

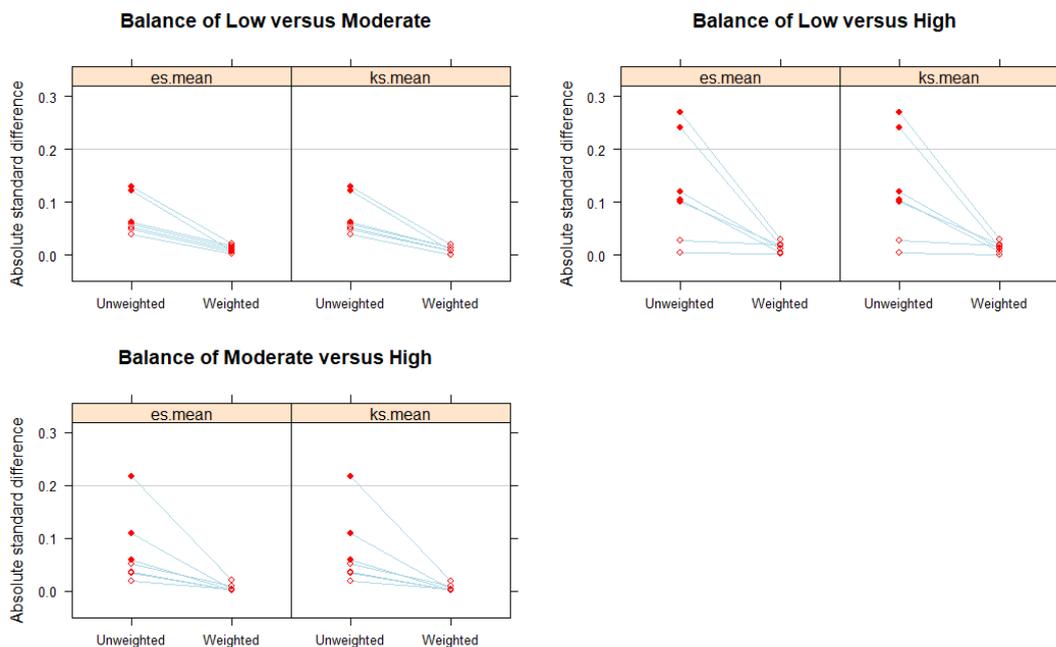
## SUPPLEMENTARY DOCUMENT

**Figure S1. Demographic distributions of selected and excluded patients.**

The group of excluded patients are those who had similarly a diagnosis of type 2 diabetes before July 2012, but did not fulfill the criteria of active status and HbA1c testing (n=16,628). Figures on the upper row present the excluded patients and figures on the lower row are patients included in the study (n=6,424).

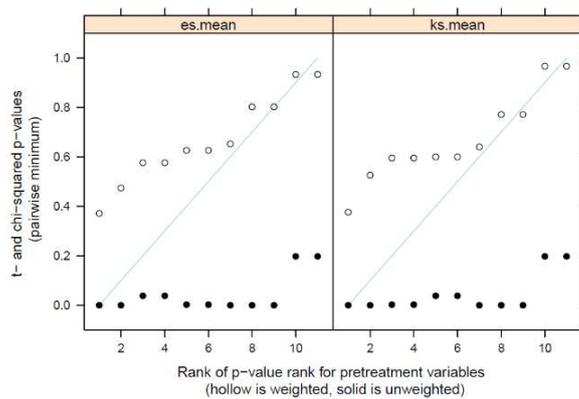
**Figure S2. Balance diagnostics with the absolute standard difference for the propensity score weights.**

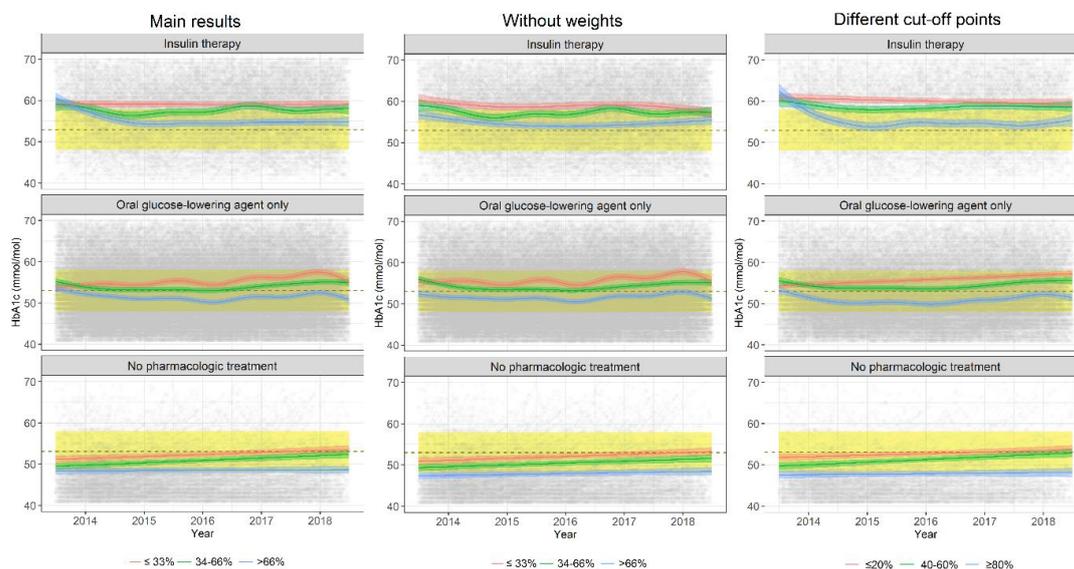
Propensity score weights were built by using generalised boosted model with the covariates of the baseline patient characteristics, which includes age, gender, remoteness, SES, HbA1c level, and treatment regimen. The quality of the estimated weights was evaluated based on whether weighting improved the imbalance of these covariates between study group. Thus, we first performed visual assessments to compare the balance between adherence groups (i.e. low, moderate, and high adherence groups) on the 6 covariates before and after weighting by using two balance metrics: the average of absolute standardized mean differences (also known as the effect size (ES mean)) and the average of Kolmogorov-Smirnov (KS mean) statistics. In the figures below, a closed red circles (●) indicates a statistically significant difference, many of which occur before weighting but none after (○).



**Figure S3. Balance diagnostics with p-value tests for the propensity score weights.**

A p-value plot was also created to investigate whether there are any significant differences in the covariate means between groups before and after weighting. As presented in the figure below, we observed that the groups have significant differences (i.e. p-values close to zero) on many variables before weighting (●), but after weighting (○) there were no longer statistical differences (the p-values become larger). P-values above the diagonal line also indicate that the p-values are even larger than a randomised study would expect. Overall, the differences in the mean covariates by the groups were significant before weighting, but after weighting we see no differences in the covariates by group, which suggests the covariates of the groups had been successfully balanced.



**Figure S4. Longitudinal changes of HbA1c values with different cut-off points and no propensity score weights.****Table S1. Estimated ORs for diabetes-related complications**

Complications	Adherence	Crude OR	Estimate (95% CI)	
			Adjusted OR (unweighted)	Adjusted OR (weighted)
IHD	Low (reference)	-	-	-
	Moderate	1.53 (0.75 - 3.28)	1.28 (0.31 - 6.75)	1.68 (0.39 - 9.58)
	High	1.68 (0.82 - 3.63)	0.72 (0.13 - 4.41)	0.85 (0.15 - 5.61)
CKD	Low (reference)	-	-	-
	Moderate	1.91 (1.30 - 2.80)	0.52 (0.22 - 1.19)	0.46 (0.19 - 1.07)
	High	1.98 (1.34 - 2.93)	0.39 (0.15 - 0.94)	0.42 (0.18 - 0.98)