

Proper Preparation: Planning a Response to COVID-19

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Part I – Something New

“Can you believe it’s our last semester, guys? I’m so excited to get some actual real world experience with all the stuff we’ve been learning about,” says Karlyn from the front seat of the carpool.

Emma replies from the back seat of the car, looking up from her phone, “Ugh, Mom just posted a ‘Last First Day’ picture of me on Facebook. Where did she even dig up those kindergarten pictures?”

Bella rolls her eyes and chimes in, “What do you think they will have us doing? I hope it’s not just making copies and running to get coffee. I also hope I can keep up with Chris; I’m not sure how to get there and he drives like a maniac!”

The date is January 21, 2020 and you and the other students in your senior seminar cohort are excited to begin your semester-long internship at the county health department. This is set to be the culmination and application of all that you’ve learned in your course work over the last four years. However, this semester is shaping up to be quite different from your previous seven.

When you meet up with the passengers from the other car at the front door, Madison looks a bit stressed and Katie is smoothing out her hair. “Chris, it’s January; did you have to have the sunroof open?” she says, eyeing him.

“Of course, it’s beautiful outside, and we don’t get many of these warm sunny days in January around here!” he replies with a mischievous grin.

“Well at least tuck in your shirt, we’re supposed to be professionals here!” Karlyn tells him as you greet the receptionist, who leads your group to the main conference room.

“Welcome! We’re glad to have you here!” says Dr. Adam Brooks, the director of the county Department of Public Health. “There’s a lot going on in the world of public health right now and we’re going to jump right in.”

“As part of your public health and microbiology courses, I’m sure you’ve been following the news out of China about the novel human coronavirus SARS-CoV-2 and the disease it causes, COVID-19. It’s becoming increasingly clear that this is going to be a global issue in the coming months. Even in our sleepy little college town, we will see the effects of this emerging disease,” Mr. Brooks continues. “I have a couple of meetings today, so I am going to turn you over to Dr. Karen Lail; she’s the infectious disease specialist in our office. She’s going to walk you through some background so that we’re all on the same page. We’ll meet tomorrow to discuss what I learn in my meetings.”

“Good morning, let’s get to work, shall we?” says Mrs. Lail as she clicks on the overhead projector. “Let’s start with what we know and what we don’t. We know that COVID-19 is caused by a virus in the coronavirus family, similar to the SARS and MERS outbreaks of a few years ago. You all have likely had a coronavirus infection, but this virus is different; it is novel to the human species, so there is no vaccine or antiviral drugs to combat it. It is also an RNA virus, so it works a little differently than other viruses. What we don’t know is how quickly or easily it spreads within the population or how best to control it. As a group, I need you to collect some more information before we move on.”

Questions

1. Outline the basic life cycle of a virus, specifically an RNA virus such as SARS-CoV-2.
2. Do scientists classify viruses as living or non-living organisms? Defend your position.
3. Where did coronaviruses get their name?
4. How does a coronavirus particle attach to a living cell?
5. Describe outbreaks of coronavirus-related illnesses (other than COVID-19) in the early 21st century.
6. What are some symptoms of COVID-19? How is it spread?
7. Why is a “novel” infection more dangerous than a new strain of a known disease, such as influenza?

Part II – Making Plans

The next morning, Mr. Brooks enters with a grim look on his face. “This is going to be unprecedented in this country’s history—probably the world’s,” he says. “We will have our work cut out for us in the coming days and weeks. I will take this opportunity to introduce Mr. William Knight, our Community Outreach Director. He will fill you in on what your role will be during this crisis.”

Mr. Knight looks around the room with a creased brow and intensity in his eyes. “There’s going to be a lot of confusion, a lot of worries, and a lot of bad information out there. Our job is to make sure we provide our community with the best scientific information, the most accurate data, and the most helpful planning that we can. Your unique experience with instant communication and the world of social media combined with your scientific background is really going to prove valuable for us. Let’s get to it.”

Assignment

1. Break into groups of five to six members. Each person will be assigned to a team as described below. One person will also serve as a team leader, who will proofread and approve all submissions.
 - *Team Leader*
 - Will review and submit each assignment.
 - Take lead on preparedness plan.
 - *Graphic Design Team*
 - Produce infographic, share with leader.
 - *Press Team*
 - Produce daily press releases or FAQ documents for public distribution.
 - *Preparedness Team*
 - Work together to produce a preparedness plan.
 - Includes team leader.
2. Along with your team and group as a whole, you will produce the following deliverables (your teacher will provide specific requirements):
 - Daily press releases
 - Infographics
 - Preparedness plan
3. Present and discuss your preparedness plan with the class. Your team leader should be the spokesperson.

Part III – Closure

After only two weeks of working at the county health department, the decision was made to remove all non-essential personnel, which included your internship cohort. On March 9, 2020, your school sent students home and shifted to an online-only mode of instruction. Many states closed non-essential businesses, urging people to stay home and avoid unnecessary travel and contact with each other. Seemingly overnight, life as we knew it changed.

However, through these uncertain times, your group was able to continue working and contributing (albeit remotely) to the communication and planning efforts at the health department. The leaders there welcomed the views and experiences of students that were suddenly spread around the country and could offer unique perspectives about the spread of disease and the actions taken by those in other states and communities.

“I want to commend and thank you all for your diligent work these past few months. You adapted to changing situations and really made a difference in our small community,” Dr. Brooks says from his office as he addresses your remotely assembled class on the final day of the semester. “The amazing cooperation and flexibility you showed as you worked from home, wherever that was, was great to see.”

“Thanks to your excellent scientific communication and the quick response of our community to the guidelines you helped develop, the impact of COVID-19 in our town was much less than it could have been. The university hospital wasn’t overrun and for the most part, peace and calm prevailed,” Mr. Knight adds from his home office.

Dr. Lail chimes in from her living room, “This pandemic has given scientists and public health experts enough work to keep them busy for years to come. We aren’t out of the woods yet, and I know it seems that life may never be back to normal, but it will get there—or at least a new normal. I applaud you all for your hard work and though I can’t shake your hands, I want to be the first to congratulate you on your official graduation. Cheers!”

Questions

1. Does it appear that social distancing measures have been effective in reducing the scope of the COVID-19 pandemic? Examine infection and mortality projections as compared to reported data as part of your answer.
2. Looking at the local response in your state or community, what measures have proven effective and what improvements could have been made in response to the COVID-19 pandemic?
3. Reflect on your own personal experience with COVID-19 and the coronavirus outbreak of 2020. What personal impacts did things like school and business closings have on your life? Have any aspects of your life changed (for the better or worse) as a result of this pandemic? If so, what changed and in what way? Do you think America and the world are better prepared for another pandemic? What lessons should scientific and political leaders take away from this crisis?