

Gregg and the Pandemic of COVID-19

Assignment 3A: Answer TWO of these questions using information you learned from the third week of the course. Consider this is a take-home exam. You must answer the question in essay format but can address Gregg directly if you choose. You can use a formal essay structure or have a conversation with Gregg. These questions should be **at least** two pages EACH!, double spaced. REMEMBER, NO QUOTATIONS AND ABSOLUTELY NO PLAGIARISM. YOU NEED REFERENCES TO JUSTIFY YOUR STATEMENTS. USE IN-TEXT CITATIONS!!! ADD YOUR REFERENCES AT THE END IN APA OR CSE FORMAT, NOT AS SIMPLY A URL!

EVERYONE MUST ANSWER THE FIRST PROMPT. BE SURE TO INCLUDE EACH COMPONENT OF THE PROMPT.

1. Well, last week you convinced Gregg to pay more attention, but now he is starting to panic. Two people who work in the office next to his have tested positive to the virus that causes COVID-19. Gregg is insisting on getting tested. He has no symptoms and was no where near the two people who tested positive. In a short essay, reassure Gregg and at the same time explain to him why he will not be able to get tested. Explain to Gregg why there is a testing shortage; why getting tested may or may not determine if he is infected, and the techniques used to do this testing including what the test is examining or looking for, how the test is run (for example, what is qPCR/RT PCR?), and what is the difference between looking for viral RNA, looking for viral antigen and looking for antibodies against the virus.

CHOOSE ONE OF THE FOLLOWING PROMPTS (2 OR 3) TO ANSWER. YOU MAY NOT ANSWER BOTH PROMPTS FOR EXTRA CREDIT OR A PART OF ONE OF THE PROMPTS AND A PART OF THE OTHER PROMPT. THE PROMPT YOU CHOOSE MUST BE ANSWERED IN FULL, i.e. each component.

2. You are becoming very concerned about Gregg. Although he seems to have come full circle and is now paying attention to the pandemic, he now wants to treat himself with drugs even though he does not have COVID-19.
 - A. Remember that Gregg's wife is a pharmacist and can obtain drugs. Gregg wants to take hydroxychloroquine and Remdesivir. Discuss with Gregg the science behind these drugs and explain to him how both of these drugs work, i.e. what is their mechanism of action.
 - B. In addition, Gregg's co-worker tested positive for the virus and is now well after a minor bout of COVID-19. Gregg wants to inject his co-worker's plasma into himself. Explain to Gregg the science behind this potential way to prevent infection with SARS-CoV-2.
3. Gregg's daughter, Silvia, has been home since her college was closed. She has been following the epidemic and has become fascinated with epidemiology. You want to encourage her interests. Talk to Silvia about epidemiology and how an outbreak of an infectious disease is traced and followed. Use COVID-19 as an example.