**Aim:** to compare the predictive abilities between QRJM andlinear mixed model JM (LMJM) for data with skewed longitudinal measurements

**Simulation procedure:**

1. Simulate 30 date sets using JM of QR and Cox model. Choose the quantile to be 0.25. Each simulated data set has 520 subjects, 500 out of which were used to fit the model and the rest 20 were used to make predictions and validation.
2. Fit the data using QRJM and LMJM respectively and save the posterior samples.
3. Choose a time t so that all the patients used to make prediction will only have longitudinal measurements up to time t
4. Use saved samples in step 2 and available measurements from step 3 to predict subject-specific random effects for the validation samples
5. Calculate the prediction for u > t and compare with the gold standard, which is calculated from the true simulated values.

**Result and observation**: So far, there is no big difference between the prediction results from joint models using meaning regression and quantile regression. (See plots below)



Fig 1. Bland-Altman plot comparing the gold standard and predicted survival probabilities using joint model of LMM and Cox model (predictions were made based on first two longitudinal observations and with three different time lag, i.e. $\delta t$)



Fig 2. Bland-Altman plot comparing the gold standard and predicted survival probabilities using joint model of linear quantile mixed model and Cox model (predictions were made based on first two longitudinal observations and with three different time lag, i.e. $\delta t$)