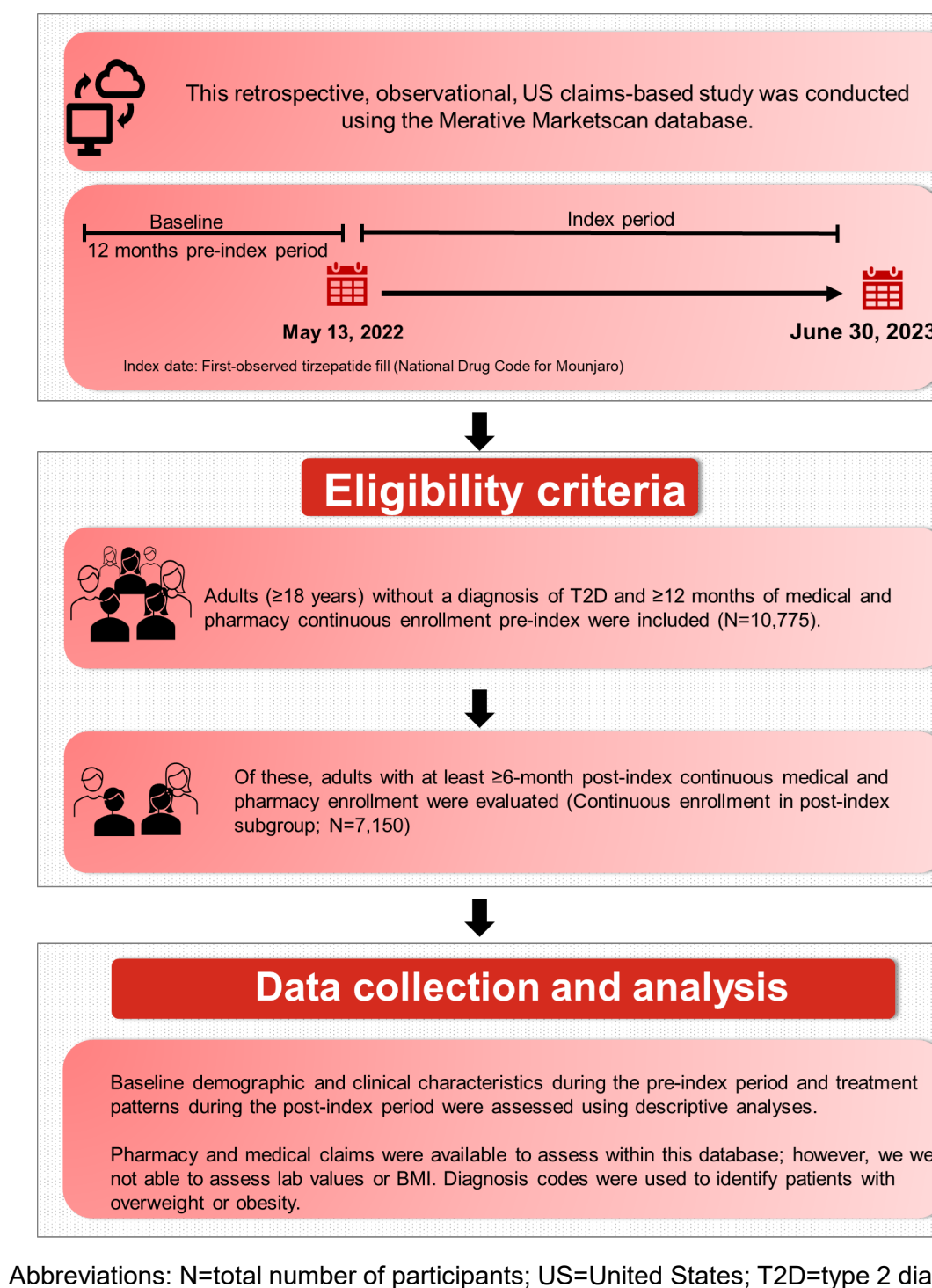**Sponsored by Eli Lilly and Company**

OBJECTIVE

■ To understand the real-world use of tirzepatide among people without diagnosis codes for T2D.

CONCLUSION

■ Majority (65%) of the adults were persistent on tirzepatide for ≥6-months, 67% had ≥1 ORC, and 7% had been prescribed an AOM prior to tirzepatide initiation.

■ Hypertension, dyslipidemia, and prediabetes were the most common comorbidities in the adults persistent on tirzepatide for ≥6-months.

■ The results may help healthcare providers to identify gaps and opportunities to improve overall obesity care for people with obesity.

BACKGROUND

Prevalence of obesity almost tripled in the United States (US) between 1990 and 2022 (<14.0% to 42.0%).[1,2]
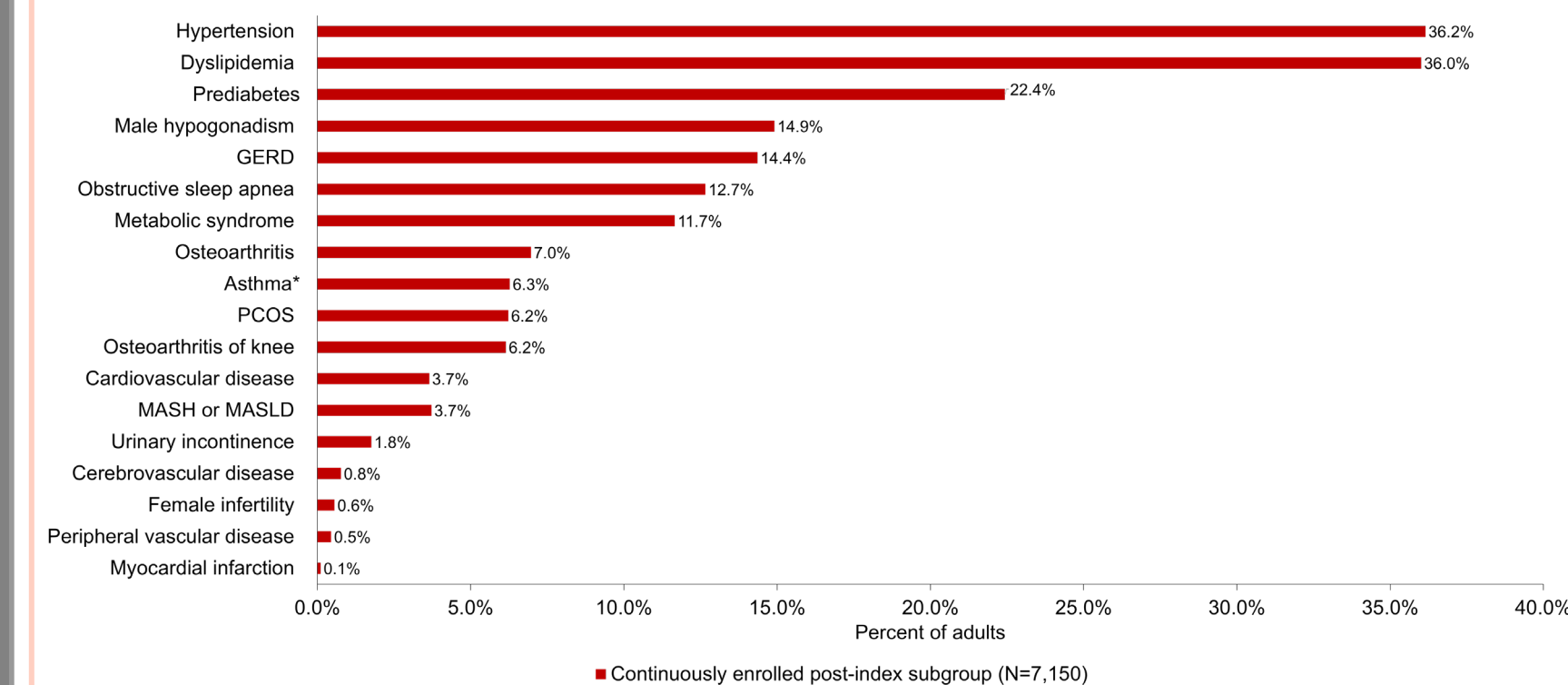
▪ People with obesity are predisposed to an elevated risk of prediabetes, type 2 diabetes (T2D), and cardiovascular diseases.[3,4]

▪ Tirzepatide is a once weekly glucose-dependent insulinotropic polypeptide (GIP) and glucagon-like peptide-1 (GLP-1) receptor agonist (RA) approved in the US for treatment of adults with type 2 diabetes (T2D) in May 2022 and obesity in November 2023.[5,6]

▪ In phase 3 clinical trials, SURMOUNT-1, 3, and 4, treatment with tirzepatide resulted in up to 22.5% of clinically meaningful body weight reduction in adults with obesity without T2D.[7,8,9]

▪ Tirzepatide was only approved for the treatment of T2D during the index period, therefore any use of tirzepatide by individuals without diagnoses of T2D during this time was off-label and solely at the discretion of their prescribing physician.

STUDY DESIGN

This retrospective, observational, US claims-based study was conducted using the Merative Marketscan database.

Baseline 12 months pre-index period | Index period
May 13, 2022 | June 30, 2023
Index date: First-observed tirzepatide fill (National Drug Code for Mounjaro)

Eligibility criteria

Adults (≥18 years) without a diagnosis of T2D and ≥12 months of medical and pharmacy continuous enrollment pre-index were included (N=10,775).

Of these, adults with at least ≥6-month post-index continuous medical and pharmacy enrollment were evaluated (Continuous enrollment in post-index subgroup; N=7,150).

Data collection and analysis

Baseline demographic and clinical characteristics during the pre-index period and treatment patterns during the post-index period were assessed using descriptive analyses.

Pharmacy and medical claims were available to assess within this database; however, we were not able to assess lab values or BMI. Diagnosis codes were used to identify patients with overweight or obesity.

Abbreviations: N=total number of participants; US=United States; T2D=type 2 diabetes

KEY RESULTS

Hypertension (36.2%), dyslipidemia (36.0%), and prediabetes (22.4%) were the most common comorbidities present at baseline

Comorbidity	Percent of adults
Hypertension	36.2%
Dyslipidemia	36.0%
Prediabetes	22.4%
Male hypogonadism	14.9%
GERD	14.4%
Obstructive sleep apnea	12.7%
Metabolic syndrome	11.7%
Osteoarthritis	7.0%
Asthma*	6.3%
PCOS	6.2%
Osteoarthritis of knee	6.2%
Cardiovascular disease	3.7%
MASH or MASLD	3.7%
Urinary incontinence	1.8%
Cerebrovascular disease	0.8%
Female infertility	0.6%
Peripheral vascular disease	0.5%
Myocardial infarction	0.1%

■ Continuously enrolled post-index subgroup (N=7,150)

*Asthma or Reactive Airway Disease
Abbreviations: N=total number of participants; MASH=metabolic dysfunction-associated steatohepatitis; MASLD=metabolic dysfunction-associated steatotic liver disease; PCOS=polycystic ovary syndrome; GERD=gastroesophageal reflux disease; T2D=type 2 diabetes
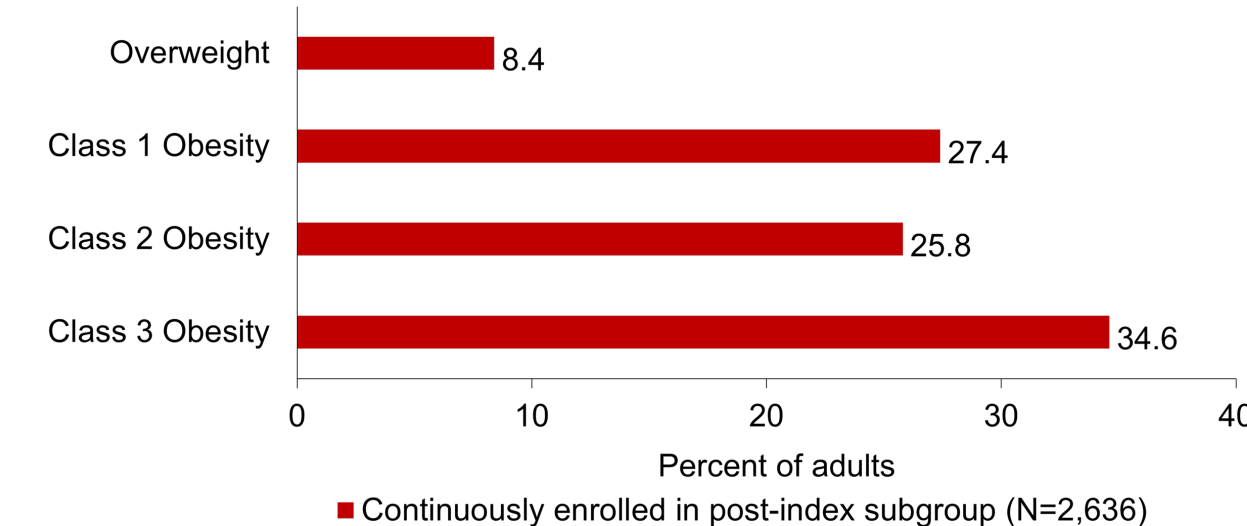
RESULTS

Table 1: Baseline demographic and clinical characteristics

	Non-T2D cohort (N=10,775)	Continuously enrolled in post-index subgroup (N=7,150)
Age, years		
Mean (SD)	46.2 (10.0)	46.3 (9.7)
Sex		
Female	7,873 (73.1)	5,326 (74.5)
Region		
Midwest	1,533 (14.2)	1,040 (14.6)
Missing	1,069 (9.9)	700 (9.8)
Northeast	1,051 (9.8)	562 (7.9)
South	6,329 (58.7)	4,388 (61.4)
West	793 (7.4)	460 (6.4)
Claim-based overweight at baseline	576 (5.4)	407 (5.7)
Claim-based obesity at baseline	4,756 (44.1)	3,172 (44.4)
Any ORC at baseline	7,138 (66.3)	4,806 (67.2)
Number of ORCs at baseline (Mean [SD])	1.60 (1.5)	1.61 (1.5)
Presence of AOMs at baseline		
Any AOM	772 (7.2)	490 (6.9)
Wegovy (semaglutide)	515 (66.7)	303 (61.8)
Saxenda (liraglutide)	271 (35.1)	200 (40.8)
Qsymia (phentermine/topiramate)	36 (4.7)	26 (5.3)
Contrave (naltrexone/bupropion)	31 (4.0)	20 (4.1)
Weight loss intervention	360 (3.3)	241 (3.4)
Non-AOM GLP-1 RA	1,505 (14.0)	1,016 (14.2)
Metformin	2,272 (21.1)	1,516 (21.2)

Values are n(%), unless otherwise noted.
Abbreviations: N=total number of participants; n=number of participants; SD=standard deviation; ORC=obesity-related complication; AOM=anti-obesity medication; GLP-1 RA=glucagon-like peptide-1 receptor agonist; T2D=type 2 diabetes

■ The majority (67.2%) of adults in the continuously enrolled subgroup had ≥1 obesity-related complication (ORC) at baseline.

■ Prior to initiating tirzepatide in the pre-index period, 490 people (6.9%) had been prescribed previously approved anti-obesity medications; of these, 303 (61.8%) had been prescribed semaglutide and 200 (40.8%) had been prescribed liraglutide.

Most tirzepatide use was in adults with Class 3 obesity (≥40 kg/m2)

BMI class	Percent of adults
Overweight	8.4
Class 1 Obesity	27.4
Class 2 Obesity	25.8
Class 3 Obesity	34.6

■ Continuously enrolled in post-index subgroup (N=2,636)

Abbreviations: N=total number of participants; BMI=body mass index; T2D=type 2 diabetes
BMI classes:
Overweight: 27–<30 kg/m^2
Class 1 Obesity: 30– <35 kg/m^2
Class 2 Obesity: 35–<40 kg/m^2
Class 3 Obesity: ≥40 kg/m^2

Table 2: Almost two thirds (64.6%) of adults were persistent on tirzepatide for ≥6-months.

	Continuously enrolled in post-index subgroup (N=7,150)
Persistent (60D gap)	
N (%)	4,619 (64.6%)
Discontinuation (60D gap)*	
N (%)	2,529 (35.4%)
Time to discontinuation in days (60D gap)	
N	2,529
Mean (SD)	56.63 (30.7)

*Percent of people who have discontinued by a certain time point; failure to refill the index medication within 60 days after the depletion of the previous days' supply
Abbreviations: N=total number of participants; D=day; SD=standard deviation

References:

1. Obesity Trends Among U.S. Adults Between 1985 and 2010 (cdc.gov). 2. Adult Obesity Prevalence Maps | Overweight & Obesity | CDC. 3. Muoio DM. Nature reviews Molecular cell biology. 2008 Mar;9(3):193-205. 4. Khaodhiar L et al. Current diabetes reports. 2009 Oct;9(5):348-54. 5. FDA. Novel Drug Approvals for 2022. In:2022. 6. FDA USFDA. FDA Approves New Medication for Chronic Weight Management. In:2023. 7. Aronne LJ, et al. JAMA. 2024 Jan 2;331(1):38-48. 8. Wadden TA et al. Nature Medicine. 2023 Nov;29(11):2909-18. 9. Jastreboff AM, et al. New England Journal of Medicine. 2022 Jul 21;387(3):205-16.