Alfred E. Mann School of Pharmacy and Pharmaceutical Sciences

BACKGROUND

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- Type 2 Diabetes (T2D) is a chronic condition in which your body cannot control blood sugar (glucose) level properly either due to not producing enough insulin or resisting insulin
- T2D affected more than 34 million adults (2020, US) and the 7th leading cause of death¹
- Significant economic burden is associated with T2D, approximating \$203 billion in direct medical expenses and \$87 billion in lost productivity in 2017²
- The spotlight on GLP-1 RAs for weight management in T2D has intensified with medications like semaglutide and tirzepatide gaining recognition for their potential dual benefits in blood sugar regulation and weight reduction
- Investigation into the long-term implications of these medications for T2D patients is ongoing, with particular attention to their role in comprehensive disease management and the reduction of comorbid conditions

OBJECTIVE

- The study aims to assess if real-world treatment choices for T2D among overweight/obese patients align with the clinical benefits underscored by recent trials and ADA guidelines
- It also examines the association between treatment patterns and socio-economic factors, seeking to understand the broader context influencing treatment decisions in this demographic

METHODS

- Utilized OPTUM de-identified Clinformatics® Data Mart Database encompassing data for over 65 million individuals from 2007 to 2023, which includes socio-economic demographics, insurance records, medical and pharmacy claims
- Identified adult patients with T2D who had no diabetic medication prescriptions for at least one year and maintained continuous enrollment for one year before and after their first T2D prescription; excluded pregnancy-related T2D cases
- Analyzed prescription trends and socio-economic impact on T2D management for overweight/obese patients using multinomial logistic models, adjusting for baseline clinical factors (Charlson comorbidity index, diagnostic and prescription drugs used for hypertension, hyperlipidemia, cardiovascular diseases, chronic kidney disease, etc)

RESULTS

- Metformin remained the predominant first-line therapy for newly treated patients with T2D, consistently preferred across the study period from 2008 to 2019
- Upon closer examination of overweight/obese patients with T2D, GLP-1 RAs started to capture a larger uptake as a first-line treatment since 2014. From multinomial logit regression, the overweight/obese patients with T2D were 2.13 percentage points more likely to be prescribed GLP-1 RAs
- Small but statistically significant income effect (75-99K, 100K+ group) was observed in the choice of SGLT2 inhibitors and GLP-1 RAs. Yet, no prominent socio-economic disparities were observed in T2D treatment patterns among insured members from OPTUM data

Analysis of Treatment Regimens and Socio-economic Factors Associated with Type 2 Diabetes Management for Obese Patients

Jee H. Choe



-0.01 (0.02)

0.16 (0.04)***

-0.32 (0.05)***

2.13 (0.07)***

(-0.04 to 0.02)

(0.09 to 0.23)

(-0.42 to -0.21)

(2.00 to 2.26)

(-2.04 to -1.75)

6.	DPP4	inhibitors

4. Meglitinide

5. SGLT2 inhibitors

7. GLP-1 RAs

-1.90 (0.07)*** 8. Insulin *** P < 0.0001

Abbreviation: pp, percentage point; se, standard error.

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CONCLUSIONS

The study concludes that metformin continues to be the first-line therapy for T2D, while GLP-1 RA prescriptions for overweight or obese T2D patients have increased since 2014.

A modest income effect was observed for SGLT2 inhibitors and GLP-1 RAs prescriptions, yet no marked socio-economic disparities were apparent from the analyses. This might be attributed to the specific characteristics of the commercially insured cohort, indicating a need for broader research into treatment patterns across diverse socioeconomic backgrounds.

CONTACT

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