

Probability/Proportion

Other scales [(identity), odds, log odds (logit); log]

Parameter; statistic; notation

Binomial Distribution**Inference concerning a proportion**

BAYESIAN

FREQUENTIST

- "Exact" (using Binomial distribution itself)
- "Gaussian approximation" to behaviour of statistic
- CI's based on ..
 - Gaussian approxn. to binomial, but with SD's *calculated at limits* rather than at the point estimate itself [Wilson]
 - (approx) Gaussian distribution of a variance-stabilizing transformation of binomial, again with SD's calculated at limits rather than at point estimate itself
 - (approx.) Gaussian distribution of logit transformation of proportion
 - (approx.) Gaussian distribution of log transformation of proportion
- Sample Size for CI's and Tests involving proportion

Readings

- Moore & McCabe Ch 8.1 / Armitage Ch 4 / Colton Ch 5
- Rothman 2002, Chapter 7
- JH's Notes for Ch 8.1 [<http://www.epi.mcgill.ca/hanley/c607/>]

Other Resources [Computer / Chapters / Articles / etc..]

- Resources for Ch 8 [<http://www.epi.mcgill.ca/hanley/c607/ch08>]

Comparison of 2 proportions

- **COMPARATIVE MEASURES / PARAMETERS**

(Risk or Prevalence) Difference Ratio

Odds Ratio

- **"LARGE-SAMPLE" CI'S / TESTS**

"Test-based" CI's ... in general & in particular

- **SAMPLE SIZE CONSIDERATIONS (CIS AND TESTS)**

for differences / ratios

unequal sample sizes & precision/power

for odds ratios (case-control studies)

- **X² TESTS (& EQUIVALENCE OF X² & Z² STATISTIC)**

Mantel-Haenszel Test Statistic for single 2 x 2 table

2x2, 2x1, 1x2 and 1x1 Tables [.. JH's terminology]

Comparison of Proportions --- Paired Data

Responses recorded on an *ordinal* scale

Test for trend in (response) proportions

Readings

- Moore & McCabe Ch 8.2 & 9 / Armitage Ch 4 / Colton Ch 5
- Rothman 2002, Chapter 7
- JH's Notes Ch 8.2 and Ch 9

Other Resources [Computer / Chapters / Articles / etc..]

- Resources Ch 8/9 [<http://www.epi.mcgill.ca/hanley/c607/ch09>]