Week 5 Day 1
Stat140-04

Part I: Ebola in New York City

In New York City on October 23rd, 2014, a doctor who had recently been treating Ebola patients in Guinea went to the hospital with a slight fever and was subsequently diagnosed with Ebola. Soon thereafter, an NBC 4 New York/The Wall Street Journal/Marist Poll found that 82% of New Yorkers favored a "mandatory 21-day quarantine for anyone who has come in contact with an Ebola patient". This poll included responses of 1,042 New York adults between Oct 26th and 28th, 2014. We further assume that the poll is done via simple random sample.

(a) What is the sample statistic in this case?

(b) Is it reasonable to use a normal distribution to model that sample statistic?

(c) Estimate the standard error of the sample statistic from the Ebola survey.

(d) Construct a 95% confidence interval for p, the proportion of New York adults who supported a quarantine for anyone who has come into contact with an Ebola patient.

(e) Construct a 99% confidence interval for p, the proportion of New York adults who supported a quarantine for anyone who has come into contact with an Ebola patient.

Part II: Solar energy

In the Pew Research poll about solar energy, they also inquired about other forms of energy, and 84.8% of the 1000 respondents supported expanding the use of wind turbines. Assume the survey was a random sample.

(a) Is it reasonable to model the proportion of US adults who support expanding wind turbines using a normal distribution?

(b) Create a 99% confidence interval for the level of American support for expanding the use of wind turbines for power generation.

Part III: Challenge yourself

What does 95% confident mean?