

1) power = prob that test correctly rejects H_0 when H_0 is true
 $\underline{\text{or}} ==$ prob of accepting H_1 when true

$$\begin{aligned} \text{power} &= 1 - \beta \\ \beta &= \text{prob (Type II error) } (H_0 \text{ is false}) \\ \beta (\text{spec. value}) &= 0.1 \quad \text{but } j \leq 1 \quad \beta = 0.1 \end{aligned}$$

2) $\mu = 50$ prob type I = α

$\mu = 54$, prob type II

$$\begin{aligned} 1 - \beta &= \text{power} \\ 1 - \beta &= 0.926962 \end{aligned}$$

type I = α
 type II = β

$$\frac{\bar{X} - \mu_0}{s / \sqrt{n}}$$

3) bigger CI, bigger range

4) $\bar{X} = 75$ $n = 2900$

$s = 9$

$H_0: \mu = 75$

$H_a: \mu < 75$

$$\frac{74 - 75}{9 / \sqrt{2900}}$$

6) $0.04 * 6 =$
 $0.005 * 6 =$

5)

Bonferroni correction

Aka. $P < \text{orig } P * \# \text{ of tests}$
 if ad. p is still small,
 still significant :)

or say $\alpha = 0.022$ $\left\{ \begin{array}{l} * \text{ do test again} \\ * \text{ do Bonferroni} \end{array} \right.$
 $0.022 * 5 =$
 0.11
 not extreme, so DON'T REJECT
 aka $0.003 * 5 = 0.015$
 still extreme, so still reject :)