Preference for type 2 diabetes therapies in the United States: a discrete choice experiment

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Supplementary material

Literature review and qualitative interview methodology

The TLR (conducted August 2018) identified 32 publications (23 full-text publications and nine conference abstracts), as shown in the PRISMA diagram (Figure S1). The results of this review supported the use of a DCE study design, provided examples of best practice for such studies and indicated the most reported treatment attributes in published T2DM DCE studies. The treatment attributes most used in previous DCE studies formed the initial list of proposed attributes for use in the current DCE survey.

Figure S1. PRISMA diagram for TLR.

Following the attainment of ethics approval, qualitative interviews were conducted to confirm the validity of the proposed treatment attributes, and to identify the most appropriate method of presenting these to the target patient population: individual interviews with healthcare professionals (HCPs) with at least 6 months experience treating patients with T2DM and contact with patients with T2DM at least once a week (n=10) and focus groups with patients with T2DM (n=75, in 23 groups). Patients were identified for these interviews by a random sampling of individuals who had expressed an interest in participating in research, by email or telephone call. Patients were then screened for age, residency, T2DM diagnosis and T2DM treatment. Proposed attributes and example presentation methods were presented to these experienced persons, who commented whether these were appropriate and understandable. Participants were also able to offer additional appropriate attributes and presentation methods if these were missing.

EASD = European Association for the Study of Diabetes; ICMC = International Choice Modelling Conference; ISPOR = International Society for Pharmacoeconomics and Outcomes Research; TLR = targeted literature review.
Table S1. Clinical and demographic characteristics of eligible patients (n=500)

| Gender | | |
|--------|--------|--------|
| Male   | 287 (57.4%) | |
| Female | 213 (42.6%) | |

| Age | | |
|-----|--------|--------|
| Mean age: | 65.5 years | |
| Median age: | 67.0 years | |

| Duration since diagnosis of T2DM | | |
|---------------------------------|--------|--------|
| Mean duration since diagnosis of T2DM | 11.4 years | |
| Median duration since diagnosis of T2DM | 10.0 years | |

| Experience with injectable (non-insulin) therapies to control blood glucose level | | |
|---------------------------------------------------------------------------------|--------|--------|
| Injectable-experienced | 139 (27.8%) | |
| Injectable-naïve | 361 (72.2%) | |

| Current treatment to control blood glucose level | | |
|-------------------------------------------------|--------|--------|
| Oral medication | 398 (79.6%) | |
| Injectable medication (non-insulin) | 12 (2.4%) | |
| Oral and injectable medication | 90 (18.0%) | |

| Duration receiving current treatment | | |
|-------------------------------------|--------|--------|
| Mean duration receiving current treatment | 8.9 years | |
| Median duration receiving current treatment | 6.3 years | |

| HbA1c as measured within the last year | | |
|--------------------------------------|--------|--------|
| Mean HbA1c | 7.4% | |
| Median HbA1c | 7.2% | |

| BMI | | |
|-----|--------|--------|
| Mean BMI | 32.0 kg/m² | |
| Median BMI | 30.9 kg/m² | |

| Complications of T2DM | | |
|----------------------|--------|--------|
| Yes, respondent has experienced complications as a result of T2DM | 94 (18.8%) | |
| --- Peripheral neuropathy | 70 (14.0%) | |
| --- Eye problems (for example cataracts or glaucoma requiring laser treatment) | 37 (7.4%) | |
| --- Kidney disease | 15 (3.0%) | |
| --- Cardiovascular disease (for example heart attack, stroke, or heart failure) | 11 (2.2%) | |
| --- Other complications | 15 (3.0%) | |

BMI = body mass index; HbA1c = Hemoglobin A1c; T2DM = type 2 diabetes mellitus.

*32 patients selected two of the specified complications, 8 patients selected three of the specified complications and 2 patients ticked four of the specified complications.

*Patients were able to select ‘other complications’ but did not provide further information.
Table S2. Unique hypothetical choice sets of therapy profiles, assigned to blocks.

| Block A ↓ | Block B ↓ |
|-----------|-----------|
| pill_regular | pill_nofood |
| -1.3pp | -0.0pp |
| -5½_lbs | 0_lbs |
| -17%_heart | -9%_heart |
| 3_of_100 | 4_of_100 |
| inject_day | inject_week |
| -1.7pp | -1.3pp |
| 0_lbs | +5½_lbs |
| 0%_heart | -26%_heart |
| 3_of_100 | 4_of_100 |
| pill_nofood | inject_day |
| -0.7pp | -1.0pp |
| +5½_lbs | -10½_lbs |
| -17%_heart | -9%_heart |
| 3_of_100 | 4_of_100 |
| inject_week | inject_day |
| -1.3pp | -0.7pp |
| +5½_lbs | -10½_lbs |
| -17%_heart | -9%_heart |
| 3_of_100 | 4_of_100 |
| pill_regular | pill_nofood |
| -0.7pp | -1.0pp |
| -5½_lbs | 0_lbs |
| -17%_heart | -9%_heart |
| 3_of_100 | 4_of_100 |
| inject_day | inject_week |
| -1.3pp | -0.7pp |
| -10½_lbs | 0_lbs |
| -26%_heart | -17%_heart |
| 3_of_100 | 4_of_100 |
| pill_nofood | inject_day |
| -1.7pp | -1.3pp |
| 0_lbs | +5½_lbs |
| -17%_heart | -9%_heart |
| 3_of_100 | 4_of_100 |
| inject_week | inject_day |
| -1.3pp | -0.7pp |
| +5½_lbs | -10½_lbs |
| -17%_heart | -9%_heart |
| 3_of_100 | 4_of_100 |
| pill_regular | pill_nofood |
| -1.0pp | -0.7pp |
| -5½_lbs | 0_lbs |
| -17%_heart | -9%_heart |
| 3_of_100 | 4_of_100 |
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| 3_of_100 | 4_of_100 |
| inject_day | inject_week |
| -1.7pp | -1.3pp |
| +5½_lbs | -10½_lbs |
| -26%_heart | -17%_heart |
| 3_of_100 | 4_of_100 |