

# Association of Socioeconomic Factors With the Use of Novel Anti-Diabetic Therapies Among People Living With Type 2 Diabetes

Daria Sinclair, PharmD, MBA Candidate<sup>1</sup>, Josephine Nhu Tran, PharmD, MS<sup>1,2</sup>; Pranav M. Patel, PharmD, MS<sup>1</sup>; Courtney Walker, PharmD, RPh<sup>2</sup>

<sup>1</sup>Academy of Managed Care Pharmacy Foundation, Alexandria, Virginia, USA; <sup>2</sup>Novo Nordisk, Plainsboro, New Jersey, USA

## Background

- American Diabetes Association (ADA) guidelines<sup>1</sup> provide recommendations on the initiation of diabetic medications for the treatment and management of type 2 diabetes based on factors such as co-morbid conditions (e.g., cardiovascular and renal disease), baseline weight, and cost.
- It is important to understand if there are differences in selection of diabetic medications for patients that may result in inequity to guideline-concordant care and utilization of pharmacotherapeutic options for patients.

## Objective

- Describe demographic and social determinants of health (SDoH) factors associated with use of novel anti-diabetic therapies among people living with type 2 diabetes.

## Methods

- Study Design:** Retrospective, cross-sectional study
- Database:** Medical Expenditure Panel Survey (MEPS) 2021 Prescribed Medicines, Full Year Consolidated, and Medical Conditions data files
- Inclusion:** Adult patients with type 2 diabetes utilizing at least one anti-diabetic medication
- Study Time Period:** 2021
- Cohorts:**
  - Novel Anti-Diabetic Agent:** Patients with at least one record of SGLT2i/ incretin mimetic during the study period
  - Others:** Patients not utilizing novel anti-diabetic agents
- Covariates:**
  - Demographic:** Age, gender, race, ethnicity, education, insurance type, income, region
  - SDoH:** Housing problems, food insecurity, feeling stressed, financial problems, social network problems
  - Definitions for SDoH factors were sourced from Selden et al<sup>2</sup>
- Survey weights were used in all analyses

## Results

- Approximately a quarter of patients were utilizing novel antidiabetic therapies in 2021.
- There were significant differences in the use of novel antidiabetic therapies among different age groups, insurance types, and income levels.

**Table 1. Demographics and SDoH Characteristics**

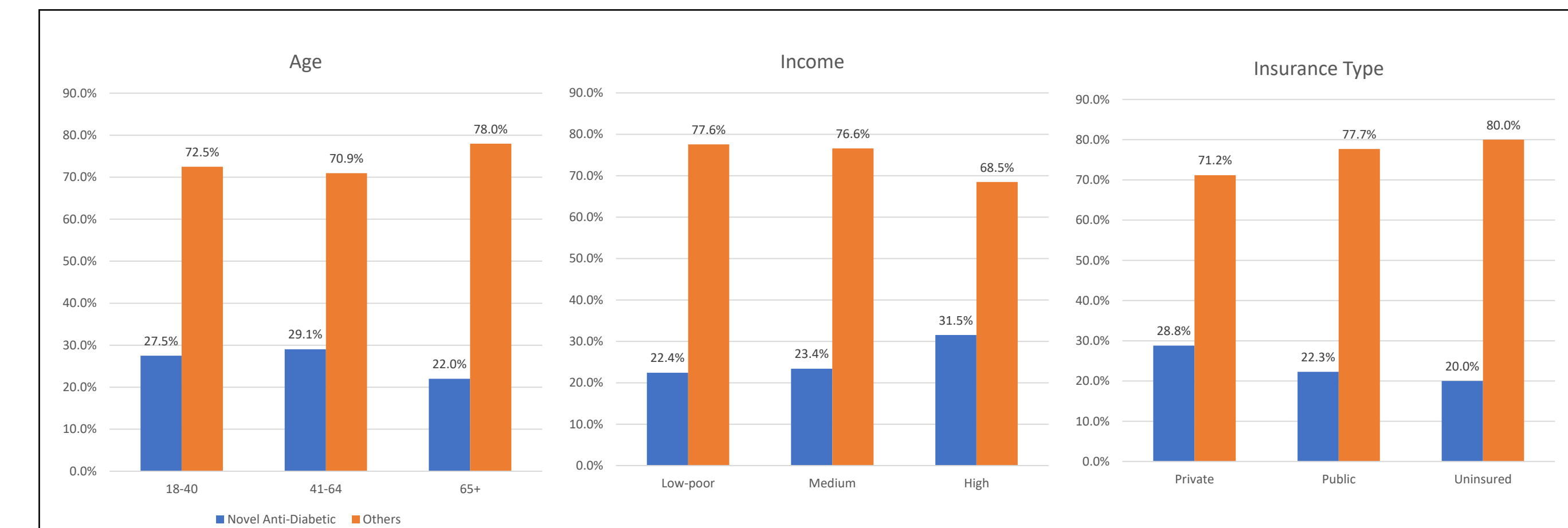
		Total	Novel Anti-Diabetic Agent	Others	p-value
Unweighted, n (%)		2,626	660 (25.1)	1,966 (74.9)	
Weighted, n (%)		24,639,043	6,279,517 (25.5)	18,359,526 (74.5)	
Age <sup>a</sup>	18-40 y	1,919,393	7.3%	8.0%	0.0062
	41-64 y	10,609,194	49.8%	40.8%	
	≥ 65 y	12,110,456	42.9%	51.3%	
Gender <sup>a</sup>	Male	12,935,794	55.1%	51.6%	0.1784
	Female	11,703,249	44.9%	48.4%	
Race-Ethnicity <sup>a</sup>	Hispanic	3,990,388	16.0%	16.3%	0.4374
	NHW	14,184,770	60.5%	56.6%	
	NHB	3,760,812	14.4%	15.6%	
	Other	2,703,074	9.2%	11.6%	
Education <sup>a</sup>	Less than HS	4,110,207	13.8%	17.9%	0.0888
	HS/some college	13,824,919	57.1%	56.4%	
	Bachelors or more	6,506,547	29.1%	25.8%	
Insurance Type <sup>a</sup>	Private	13,293,633	61.3%	51.4%	0.0024
	Public	10,732,006	36.9%	45.8%	
	Uninsured	613,405	1.7%	2.8%	
Income <sup>a</sup>	Low-Poor	8,521,260	28.8%	36.5%	<0.0001
	Medium	7,141,713	25.8%	30.1%	
	High	8,976,070	45.4%	33.4%	
Region <sup>a</sup>	Northeast	3,919,594	18.3%	15.3%	0.1455
	Midwest	5,633,908	25.5%	22.3%	
	South	10,130,645	40.1%	42.1%	
	West	4,648,076	16.0%	20.2%	
Housing Concern <sup>b</sup>	Yes	6,546,787	28.1%	27.9%	0.9175
	No	16,882,645	71.9%	72.1%	
Food Concern <sup>b</sup>	Yes	5,538,721	27.5%	22.4%	0.0486
	No	17,801,198	72.5%	77.6%	
Finance Concern <sup>b</sup>	Yes	8,435,735	41.6%	34.9%	0.0243
	No	14,588,885	58.4%	65.1%	
Stress <sup>b</sup>	Yes	4,156,511	19.2%	17.1%	0.3361
	No	19,446,306	80.8%	82.9%	
Social Connection Concern <sup>b</sup>	Yes	3,278,338	16.4%	13.8%	0.2115
	No	19,388,171	83.6%	86.2%	

<sup>a</sup>Obtained after accounting for complex survey design using person-weights

<sup>b</sup>Obtained after accounting for complex survey design using SDOH-related person weights

- Among patients 65 years old and older, 22.0% were prescribed novel antidiabetic therapies compared to 27.5% of patients less than 40 years old.
- A higher proportion of patients with private insurance (28.8%) were on novel antidiabetic therapies compared to uninsured and public insurance (20.0-22.3%).
- Among low-income patients, 22.4% were prescribed novel antidiabetic therapies compared to 31.5% of patients with high income.

**Figures 1a-c. Antidiabetic use by a) age group, b) income level and c) insurance type**



## Discussion and Conclusion

- This study illuminates the possible influence of socioeconomic factors on the utilization of various antidiabetic medications.
- Additional research is essential to further comprehend the socioeconomic factors that may pose obstacles to treatment access for patients.

## References

- ADA Standards of Care in Diabetes <https://professional.diabetes.org/standards-of-care>
- Selden et al. Health Affairs. 2024. 43:8. 1117-1127 <https://www.healthaffairs.org/doi/10.1377/hlthaff.2023.01271>
- Medical Expenditure Panel Survey <https://meps.ahrq.gov/>

## Acknowledgements

We acknowledge Michael Hasenkamp, James Hunt, and Ebony Clay for providing analytical and administrative support.

