# Definitions

Empirical – anything that we conclude from observation or experiment, rather than theory. Latin, peir = to attempt. Also called experimental probability, or relative frequency

Frequency probability – an interpretation of what a probability means.

A probability can be interpreted as a frequency probability under the following assumptions

* sample space = set of all possible outcomes for an experiment e.g {got better, got worse, no effect}
* an event is an element of the sample space (so got better is an event)
* the event either happened or didn’t happen (its binary)
* the relative frequency is the same as the empirical frequency

expressed mathematically

E = event

n(E) = number of times E happens

N = number of times we run the experiment

P(E) = n(E)/N as N approaches infinity

Which means that the more samples we take, the closer we are to getting the true probability of an event

Frequency style inference

Statistical inference – process of generating conclusions about a population from a sample.

In other words -> we want to predict behaviour of 1 million..so we take a sample of 1000 people, and using statistics infer what the remaining 999,000 are doing