

Clinical Experiences of Type 2 Diabetes (T2DM) Patients Initiating Oral Semaglutide

Tyler J Dunn¹, Caroline Swift¹, Ashley Guesnier¹, Josh Noone¹, Vincent Willey²



<https://sciencehub.novonordisk.com/isp2022/Dunn1.html?cid=qr-1458489330>

Background and Aims

- The characteristics of patients prescribed new medications often evolve over time after market entry.
- The types of clinicians prescribing new medications may also change over time after product launch.
- We sought to describe the baseline demographic and clinical characteristics as well as antidiabetic medication use in patients with T2DM initiating oral semaglutide (a glucagon-like peptide-1 [GLP-1] receptor agonist). Our analysis evaluated the use of oral semaglutide from its introduction in the US in a commercially-insured/Medicare Advantage population.

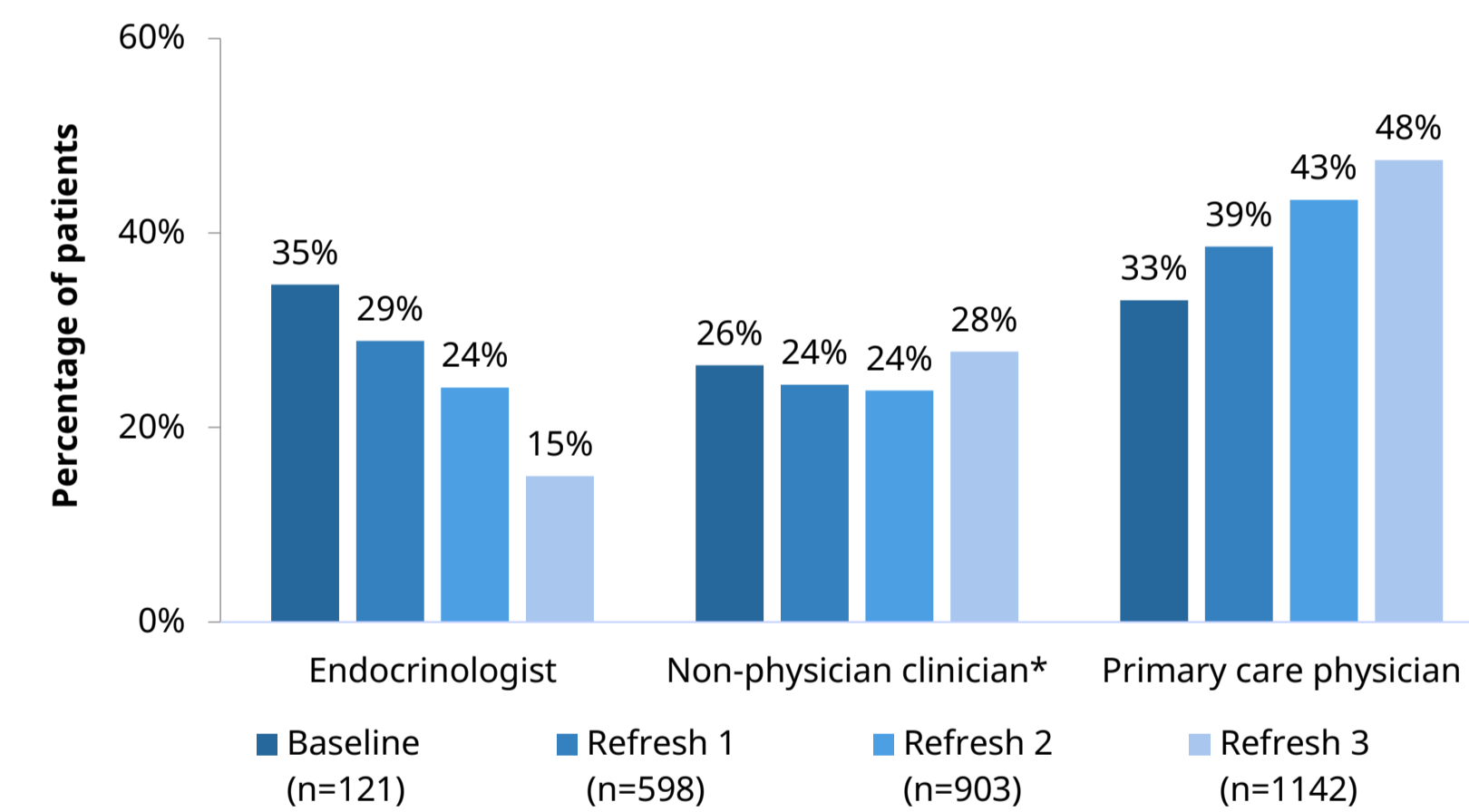
Methods

- Patients with T2DM newly initiating oral semaglutide between 9/20/2019 and 8/31/2020 were identified using the HealthCore Integrated Research Database (HIRD™) in 4 quarterly refreshes. Populations included in each refresh were independent from one another.
- HIRD contains medical/pharmacy claims and eligibility data from 14 geographically diverse commercial health plans in the US as well as Medicare Advantage plans. Laboratory results data is integrated for approximately one third of the population.
- The index date was set as the fill date of the earliest semaglutide pharmacy claim.
- Patient inclusion criteria: ≥1 pharmacy claim for oral semaglutide during the study period, ≥90 days of pre-index and post-index enrollment, ≥12-months continuous eligibility pre-index, and ≥1 claim with a diagnosis for T2DM.
- Study measures: prescribing clinician, non-insulin antidiabetic medication use prior to initiation of oral semaglutide, patient comorbidities, and patient HbA1c levels in the 3-months prior to initiation of oral semaglutide.

Results

- Four quarterly refreshes (baseline, refresh 1, refresh 2, and refresh 3) were included, totaling 2,763 patients with T2DM. Sample size increased from 121 at baseline to 598 at refresh 1, 903 at refresh 2, and 1,142 at refresh 3. Mean patient age varied between 53.4 and 54.4 years for all refreshes. At baseline, 59.5% of patients were female; between 44.6% and 47.1% of patients were female between refreshes 1 and 3.
- PCPs were responsible for an increasing proportion of oral semaglutide prescriptions over time (**Figure 1**).

Figure 1: Prescribing clinician



- The most common antidiabetic medications used prior to oral semaglutide initiation included metformin and sodium-glucose cotransporter-2 (SGLT2) inhibitors, with minimal changes over time (**Figure 2**).
 - The most common non-antidiabetic medications used by patients included antihypertensives (74%-78% across all refreshes), lipid lowering therapy (65%-74%), and antidepressants (30%-36%), with antihypertensive use increasing over time and antidepressant use decreasing.
- The most common comorbidities at index included hypertension, dyslipidemia, obesity, and sleep apnea, with these trends also staying stable (**Figure 3**).

Figure 2: Non-insulin antidiabetic medication use prior to oral semaglutide initiation

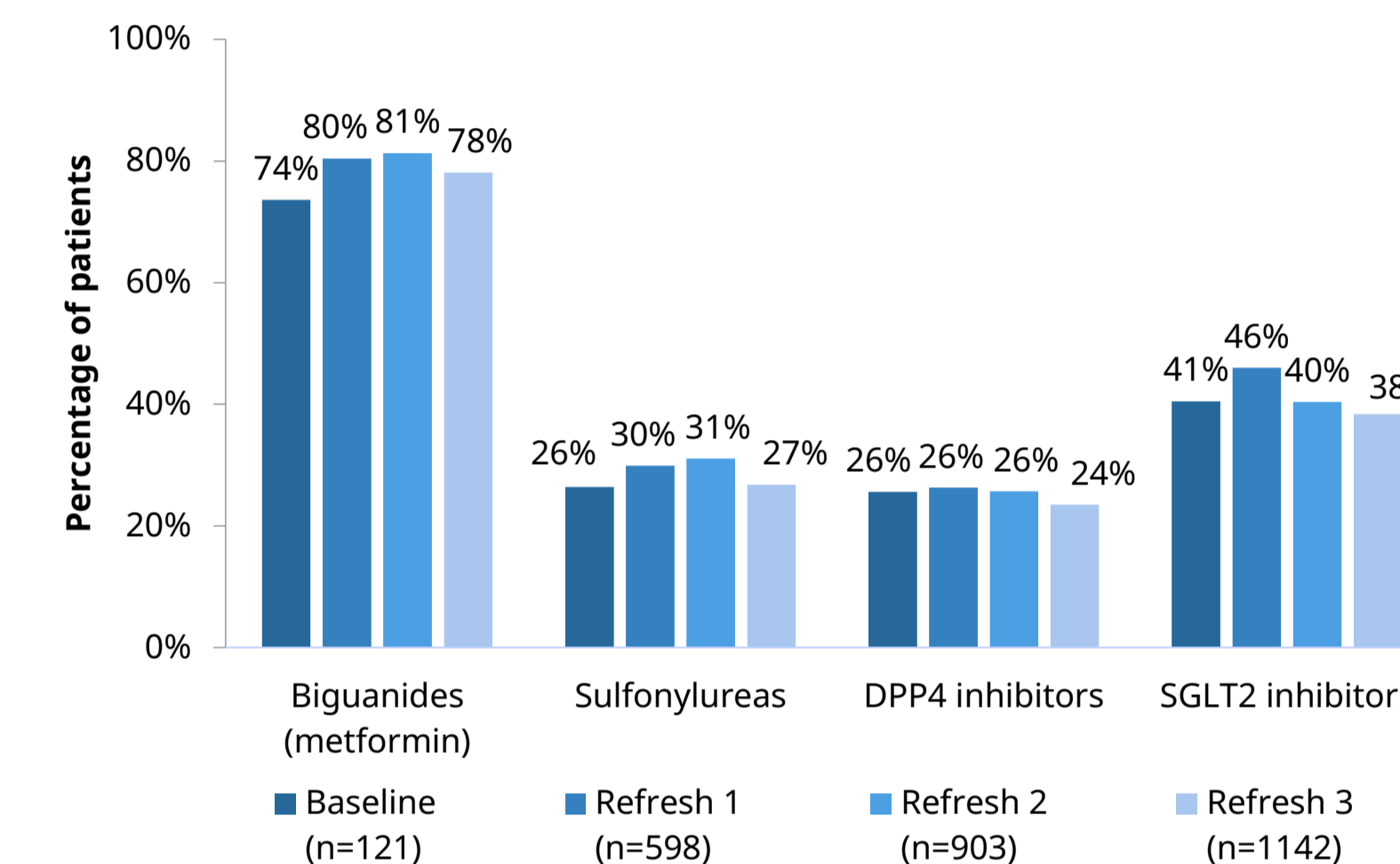
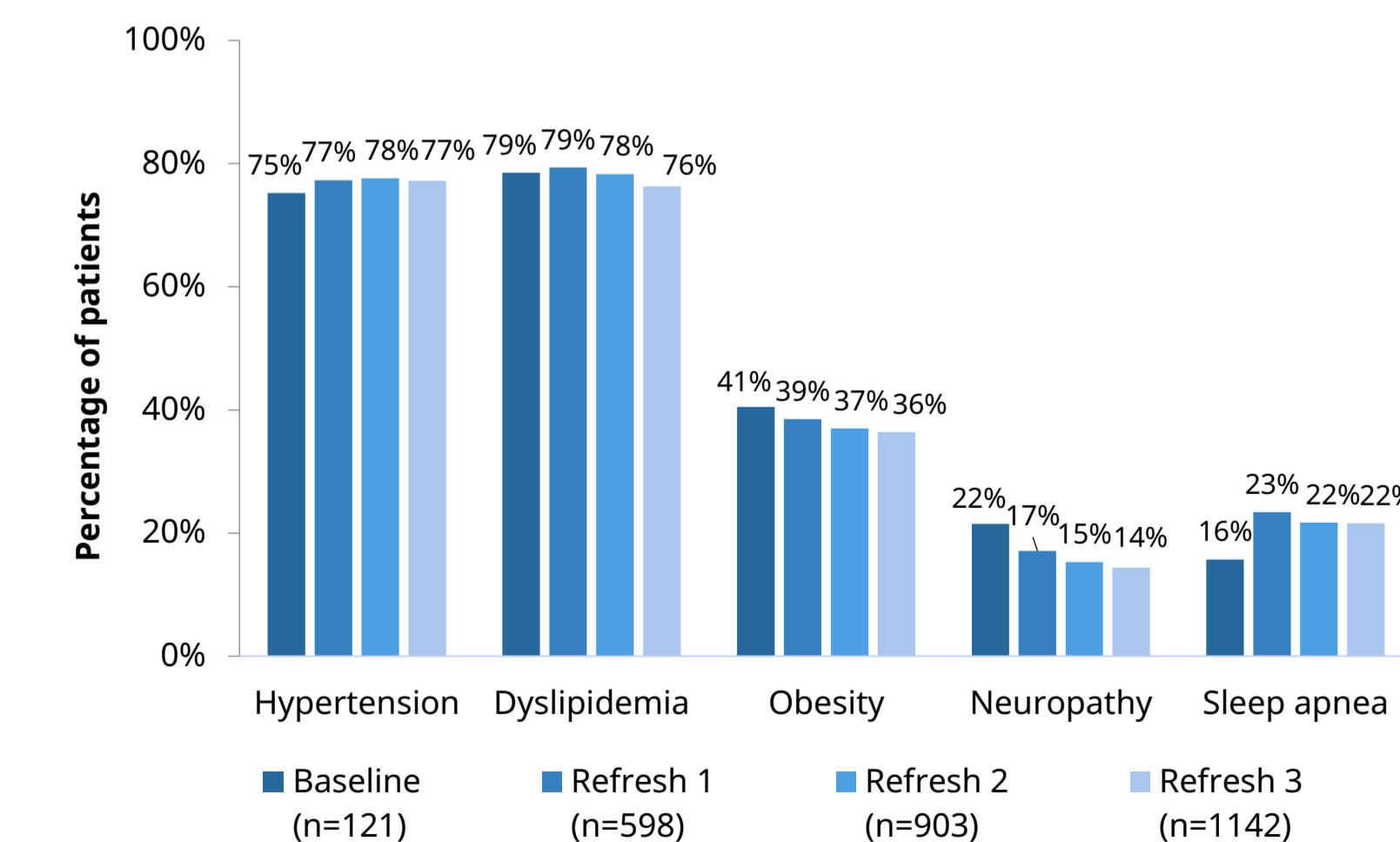


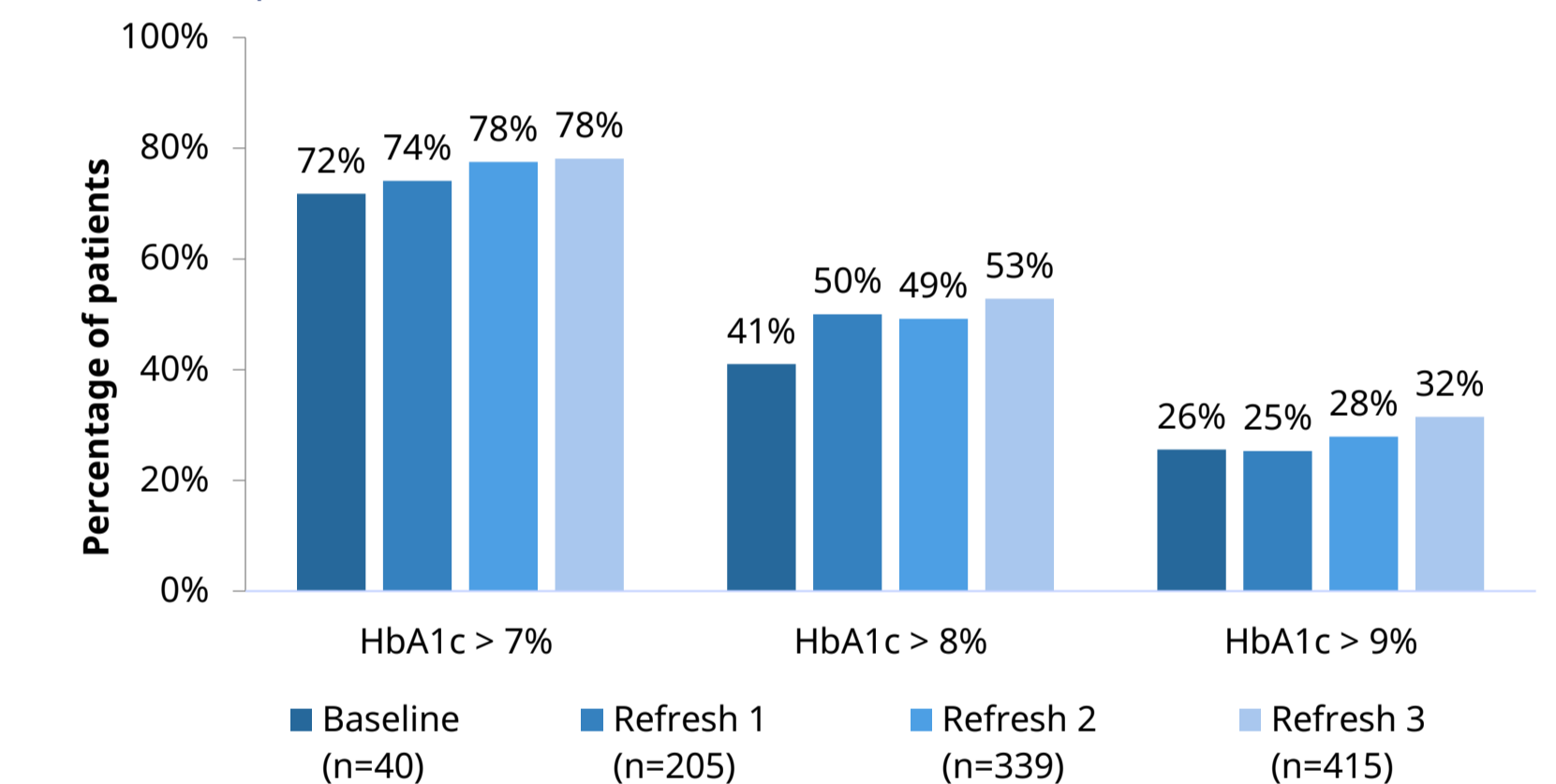
Figure 3: Patient comorbidities



*nurse practitioner/physician assistant; prescribing by cardiologists not shown. Abbreviations: DPP4, dipeptidyl peptidase-4; HbA1c, hemoglobin A1c; SGLT2, sodium-glucose cotransporter-2

- Mean (SD) patient HbA1c levels in the 3-months prior to semaglutide initiation were 8.0% (1.6) at baseline, 8.3% (1.6) at refresh 1, 8.3% (1.7) at refresh 2, and 8.6% (1.9) at refresh 3.
 - Most patients had an HbA1c level ≥7% in the 3-months prior to initiation of oral semaglutide and the proportion of patients with an HbA1c level ≥7% increased over time (**Figure 4**).

Figure 4: Grouped HbA1c levels in the 3 months prior to index, among patients with ≥1 HbA1c test result



Summary and Conclusions

- After US product launch, the patient population initiating oral semaglutide experienced changes in demographics, clinical characteristics, and baseline treatment experience.
- Endocrinologists were the largest group of oral semaglutide prescribers at launch, but the majority of later prescriptions (refresh 3) were initiated by PCPs.
- Patient HbA1c levels prior to initiation of oral semaglutide were greater at later refreshes than earlier refreshes.
- Changing patient and prescriber demographics may be of interest to those studying prescription drugs in the real-world, as the population is not static once a drug enters the market.