

STA 198F, Fall 2020: Probabilities Everywhere

Class activities for Week 10

Whole-class homework discussion: As a group, we will discuss last week's homework readings and questions. Be sure to participate actively, and raise your hand often!

Group Exercise About Medical Studies: Your group has just been appointed as the editorial board for the new medical research journal *Trustworthy Results*. As a group, design your journal's policy for how to handle medical studies that are submitted for publication in your journal, which claim that some drug is successful at curing some disease. This may include designing a questionnaire, and/or registration process, and/or protocol, and/or submission system, that authors must follow when submitting studies to your journal.

Examples of issues you might consider are: How will you ensure that legitimate research will get published, but misleading research claims will not? What standards of proof will you require? How will you avoid problems involving biased researchers or funders? How (if at all) does your policy depend on whether or not the disease is serious? not serious? If the study is favourable? unfavourable? If the study's funding is from the drug company? from a university? confidential? If the study's author is a famous scientist? an unknown? etc.

[Please give quite a bit of detail about your policy. However, note that your journal only has enough funds to provide basic editorial and secretarial services, and to get experts to review documents which have been submitted, but not enough funds to conduct your own supplementary medical studies or investigations.]

Once your group has agreed on everything about your policy, then write it up clearly and completely, on either paper or computer file, including all group members names.

Whole-Class Follow-Up Exercise About Medical Studies: Each group, in turn, will read out their journal policy. The rest of the class will discuss the following questions:

(a) What aspects of this policy do you particularly like, and why?

(b) In what ways might a rich but unscrupulous drug company, that wishes to sell their new drug even though it may not be effective, manage to get favourable but questionable research results about their drug published in a medical journal having this policy?

(c) In what ways might a legitimate medical researcher, with important and valid and truthful medical information, be unable to publish their research in a medical journal having this policy?

Homework – Final essay: Initial ideas are due by email by 4:00 PM on Monday (Nov. 30), to be discussed next class on Dec 2. Your final paper is due by 4:00 PM sharp on Dec. 8.