In this experimental design, sampling time:

next sampling, probability

time:

Read: DD ch. 7
FPR ch. 13

Homework 2 due next time (Fri 21 Apr)

3 general hints on all written work in this class:
1) Read first paragraph on p. 20 of reader.
2) Visualize the raw data (1 row for each .),
which columns (variables), etc. 3) If your answer involves only ideas, facts that you knew before beginning AMS 5, you have probably missed the main point of the problem.

Clarification: In cs 4, 7 people got drug for 24 weeks, follow up was for 18 months. Good design: get 833 HIV+ people who agree to be part of experiment, randomize about half (421) of them to A (400 mg iso), the rest (421) to C (placebo), wait 18 months, see how many get AIDS - randomized controlled trial (RCT).
run exp. double-blind (both subjects & experimenters had no knowledge of who is in (1), (2) groups) 
randomization does not guarantee perfect comparability or (1), (2) groups every time you do it, (2) but (1) the more people you have in exp., the harder it becomes for (1), (2) groups to differ a lot in relevant ways & 
(2) even with a fixed value of (1), on average across imaginary repetitions or randomization, 2 groups will tend to be similar.

Randomization good but not always ethical. 

et al. (55) when can't randomize, observational study: people in (1), (2) groups choose to be in these groups

outcome (7): blood pressure (effect) variable: (systolic)
Treatment variable (supposedly causal factor (SCF)): mill vs. no mill

- $X$ and $Y$ are associated with each other
- $X$ causes $Y$
- $Y$ causes $X$
- $X$ and $Y$ are associated, but it's not clear what is causing this

A variable that can be associated with both $X$ and $Y$: potential confounding factor (PCF)

2 sets in the way of our correct understanding of whether $X$ is causing $Y$
PCF: Outcome of interest is a potential effect of treatment.

儒家: Aims to see if PCF is a control group.

1. Subject X is in control group.
2. Subject X is in treatment group.
3. If PCF is control group, then subject X is also in control group.
4. If PCF is control group, then subject X is in treatment group.
5. Control group is the same as the PCF group.
6. Control group is not the same as the PCF group.
7. Control group is the same as the treatment group.
8. Control group is not the same as the treatment group.
Ex. in any study involving health, baseline health (before exp. started) is a possible PCF.

CS 4: A possible PCF is baseline health.

② - ①? More baseline → higher chance of getting AIDS

② - ④? RCT: baseline health in ①, ② groups should be similar, no co. assoc. between

② & ④ in a RCT

The use causing an increase in B.P. of about 5 mm Hg, after controlling for age.