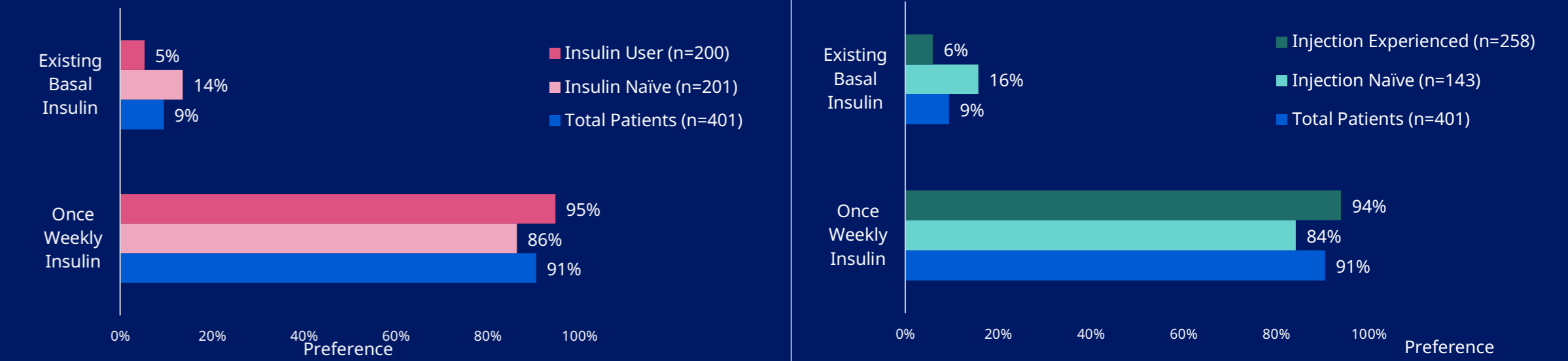# Preferences for Once-Weekly Basal Insulin Versus Existing Insulins Among Adults with Type 2 Diabetes and Healthcare Providers

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https://sciencehub.novonordisk.com/adces2023/Rajpura.html?cid=qr-kb9n6fhjmo

Participants reported a strong preference (86% among insulin naïve and 95% for insulin users, 84% for injection naïve and 94% among injection experienced) for once-weekly insulin versus existing basal insulin options.

Insulin User (n=200); Insulin Naïve (n=201); Total Patients (n=401)

- Existing Basal Insulin: 5% / 14% / 9%
- Once Weekly Insulin: 95% / 86% / 91%

Injection Experienced (n=258); Injection Naïve (n=143); Total Patients (n=401)

- Existing Basal Insulin: 6% / 16% / 9%
- Once Weekly Insulin: 94% / 84% / 91%

Background and Aim

- As new insulin formulations become available, it is important to understand the preferences of people living with type 2 diabetes (T2D) and healthcare providers (HCPs) compared to existing insulins.
- The early introduction of insulin should be considered if there is evidence of ongoing catabolism (weight loss), if symptoms of hyperglycemia are present, or when A1C levels (>10% [86 mmol/mol]) or blood glucose levels (>300 mg/dL [16.7 mmol/L]) are very high.[1]
- Concerns about insulin access and the potential burden to patients[1] indicate an unmet need for less frequent insulin use to improve medication adherence.

Research Hypothesis

- This study hypothesized that once-weekly basal insulin is the preferred insulin of choice by HCPs for their patients with T2D due to providing a higher level of comfort in prescribing for patients, and it is also preferred by patients for reducing treatment burden for their initiation of insulin therapy.

Methods

- Adults with T2D who were insulin naïve (N=200) or established insulin users (N=201), and those who were injection naïve (N=143) or injection experienced (N=258) completed a self-administered online discrete choice experiment (DCE).*
- The DCE was also completed by N=362 HCPs: N=181 primary care providers (physicians, NPs and PAs in family medicine and general practice), and N=181 providers of specialist endocrine care (physicians, NPs and PAs in endocrinology, and diabetes educators).
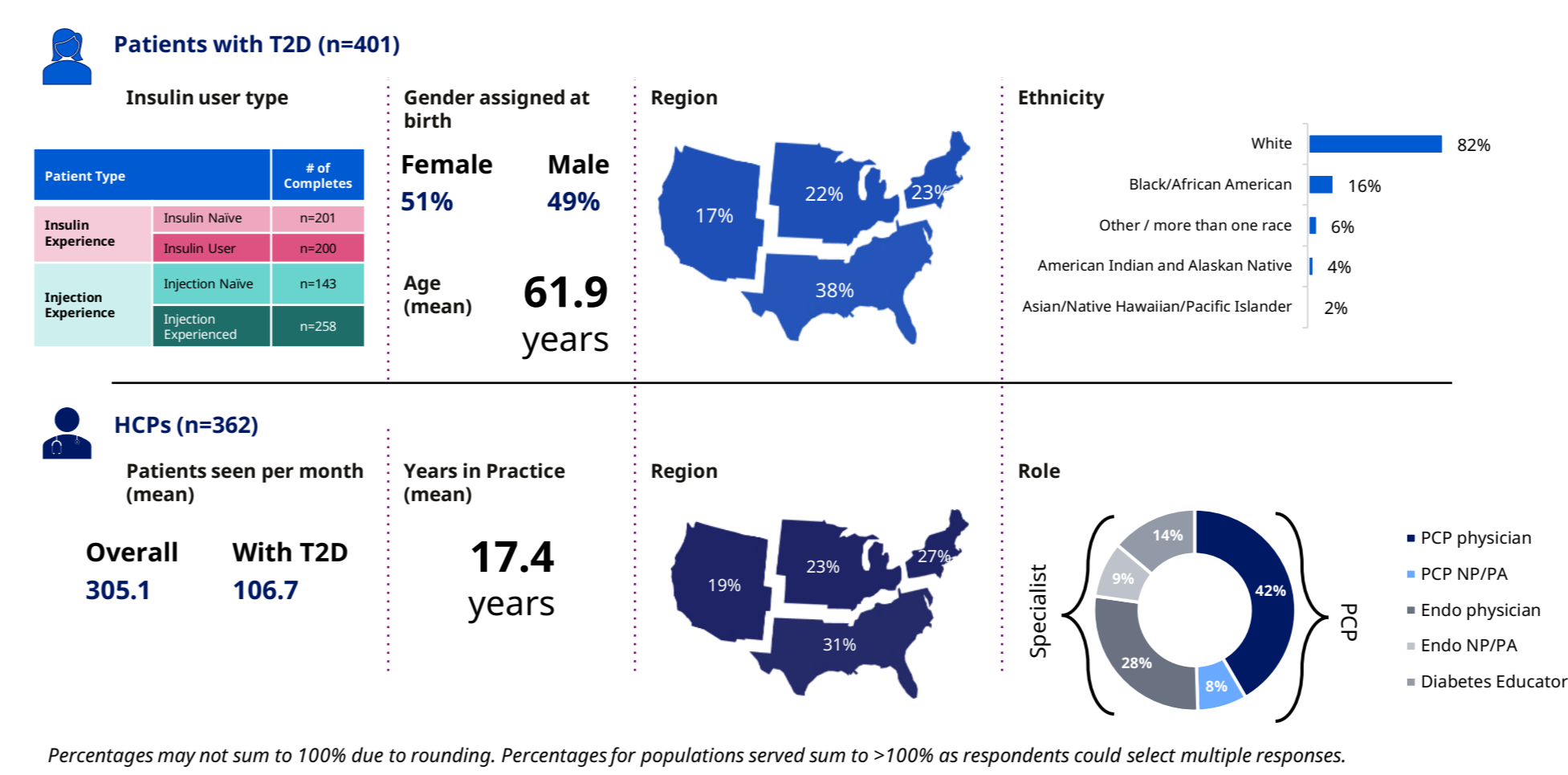
- DCE included a choice task with scenarios to compare once weekly (OW) with existing basal insulins (EBI).
- Five attributes (developed from a targeted literature review and expert input) were assigned to the choice task; different levels for each attribute were also offered, covering insulin type, delivery method, time of dosing, change in hemoglobin A1C, and risk of hypoglycemia.
- In addition to overall preferences, regression analyses examined variables impacting attribute preferences.
- A sensitivity analysis was performed to assess preferences for OW insulin compared to EBI.

* Definitions:
Discreet choice experiment = A survey-based method that determines how much a respondent prefers one option over another, which includes a series of attributes and attribute levels.
Insulin naïve = Taking a medication for T2D but *not* insulin.
Insulin experienced/established = Taking insulin for T2D that *is* basal insulin but not an insulin pump.
Injection naïve = *Not* taking an injectable medication for their T2D or another condition.
Injection experienced = Taking an injectable medication (injected at home without the help of an HCP) for their T2D or another condition.
Existing basal insulin = A basal insulin product respondents were currently using for their T2D.

Key Results

- Patient and HCP respondent characteristics are seen in **Figure 1**.
- Participants reported a strong preference (86% among insulin naïve and 95% for insulin users, 84% for injection naïve and 94% among injection experienced) for OW insulin versus EBI options (**Key Result Highlight**).
- A similar trend was observed among providers (90% preference among PCPs, 88% for specialists).
- When identifying attributes for a hypothetical OW insulin therapy, both HCPs and insulin users rated convenience and ease to administer as more important than the potential risk of hypoglycemia (**Figure 2**).
- Other attributes considered important included medication adherence, accuracy of dosage administration, and comfort in administration.
- Among HCPs, 75% of PCPs and 72% of specialists indicated high likelihood of recommending an OW option to their insulin-naïve patients.
- More than two thirds of insulin users (71%) and insulin naive (67%) considered their HCP recommending OW insulin to be highly important in their decision to take it.
- Most insulin users (88%) and injection experienced (85%) considered it highly likely they would ask their HCP about OW insulin (**Figure 3**).
- Insulin users indicated increased confidence in glycemic control and less concern about hypoglycemic events occurring with OW insulin than EBI. They also indicated OW insulin would be more convenient than their current basal insulin (**Figure 4**).

Figure 1: Patient and HCP respondent characteristics

Patients with T2D (n=401)

Patient Type		# of Completes
Insulin Experience	Insulin Naïve	n=201
	Insulin User	n=200
Injection Experience	Injection Naïve	n=143
	Injection Experienced	n=258

Gender assigned at birth: Female 51% / Male 49%
Age (mean): 61.9 years

Ethnicity:
- White 82%
- Black/African American 16%
- Other / more than one race 6%
- American Indian and Alaskan Native 4%
- Asian/Native Hawaiian/Pacific Islander 2%

HCPs (n=362)

Patients seen per month (mean): Overall 305.1 / With T2D 106.7
Years in Practice (mean): 17.4 years

Role:
- PCP physician
- PCP NP/PA
- Endo physician
- Endo NP/PA
- Diabetes Educator

Percentages may not sum to 100% due to rounding. Percentages for populations served sum to >100% as respondents could select multiple responses.

Figure 2. Attributes considered to be important to insulin users and HCPs in evaluating OW insulin.

More important:
- Convenience
- Ease of administration
- Medication adherence

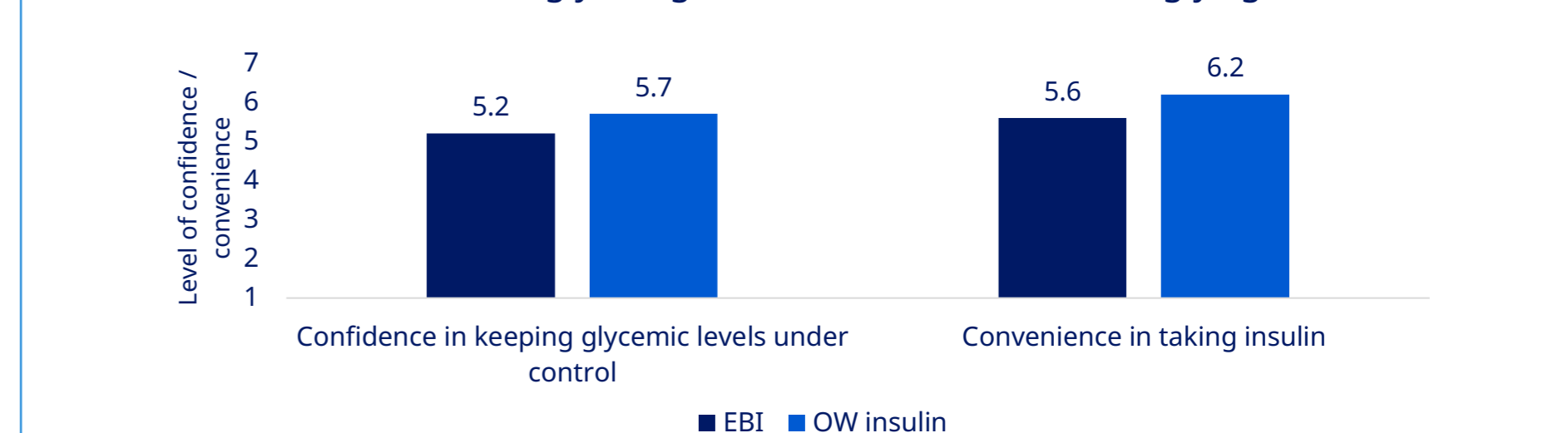Less important:
- Potential for glycemic risk

Figure 3: Likelihood of insulin users to ask their HCP about OW insulin, rated on a scale of 0-10 where "0" indicated "Not at all likely" and "10" indicated "Extremely likely."

	More likely (7-10)	Less likely (4-6)	Not likely (0-3)
Total (n=401)	77%	15%	8%
Insulin Naïve (n=201)	67%	19%	14%
Insulin User (n=200)	88%	11%	2%

	More likely (7-10)	Less likely (4-6)	Not likely (0-3)
Total (n=401)	77%	15%	8%
Injection Naïve (n=143)	62%	21%	17%
Injection Experienced (n=258)	85%	11%	3%

Figure 4: Adults with T2D level of confidence in glycemic control and level of agreement regarding convenience in taking insulin when considering OW vs. EBI, rated on a scale of 1-7 where "1" indicated "Strongly disagree" and "7" indicated "Strongly agree."

- Confidence in keeping glycemic levels under control: EBI 5.2 / OW insulin 5.7
- Convenience in taking insulin: EBI 5.6 / OW insulin 6.2

Summary and Conclusions

- Across all cohort types, HCPs demonstrated a strong preference for OW basal insulin when compared to existing basal insulin.
- Adults with T2D, regardless of injection use or experience, also demonstrated a strong preference for OW basal insulin.
- Convenience, ease of administration and opportunity for medication adherence were considered the most important attributes for both stakeholder groups.
- Adults with T2D considered HCP input to be important in deciding whether to ask about OW insulin options and whether to take OW insulin.
- This is important for diabetes care and education because it suggests changes to EBI dosing frequency could positively impact patients using insulin for T2D management, as opportunities to improve medication adherence would improve patients' outcomes.

Reference:
1. ElSayed NA, Aleppo G, Aroda VR, et al on behalf of the American Diabetes Association, 9. Pharmacologic Approaches to Glycemic Treatment: *Standards of Care in Diabetes-2023. Diabetes Care.* 1 January 2023;46(Suppl 1):S140-S157. doi:10.2337/dc23-S009

Abbreviations: A1C, glycolated hemoglobin test; DCE, discreet choice experiment; EBI, existing basal insulin; HCP, healthcare provider; NP, nurse practitioner; OW, once weekly; PA, physician assistant; PCP, primary care provider; T2D, type 2 diabetes; US, United States