

SUMMARY - 1

- The difference sources of variability have important implications in patient management.
- Descriptive statistics should be descriptive, and should suit the pattern of variation.
- Confidence intervals preferable to P-values, since they are expressed in terms of (comparative) parameter of interest; they allow us to judge magnitude and its precision, and help us in 'ruling in / out' certain parameter values.
- A 'statistically significant' difference does not necessarily imply a clinically important difference.
- A 'not-statistically-significant' difference does not necessarily imply that we have ruled out a clinically important difference.

SUMMARY - 2

- Precise estimates distinguish b/w that which – if it were true – would be important and that which – if it were true – would not. ‘ n ’ an important determinant of precision.
- A lab value in upper 1% of reference dist^{tn}. (of values derived from people without known diseases/conditions) does not mean that there is a 1% chance that person in whom it was measured is healthy; i.e., it doesn't mean that there is a 99% chance that the person in whom it was measured does have some disease/condition.
- Likewise, P-value \neq probability that null hypothesis is true.
- The fact that

$Prob[\textit{the data} \mid \textit{Healthy}]$ is small [or large]

does not necessarily mean that

$Prob[\textit{Healthy} \mid \textit{the data}]$ is small [or large]

SUMMARY - 3

- Ultimately, P-values, CI's and other evidence from a study need to be combined with other information bearing on parameter or process.
- Don't treat any one study as last word on the topic.
- Worry also about distortions of a non-sampling kind that are not minimized by having a large ' n .' A larger sample size will not reduce systematic differences in a comparison.