Estimand

Q is a quantity of scientific interest in the population.

Q can be a vector of population means, population regression weights, population variances, and so on.

Q may not depend on the particular sample, thus Q cannot be a standard error, sample mean, p-value, and so on.

Goal of multiple imputation

Estimate Q by $\hat{Q}$ or $\bar{Q}$ accompanied by a valid estimate of its uncertainty.

What is the difference between $\hat{Q}$ or $\bar{Q}$?

- $\hat{Q}$ and $\bar{Q}$ both estimate Q
- $\hat{Q}$ accounts for the sampling uncertainty
- $\bar{Q}$ accounts for the sampling *and* missing data uncertainty