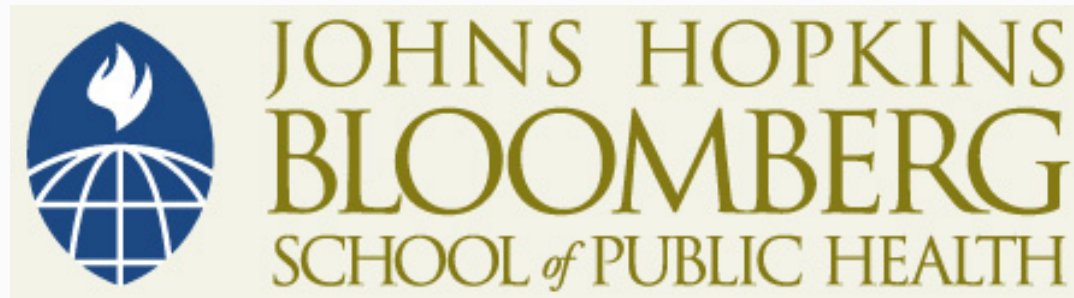


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## Lecture 3g: Practice Problems

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# Practice Problems

1. Suppose a study is done to estimate the proportion of patients who suffer from nausea as a side effect from taking a drug, Drug A. Suppose a random sample of 200 users of Drug A is taken, and each individual in the sample is queried about the presence/absence of nausea. In the study, 90 of the 200 subjects report some nausea since starting the Drug A regimen.
  - Estimate a 95% confidence interval, by hand, for the true proportion of subjects with nausea amongst everyone taking Drug A.
  - How does the interval in part A compare to the exact confidence interval computed by Stata?

# Practice Problems

2. Data was from a 2004 random sample of 960 high school students in Haifa, Israel to look at the association between post-traumatic stress induced by terrorist attacks/threat and substance abuse.<sup>1</sup> Two of the findings from this study are that 35% of the population knew at least one person who had been killed in a terrorist attack and that 10% of the sample had used marijuana in the 30 days prior to the study.
  - a) Estimate a 95% confidence interval, by hand, for the proportion of all HS students in Haifa in 2004 who:
    - ▶ Knew at least one person killed in a terrorist attack
    - ▶ Had used marijuana in the prior 30 day period
  - b) How do the intervals in part A compare to the exact confidence intervals computed by Stata?

Notes: <sup>1</sup> Schiff, M., et al. (2007). Exposure to terrorism and Israeli youths' cigarette, alcohol, and cannabis use. *American Journal of Public Health* 97, 10.