Week 3. Diagnostics, Testing, Treatment

We will answer each of these questions this week.

a. What is the science behind "social distancing"? What is the evidence that isolation and social distancing work against transmitting the virus?
b. How is COVID-19 affecting healthcare within the world and within the United States?
c. What is the epidemiology of COVID-19? Why did the virus that causes COVID-19 quickly become a pandemic?
d. Is everyone who tests positive for SARS-CoV-2 going to become sick? What determines the susceptibility to the virus? What are "co-morbidities"? Why do older individuals become more sick than younger individuals? Why are children, on average, not becoming as sick?
e. How could a vaccine be developed against the SARS-CoV-2? What is the vaccines' target? How effective would this be? What parallels are there between the flu vaccine and a COVID-19 vaccine? How long does vaccine development take?
f. How can an infection with SARS-CoV-2 be detected? What is the principle behind testing? What is PCR? Why is testing for the virus lacking behind in some countries but not in others?
g. What drugs could be used to treat COVID-19? What viral components would be targets of potential drugs?

Assignments: Upload all assignments by 9AM, CTZ, (due date in parentheses).

Draft first two pages of Research-Based Essay (Monday, May 4, 9AM)

Draft of complete Research-Based Essay (Friday, May 8, 9AM)

Date	Session	Concepts covered	Activities to be completed by the next day:
May 4	Danny McCormick, M.D., M.P.H. Associate Professor of Medicine, Harvard Medical School Director of the Division of Social and Community Medicine, Department of Medicine, Cambridge Health Alliance		Draft first two pages of Research-Based Essay (Upload by 9AM)
5	10_Social distancing; repercussions on healthcare Olivia Knowles	a. What is the science behind "social distancing"? What is the evidence that isolation and	Examine the interactive map of Covid-19 at Johns Hopkins by tomorrow. Determine what surveillance looks like your area. How many cases; how many deaths.

Date	Session	Concepts covered	Activities to be completed by the next day:
		social distancing work against transmitting the virus? b. How is COVID-19 affecting healthcare within the world and within the United States?	
6	11_Epidemiology, Testing and Vaccines MaryJo Schmidt	c. What is the epidemiology of COVID-19? Why did the virus that causes COVID-19 quickly become a pandemic? d. Is everyone who tests positive for SARS-CoV-2 going to become sick? What determines the susceptibility to the virus? What are "co-morbidities"? Why do older individuals become more sick than younger individuals? Why are children, on average, not becoming as sick? e. How could a vaccine be developed against the SARS-CoV-2? What is the vaccines' target? How effective would this be? What parallels are there between the flu vaccine and a COVID-19 vaccine?	Spend this week working on your Research Paper.

Date	Session	Concepts covered	Activities to be completed by the next day:
		How long does vaccine development take?	
7	12_Tests; Drugs/treatment Skye McCormick	f. How can an infection with SARS-CoV-2 be detected? What is the principle behind testing? What is PCR? Why is testing for the virus lacking behind in some countries but not in others? g. What drugs could be used to treat COVID-19? What viral components would be targets of potential drugs?	
8	13_Summarizing and Questions from Forum		Draft of entire Thesis due. Upload to Moodle by 9AM, CTZ. Work on Assignment 3A: Gregg and the Pandemic of COVID-19, due Monday, May 11, 9AM