LONG-TERM COST-EFFECTIVENESS OF IGLARLIXI VERSUS IDEGLIRA IN PARTICIPANTS WITH SUBOPTIMALLY CONTROLLED TYPE 2 DIABETES ON ORAL ANTIDIABETIC DRUGS OR BASAL INSULIN IN CHINA

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Mo X[1] , Ai Y[1] , Tan J[2] , Wang LJ[2], Yi Yang[3]
1. Real World Solutions, IQVIA China, Shanghai, China; 2. Sanofi, Shanghai, China; 3. School of Public Health, Fudan University, Shanghai, China

INTRODUCTION & OBJECTIVES

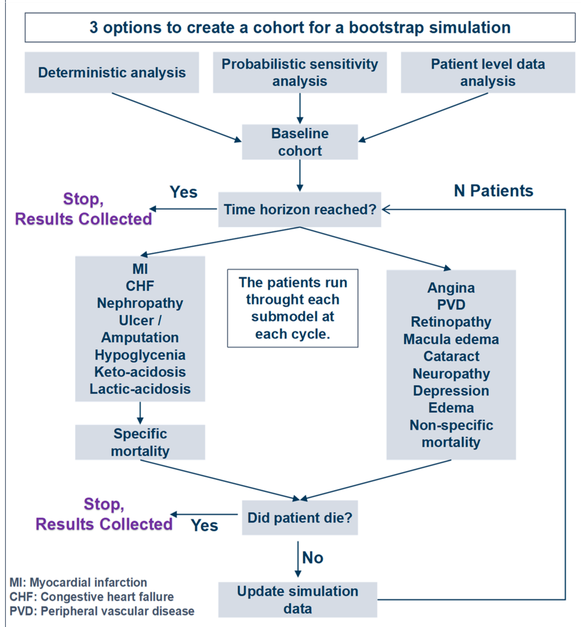
- Fixed-ratio combinations (FRCs) of basal insulin and glucagon-like peptide-1 receptor agonist (GLP-1 RA) are novel treatment options for patients with type 2 diabetes (T2D) who fail to achieve glycemic targets on oral antidiabetic drugs (OADs) or basal insulin (BI). iGlarLixi and IDegLira are two FRCs approved in China.
- This study assessed the long-term cost-effectiveness of iGlarLixi versus IDegLira in T2D suboptimally controlled patients on OADs or BI to support clinical decision-making in China.

METHODS

- **Model structure**

✓ The IQVIA CORE Diabetes Model was used to simulate clinical and cost outcomes over patient's lifetimes from the Chinese healthcare payer's perspective.

Figure 1 The model structure of IQVIA CORE Diabetes Model



- **Target population**

✓ Patients with T2D who fail to achieve glycemic targets on OADs or BI were simulated separately.

- **Model parameters**

✓ The treatment effects of iGlarLixi were extracted from two randomized controlled trials (LixiLan-O-AP [1] and LixiLan-L-CN [2]) conducted in China for patients suboptimally controlled on OADs or BI, respectively, while those of IDegLira were derived from DUAL I CHINA and DUAL II CHINA for respective patients[3,4]. Relative treatment effects between the two FRCs were calculated by indirect treatment comparisons.

✓ The relative risks of microvascular and cardiovascular events between the two FRCs were obtained from a real-world cohort study[5].

✓ Utilities and costs of medications and complications were obtained from the literature, with costs inflated to 2023 Chinese yuan. A discount rate of 5% was applied.

- **Key assumptions**

✓ Patients were assumed to receive iGlarLixi or IDegLira until HbA1c progression returned to 8%; at this point, patients were assumed to receive treatment intensification with bolus insulin injection (rescue treatment). HbA1c reductions during rescue treatment were approximated with data from a trial conducted on Asian population[6].

- **Sensitivity analyses**

✓ One-way sensitivity analyses (OWSA) were performed to investigate the impact of variation in model input values on the base-case incremental cost-effectiveness ratio (ICER).

✓ Probability sensitivity analyses (PSA) were performed to test the effect of parameter uncertainty on the study results by varying a wide range of model inputs.

RESULTS

- **Base-case results**

✓ Patients suboptimally controlled on OADs treated with iGlarLixi gained 0.045 quality-adjusted life years (QALYs) and saved ¥ 9,355 over patients treated with IDegLira (**Table 1**).

✓ Patients suboptimally controlled on BI treated with iGlarLixi gained 0.02 incremental QALYs and saved ¥ 7,176 compared to patients treated with IDegLira (**Table 1**).

✓ Patients suboptimally controlled on OADs had lower microvascular and cardiovascular incidence treated with iGlarLixi over IDegLira. Patients had less diarrhea events treated with iGlarLixi over those receiving IDegLira (**Table 2 and Table 3**).

Table 1 Cost-effectiveness of base-case analysis results

	T2D patients failing to achieve glycemic targets on OADs		T2D patients failing to achieve glycemic targets on BI	
	iGlarLixi	IDegLira	iGlarLixi	IDegLira
Life years (years)	13.969	13.955	13.213	13.211
QALY (years)	12.038	11.993	11.394	11.374
Total costs (CNY)	213,488	222,842	210,452	217,628
Cost-effectiveness results				
Incremental life years	0.014		0.002	
Incremental QALY	**0.045**		**0.020**	
Incremental cost (CNY)	**-9,355**		**-7,176**	
ICER (CNY/QALY)	**Dominant**		**Dominant**	

Table 2 Cumulative number of patients with microvascular and cardiovascular complications of iGlarLixi vs. IDegLira

Cumulative number of patients occurring complications (per 1000 patients)	suboptimally controlled on OADs	suboptimally controlled on BI
Background diabetic retinopathy	-2	2
Cataract	-1	0
Congestive heart failure death	-1	0
Congestive heart failure	-3	1

Table 3 Cumulative number of diarrhea events of iGlarLixi vs. IDegLira

Cumulative number of diarrhea events (per 1000 patients)	suboptimally controlled on OADs	suboptimally controlled on BI
diarrhea	**-490**	**-437**

- **Sensitivity Analysis Results**

✓ The results of the OWSA showed that the discount rate, HbA1c threshold for treatment change, and the time horizon were the main factors affecting the cost-effectiveness between iGlarLixi and IDegLira in suboptimally controlled T2D patients on OADs (**Figure 2**).

✓ HbA1c threshold for treatment change and the time horizon were the main factors affecting the cost-effectiveness between iGlarLixi and IDegLira in suboptimally controlled T2D patients on BI (**Figure 3**).

Figure 2 One-way sensitivity analyses between iGlarLixi and IDegLira in patients suboptimally controlled on OADs

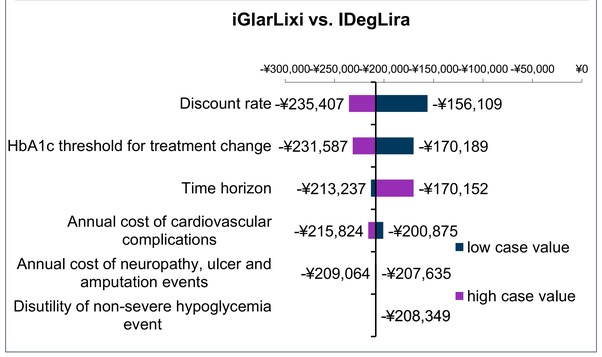
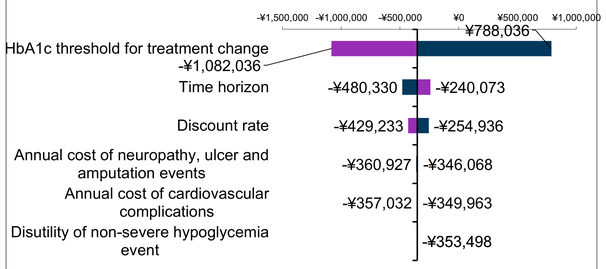
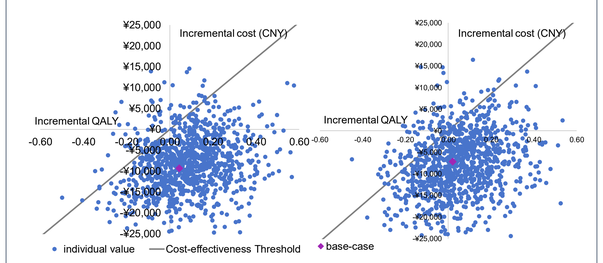


Figure 3 One-way sensitivity analyses between iGlarLixi and IDegLira in patients suboptimally controlled on BI



✓ The results of the PSA showed that iGlarLixi was cost-effective in 92% of iterations versus IDegLira in T2D patients suboptimally controlled on OADs (**Figure 4**), while iGlarLixi was cost-effective in 88% of iterations versus IDegLira in T2D patients suboptimally controlled on BI (**Figure 4**).

Figure 4 PSA between iGlarLixi and IDegLira in patients suboptimally controlled on OADs (left) or BI (right)



CONCLUSIONS

Lifetime simulations demonstrated that iGlarLixi improved clinical outcomes with higher QALYs and lower costs compared to IDegLira in Chinese patients with T2D who fail to achieve glycemic targets on OADs or BI.

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