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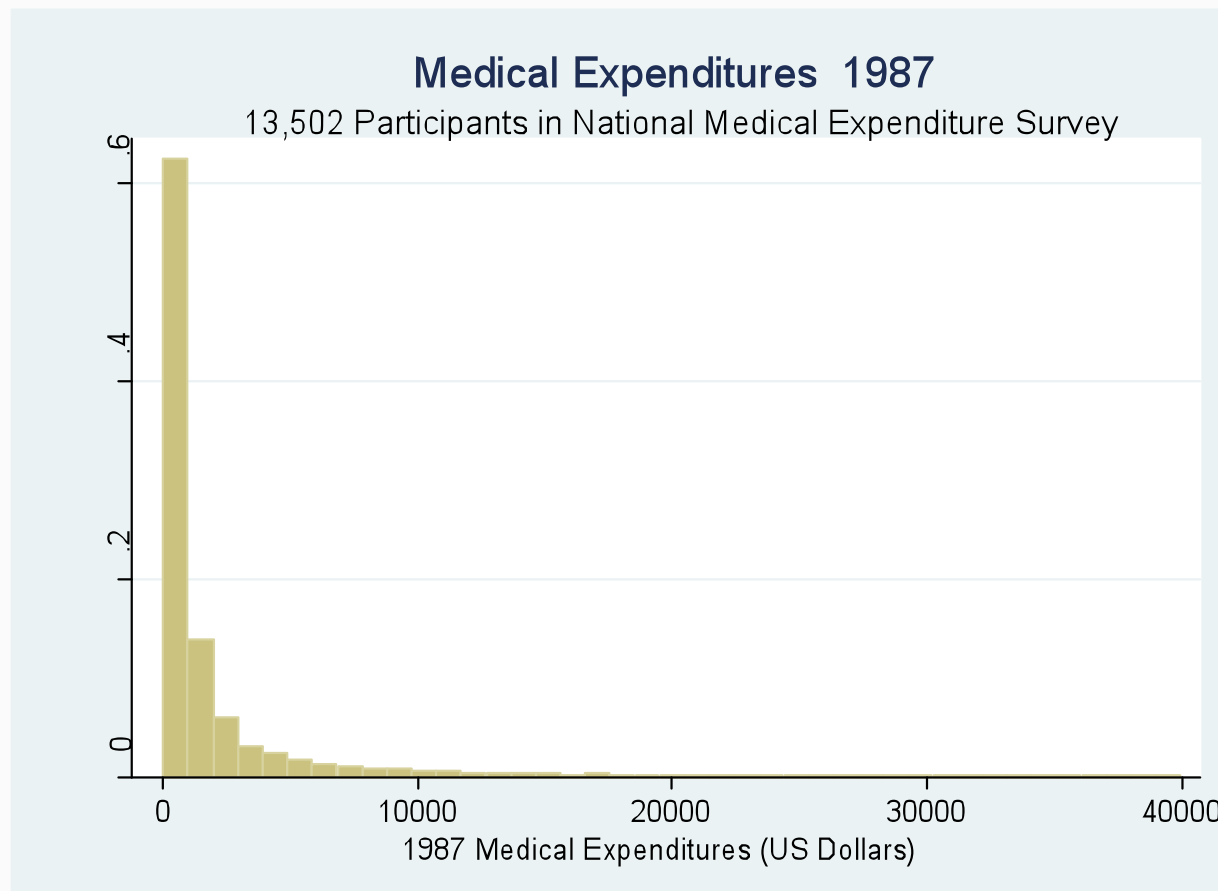
JOHNS HOPKINS
BLOOMBERG
SCHOOL *of* PUBLIC HEALTH

Lecture 1f: Practice Problems

John McGready
Johns Hopkins University

Practice Problems

1. The following histogram shows the distribution of medical expenditures (in US dollars in the year 1987) for participants in the National Medicare Expenditures Survey (NMES)
 - Mean: \$2,300; median \$588; SD \$4,957

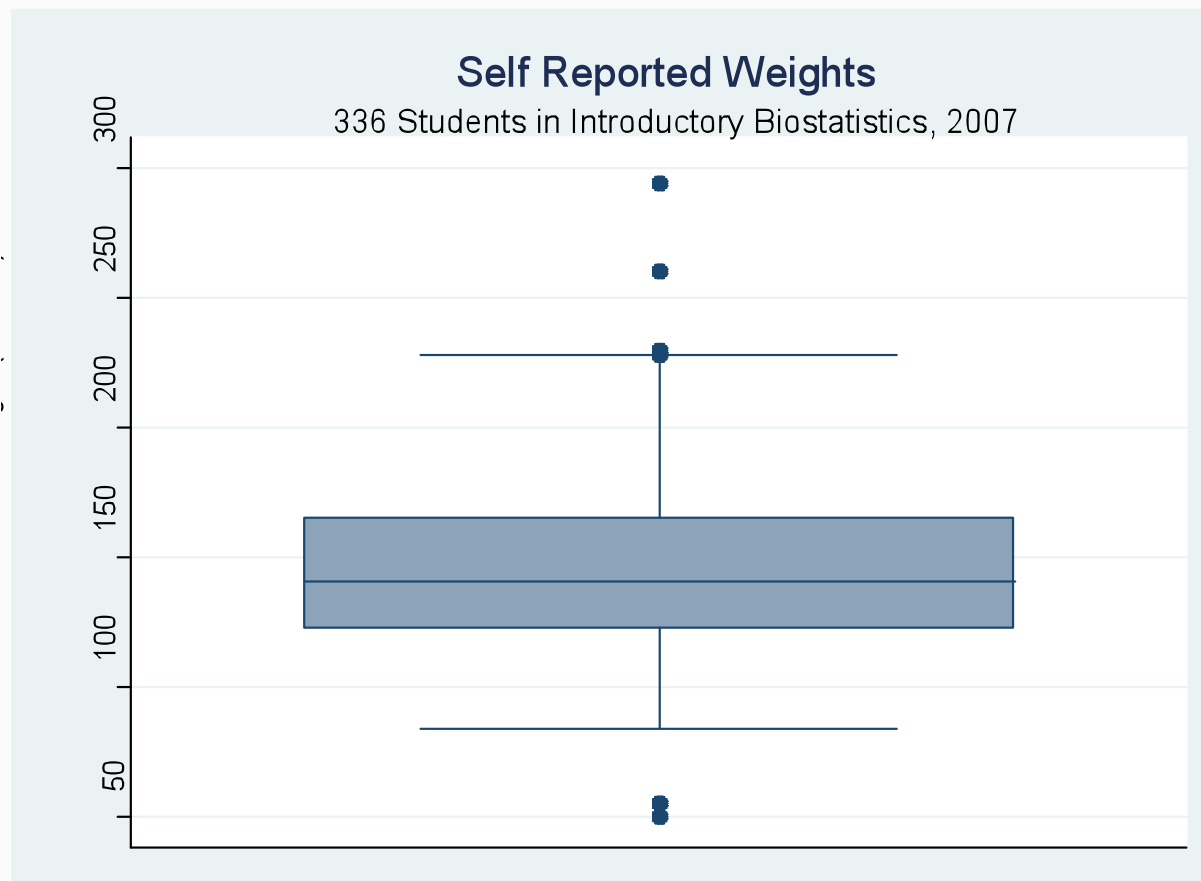


Practice Problems

- a) How would you characterize this distribution (symmetric, right skewed, etc..)?
- b) Suppose you take a random sample of 100 observations from this “population” of over 13,000 respondents. What shape will the histogram of the these sample values likely have?
- c) Suppose you take a random sample of 2,000 observations from this “population” of over 13,000 respondents. What shape will the histogram of the these sample values likely have?
- d) Which random sample, the sample of 100 or the sample of 2,000 will have a larger sample standard deviation?

Practice Problems

2. The following boxplot shows the distribution of self-reported weights (in pounds) of 336 students enrolled in an introductory biostatistics course at JHBSPH in year 2007 (not 611!)
- Mean: 145 lbs; median 141 lbs; SD 31 lbs

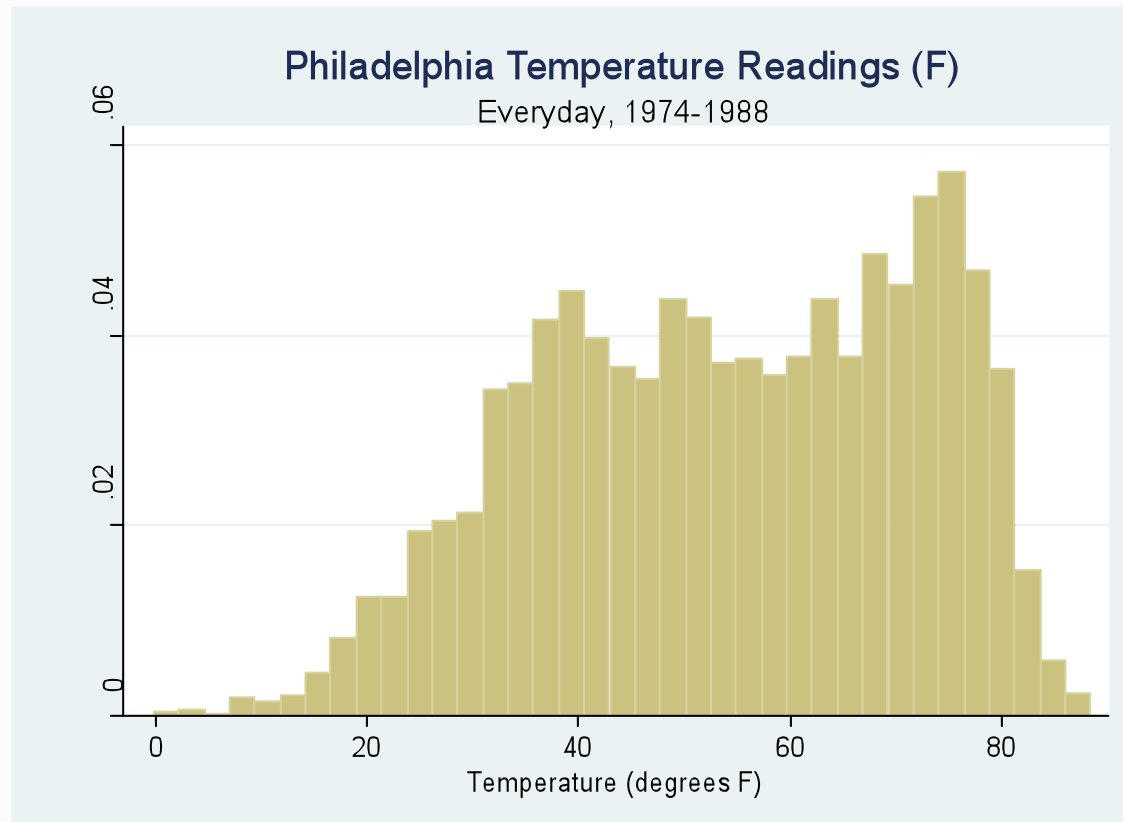


Practice Problems

- a) How would you characterize this distribution (symmetric, right skewed, etc.)?
- b) Suppose this sample is representative of all graduate students at JHBSPH enrolled in 2007. What does this sample suggest about the distribution shape for the weights of all graduate students in 2007 at JHBSPH?
- c) Students self selected to participate in this survey (there were more than 336 enrollees in this other introductory class). How might this impact the representativeness of the sample with regards to all JHBSPH graduate students in 2007?

Practice Problems

3. The following histogram shows the temperature measured at 12 noon on everyday of a fifteen year period for the U.S. city of Philadelphia (5,471 days)
- Mean: 54 ; median 55; SD 18



Practice Problems

- a) How would you characterize this distribution (symmetric, right skewed, etc.)?