

Outcome	Likelihood	Link Function	Comment(s)
TDI and CFB in FEV1 and SGRQ	Normal	identity	Continuous outcomes. CFB in FEV1 was analyzed at 3, 6, and 12 months and TDI and CFB in SGRQ were analyzed at 3 and 6 months to account for the fact that changes in these outcomes could be time-dependent. There were insufficient data to assess TDI and CFB in SGRQ at 12 months.
COPD exacerbations	Normal	identity	A shared parameter model. Hazard ratio data (Cox regression analysis of time to first COPD exacerbation) were used in preference to dichotomous data (the number of patients with at least one exacerbation out of the total number of patients) when available. Then the trials reporting the hazard ratio were combined with the trials reporting binomial counts.[11] Data on the log hazard ratio were modelled assuming the continuous treatment differences follow a normal distribution with an identity link. Dichotomous outcomes were assumed to follow a binomial distribution with a cloglog link.
	Binominal	cloglog	
Mortality and dropouts due to adverse event	Binominal	cloglog	This model allows for different study durations, since a longer follow-up would likely make a difference in study results for these outcomes
Total and cardiac SAEs	Binominal	cloglog	There might be studies where multiple events are counted per patient, although this could not be confirmed. However, there was no better model to apply due to the lack of appropriate data (i.e., events/person years).
SGRQ and TDI responders	Binominal	logit	Dichotomous outcomes. These outcomes were analyzed at 6 months. There were insufficient data for other time points.

Table S2. Model used in each outcome. CFB= change from baseline; FEV1= forced expiratory volume in 1 second; SAE= severe adverse event; SGRQ= St. George's Respiratory Questionnaire; TDI= Transitional Dyspnea Index