Section 6 : QQ – plots

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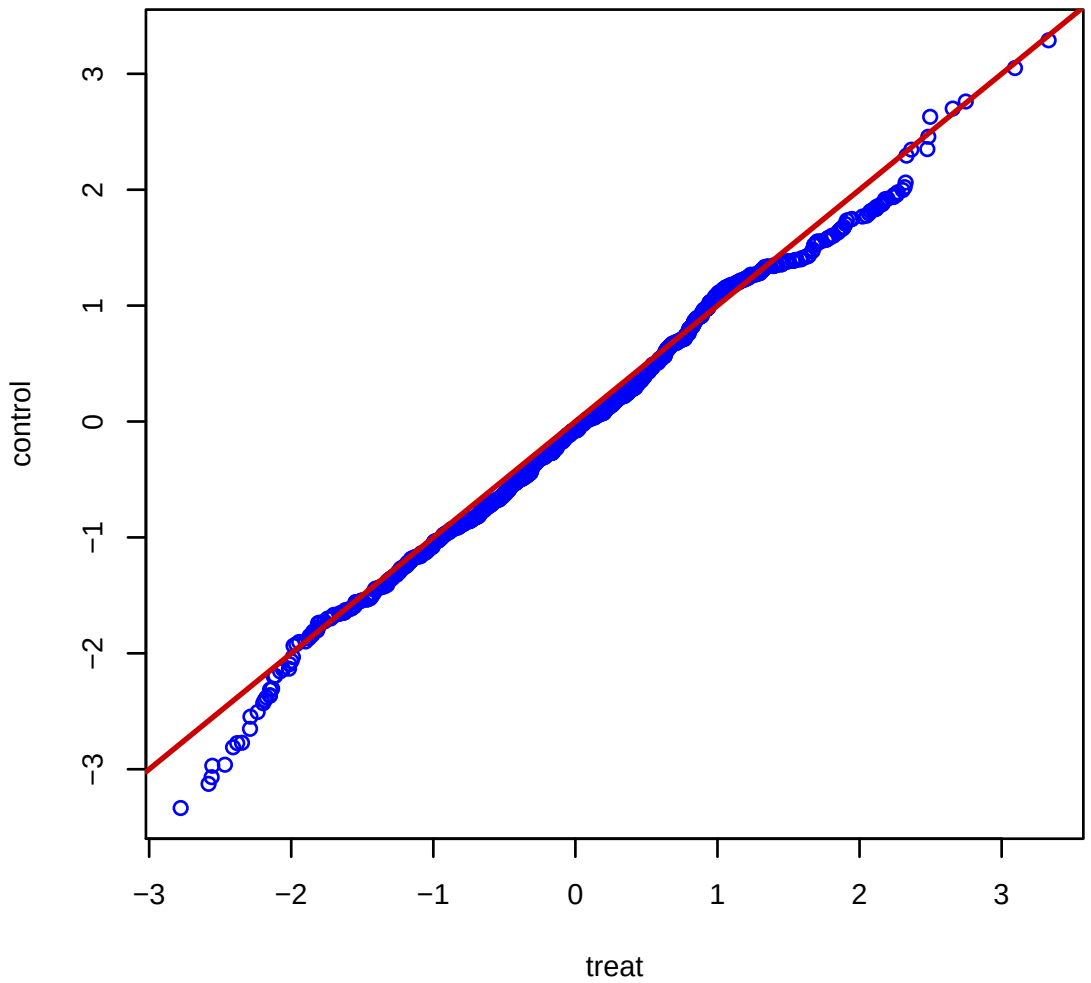
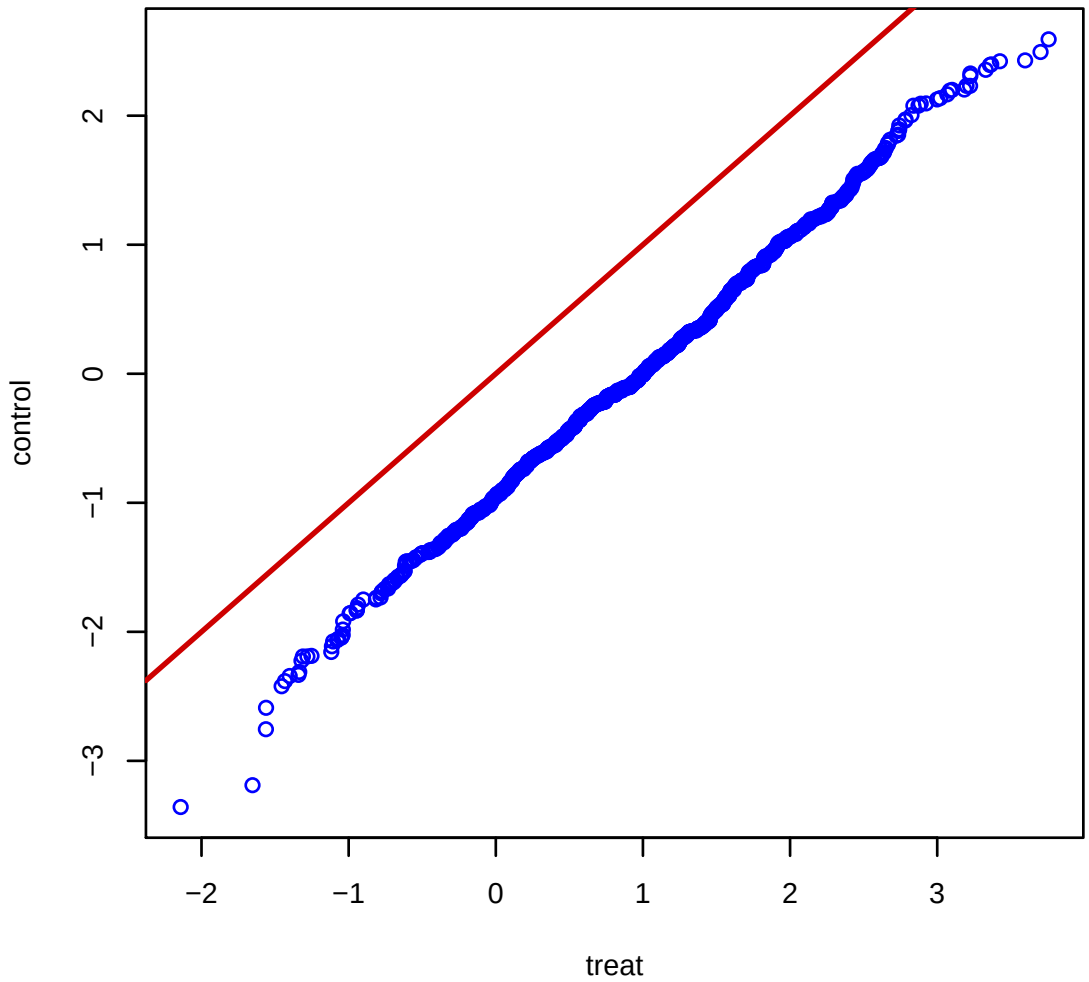
Motivation

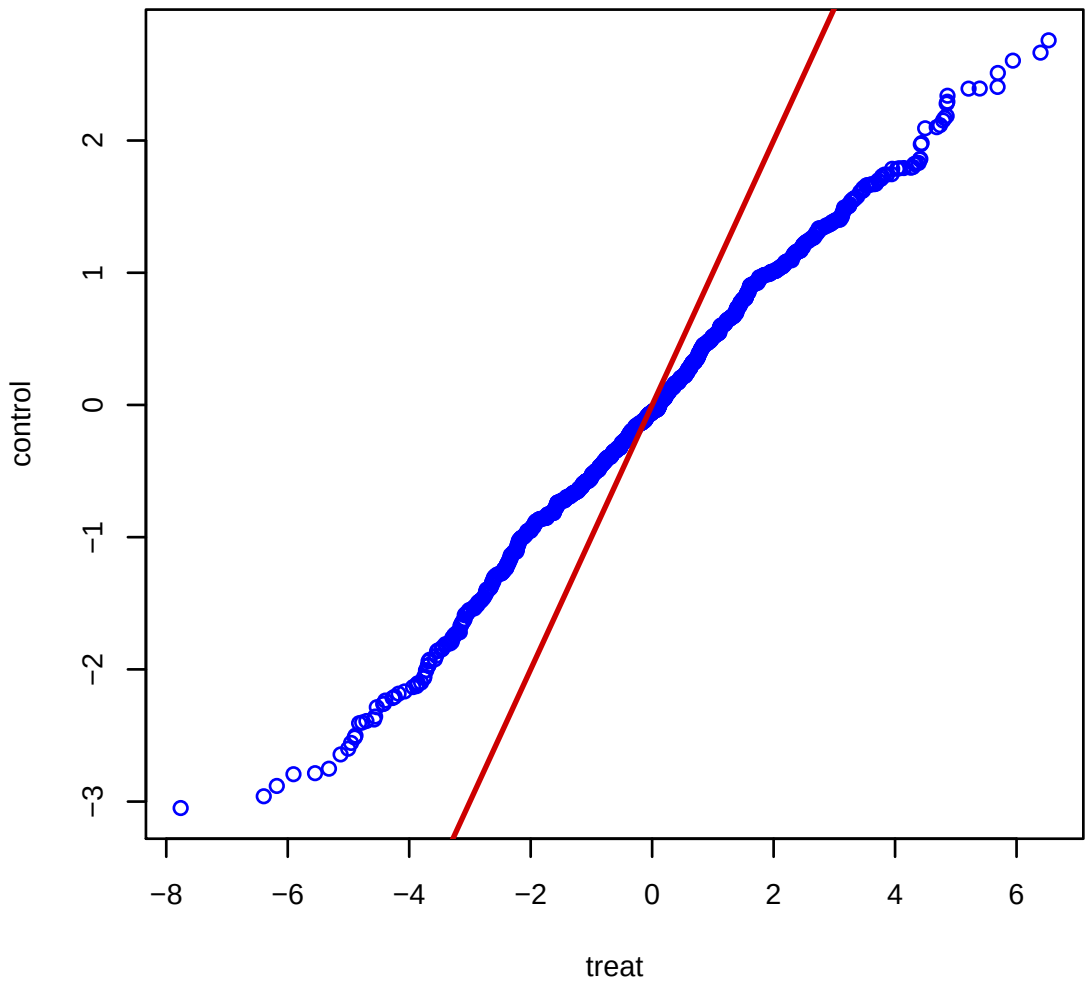
- QQ-plots are useful to compare distributions, and not only the means, variance or median
- The KS-test can be presented in QQ-plot as the largest deviation from the 45 degree line
- In the next figures we are going to compare two distribution, for example the treatment and the control, and try to guess from which distributions was the data generated



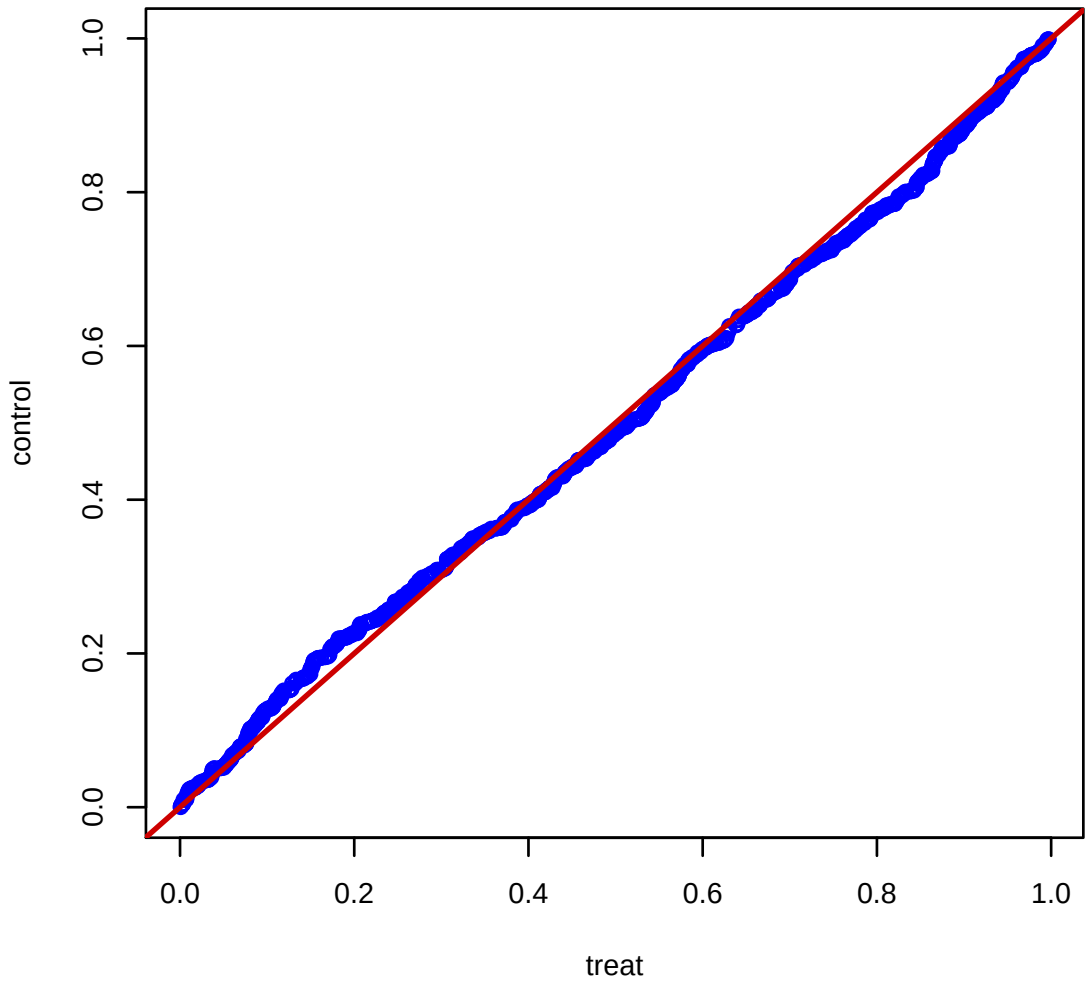
$treat \sim N(0,1)$ and $control \sim N(0,1)$



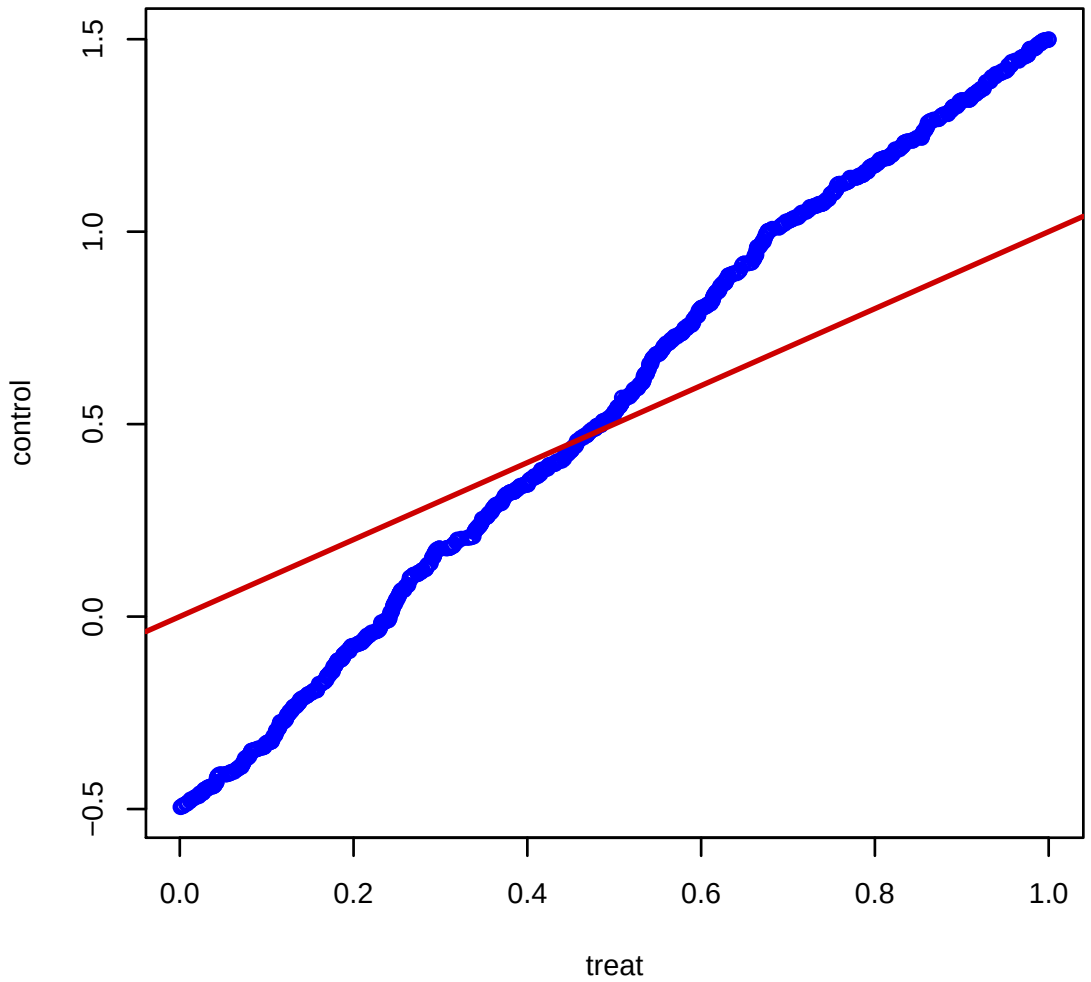
$treat \sim N(1,1)$ and $control \sim N(0,1)$



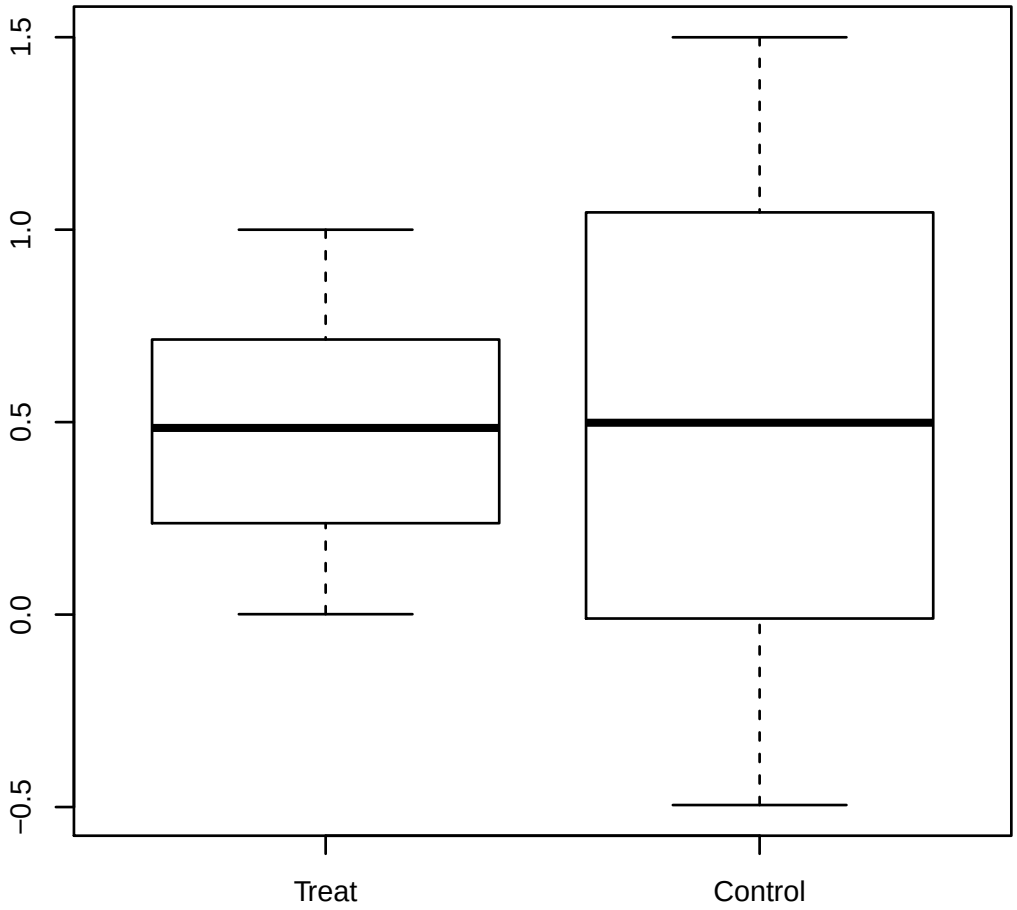
$treat \sim N(0, 2)$ and $control \sim N(0, 1)$



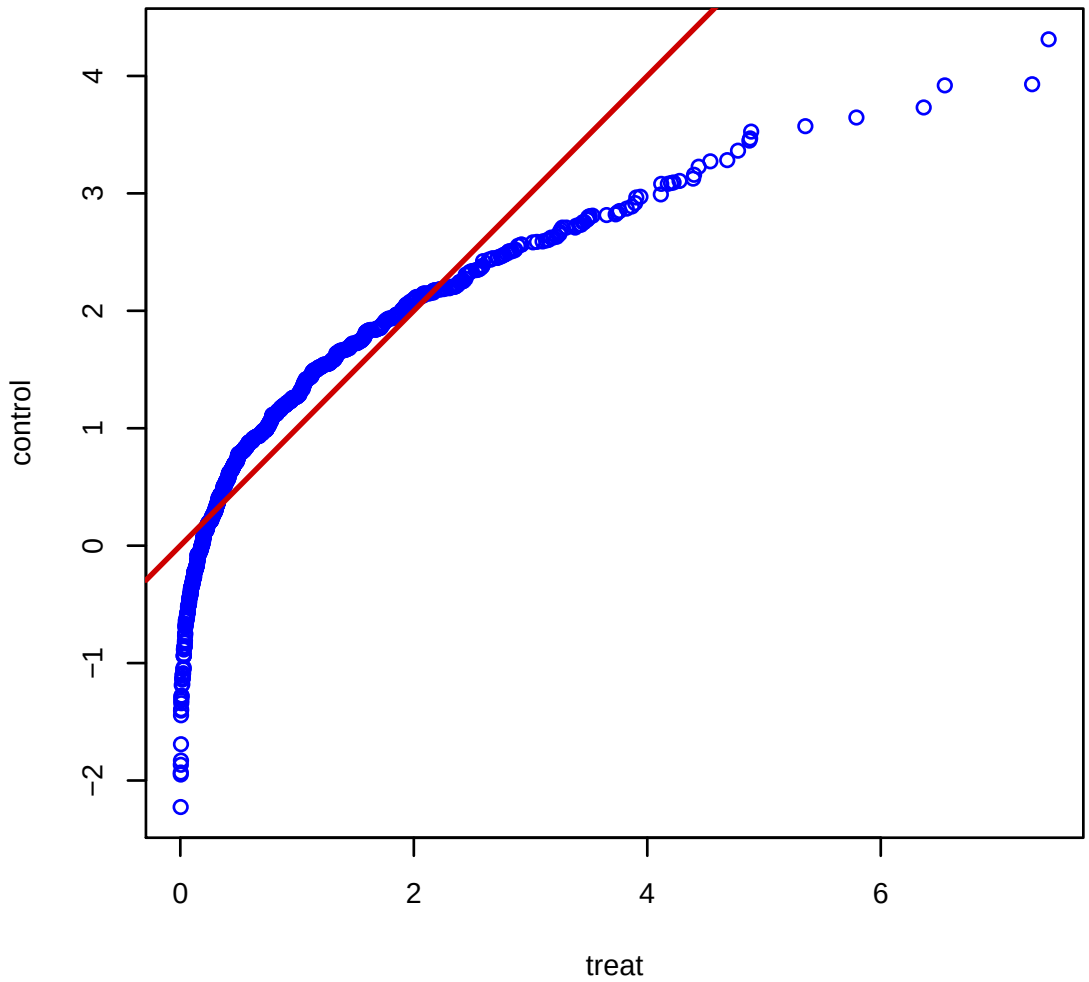
$treat \sim Unif(0, 1)$ and $control \sim Unif(0, 1)$



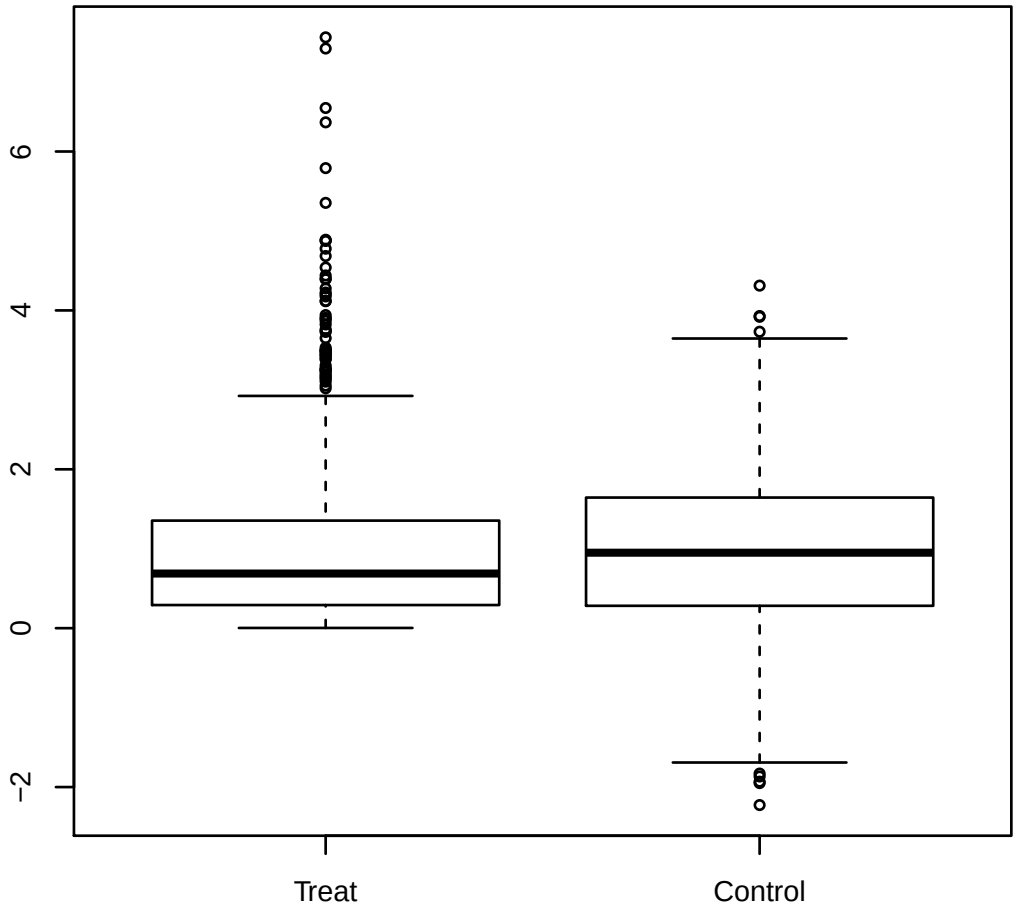
$treat \sim Unif(0, 1)$ and $control \sim Unif(-0.5, 1.5)$



$treat \sim Unif(0, 1)$ and $control \sim Unif(-0.5, 1.5)$



$$treat \sim exp(\lambda = 1) \text{ and } control \sim N(1, 1)$$



$$treat \sim exp(\lambda = 1) \text{ and } control \sim N(1, 1)$$