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March 5, 2020

Oversight: New York City's preparations for Coronavirus/COVID-19

I. Introduction

On March 5, 2020, the Committee on Health, chaired by Council Member Mark Levine, and the Committee on Hospitals, chaired by Council Member Carlina Rivera, will hold a hearing on New York City's preparations for the novel coronavirus (COVID-19). Among those invited to testify are representatives from the New York City Department of Health and Mental Hygiene (DOHMH), Health and Hospitals (H+H) and other interested parties.

II. Background

Coronaviruses are a group of viruses that can cause illness ranging from the common cold to more serious respiratory diseases, which, in severe cases, can lead to pneumonia.¹ Recently, a novel (or new) coronavirus, and the resulting disease, COVID-19, were detected in thousands of people worldwide, primarily in China.² Early on, many of the patients at the epicenter of the outbreak in Wuhan, China had some link to a large seafood and live animal market, suggesting animal-to-person spread of the virus.³ This strain had not previously been found in humans.⁴ Later, a growing number of patients reportedly did not have exposure to animal markets, indicating person-to-person spread.⁵ Person-to-person spread has since been reported in other parts of China and in countries outside of China, including the United States. Community spread—meaning some people have been infected who are not sure how or where they became infected—is now suspected in some international destinations and in the U.S.⁶

¹ DOHMH, Coronavirus, <https://www1.nyc.gov/site/doh/health/health-topics/coronavirus.page>.

² DOHMH, Coronavirus, <https://www1.nyc.gov/site/doh/health/health-topics/coronavirus.page>.

³ CDC, Coronavirus Disease 2019 (COVID-19), Situation Summary, <https://www.cdc.gov/coronavirus/2019-ncov/summary.html>.

⁴ DOHMH, Coronavirus, <https://www1.nyc.gov/site/doh/health/health-topics/coronavirus.page>.

⁵ CDC, Coronavirus Disease 2019 (COVID-19), Situation Summary, <https://www.cdc.gov/coronavirus/2019-ncov/summary.html>.

⁶ CDC, Coronavirus Disease 2019 (COVID-19), Situation Summary, <https://www.cdc.gov/coronavirus/2019-ncov/summary.html>. See also STAT, Four new coronavirus cases in Pacific Northwest suggest community spread of the disease, Feb. 28, 2020, <https://www.statnews.com/2020/02/28/california-oregon-coronavirus-case-community->

According to the Centers for Disease Control (CDC), community spread in Washington resulted in the first death in the United States from COVID-19, as well as the first reported case of COVID-19 in a health care worker and the first potential outbreak in a long-term care facility.⁷

III. Current Situation – International, U.S., and N.Y.C

As of March 5, 2020, there were 97,873 reported cases of COVID-19 worldwide, with 80,430 cases in China, 6,088 in South Korea, 3,858 in Italy, 3,513 in Iran, and hundreds or dozens of cases in many other countries around the world. This includes 164 in the United States.⁸ Of the total cases reported, 54,121 patients have recovered, 40,399 cases are active, and there have been 3,353 deaths.⁹ It is important to note that the World Health Organization (WHO)-reported case numbers are conservative, and likely represent an undercount of the true number of coronavirus cases, as some individuals with mild symptoms may never seek medical attention.¹⁰

As of March 5, 2020, there have been 22 confirmed cases in New York.¹¹ The first case, a 39-year-old woman living in Manhattan, is a health care worker who recently visited Iran, one of the epicenters of the virus's rapid worldwide spread.¹² The second, a man in his 50s living in

[spread/](#); see also CDC, CDC Confirms Possible Instance of Community Spread of COVID-19 in U.S., Feb. 26, 2020, <https://www.cdc.gov/media/releases/2020/s0226-Covid-19-spread.html>.

⁷ CDC, Coronavirus Disease 2019 (COVID-19), Situation Summary, <https://www.cdc.gov/coronavirus/2019-ncov/summary.html>.

⁸ Worldometer, COVID-19 Coronavirus Outbreak, March 3, 2020, <https://www.worldometers.info/coronavirus/#countries>.

⁹ Worldometer, COVID-19 Coronavirus Outbreak, March 3, 2020, <https://www.worldometers.info/coronavirus/#countries>.

¹⁰ Kaiser Family Foundation, *COVID-19 Coronavirus Tracker – Updated as of March 2, 2020*, March 2, 2020, available at <https://www.kff.org/global-health-policy/fact-sheet/coronavirus-tracker/>. See also Vox, Why we still don't know how deadly this new coronavirus is, Feb. 12, 2020, <https://www.vox.com/2020/2/12/21134718/coronavirus-china-deaths-mortality-rate>.

¹¹ NBC News, Long Island Sees 1st Coronavirus Case as New York Total Surges to 22, <https://www.nbcnewyork.com/news/coronavirus/2-more-covid-19-cases-in-ny-brings-total-to-13-community-spread-eyed-in-possible-nj-case-as-state-awaits-tests/2313298/>.

¹² The New York Times, Coronavirus in N.Y.: Cuomo Confirms Second Case in the State, March 3, 2020, <https://www.nytimes.com/2020/03/03/nyregion/coronavirus-new-york-state.html>.

Westchester County but who works in New York City, appears to have contracted COVID-19 as a result of community spread, and is being treated in a New York City hospital.¹³ This patient's wife, son, daughter, neighbor, neighbor's family, and neighbor's friend's family have since tested positive and been diagnosed with COVID-19.¹⁴ Two unrelated COVID-19 cases, including the first on Long Island, were announced on the morning of March 5, 2020.

IV. Symptoms

A WHO examination of data from 56,000 patients suggests that four out of five people who contract COVID-19 will only experience mild symptoms, while 14 percent will develop severe symptoms, and six percent will become critically ill.¹⁵ Symptoms appear to start with a fever, followed by a dry cough.¹⁶ After a week, the virus leads to shortness of breath and some patients require hospital treatment.¹⁷ These symptoms are similar to those for much more common viruses, like the common cold and the flu.¹⁸ In more severe cases, COVID-19 can cause pneumonia, severe acute respiratory syndrome, multiple organ failure, and even death.¹⁹

¹³ The New York Times, Coronavirus in N.Y.: Cuomo Confirms Second Case in the State, March 3, 2020, <https://www.nytimes.com/2020/03/03/nyregion/coronavirus-new-york-state.html>.

¹⁴ NBC News, Family and Neighbor of NYC Attorney Also Test Positive for COVID-19, Taking State to 6 Cases, <https://www.nbcnewyork.com/news/local/nyc-attorney-in-critical-condition-city-works-to-trace-movements-awaits-more-tests/2311723/>. See also NBC News, Long Island Sees 1st Coronavirus Case as New York Total Surges to 22, <https://www.nbcnewyork.com/news/coronavirus/2-more-covid-19-cases-in-ny-brings-total-to-13-community-spread-eyed-in-possible-nj-case-as-state-awaits-tests/2313298/>.

¹⁵ BBC Health, What is coronavirus and what are the symptoms, March 2, 2020, <https://www.bbc.com/news/health-51048366>.

¹⁶ BBC Health, What is coronavirus and what are the symptoms, March 2, 2020, <https://www.bbc.com/news/health-51048366>.

¹⁷ BBC Health, What is coronavirus and what are the symptoms, March 2, 2020, <https://www.bbc.com/news/health-51048366>.

¹⁸ BBC Health, What is coronavirus and what are the symptoms, March 2, 2020, <https://www.bbc.com/news/health-51048366>.

¹⁹ BBC Health, What is coronavirus and what are the symptoms, March 2, 2020, <https://www.bbc.com/news/health-51048366>.

According to the WHO, the incubation period, which is the time between infection and showing any symptoms, lasts up to 14 days—but some researchers suggest it may be up to 24 days.²⁰

Although our understanding of COVID-19 may evolve, current research suggests that older people and people with pre-existing medical conditions like asthma, diabetes, and heart disease are more likely to become severely ill after contracting COVID-19.²¹ While 2.3 percent of confirmed cases in China resulted in fatalities, the fatality rate was 14.8 percent in people aged 80 or older, likely reflecting the presence of other diseases, a weaker immune system, or worse overall health.²² In contrast, the fatality rate was 1.3 percent for people in their 50s, 0.4 percent for people in their 40s, and 0.2 percent for people ages 10 to 39.²³

The first large study of the effects of underlying illnesses on fatality rates in China suggested that patients with at least one additional disease, including cardiovascular disease, diabetes, hepatitis B, chronic obstructive pulmonary disease (COPD), chronic kidney diseases, and cancer, had a 79 percent greater chance of requiring intensive care, a respirator, or both, or of dying.²⁴ The risk for patients with two or more additional diseases was 2.5 times higher for

²⁰ BBC Health, What is coronavirus and what are the symptoms, March 2, 2020, <https://www.bbc.com/news/health-51048366>.

²¹ BBC Health, What is coronavirus and what are the symptoms, March 2, 2020, <https://www.bbc.com/news/health-51048366>.

²² STAT, Health, Who is getting sick, and how sick? A breakdown of coronavirus risk by demographic factors, March 3, 2020, https://www.statnews.com/2020/03/03/who-is-getting-sick-and-how-sick-a-breakdown-of-coronavirus-risk-by-demographic-factors/?utm_source=STAT+Newsletters&utm_campaign=b79e8b740d-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-b79e8b740d-151778981.

²³ STAT, Health, Who is getting sick, and how sick? A breakdown of coronavirus risk by demographic factors, March 3, 2020, https://www.statnews.com/2020/03/03/who-is-getting-sick-and-how-sick-a-breakdown-of-coronavirus-risk-by-demographic-factors/?utm_source=STAT+Newsletters&utm_campaign=b79e8b740d-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-b79e8b740d-151778981.

²⁴ STAT, Health, Who is getting sick, and how sick? A breakdown of coronavirus risk by demographic factors, March 3, 2020, https://www.statnews.com/2020/03/03/who-is-getting-sick-and-how-sick-a-breakdown-of-coronavirus-risk-by-demographic-factors/?utm_source=STAT+Newsletters&utm_campaign=b79e8b740d-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-b79e8b740d-151778981.

each of these outcomes.²⁵ Looking specifically at the most common co-morbidities, researchers found that cancer raises the risk of severe complications 3.5-fold, COPD 2.6-fold, and diabetes and hypertension by about 60 percent.²⁶ These co-morbidities also raise the risk of dying from COVID-19, researchers found.²⁷ While the fatality rate in patients with no other reported health conditions was 0.9 percent, it was 10.5 percent for those with cardiovascular disease, 7.3 percent for those with diabetes, 6.3 percent for people with chronic respiratory diseases such as COPD, 6 percent for people with hypertension, and 5.6 percent for individuals with cancer.²⁸

Very initial research suggests that COVID-19 seems not to be especially severe in pregnant women.²⁹ Moreover, the vast majority of COVID-19 cases (87 percent) appear to be in people ages 30 to 79.³⁰ Only 8.1 percent of confirmed cases were patients in their 20s, 1.2 percent were teens, and 0.9 percent were 9 or younger.³¹

²⁵ STAT, Health, Who is getting sick, and how sick? A breakdown of coronavirus risk by demographic factors, March 3, 2020, https://www.statnews.com/2020/03/03/who-is-getting-sick-and-how-sick-a-breakdown-of-coronavirus-risk-by-demographic-factors/?utm_source=STAT+Newsletters&utm_campaign=b79e8b740d-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-b79e8b740d-151778981.

²⁶ STAT, Health, Who is getting sick, and how sick? A breakdown of coronavirus risk by demographic factors, March 3, 2020, https://www.statnews.com/2020/03/03/who-is-getting-sick-and-how-sick-a-breakdown-of-coronavirus-risk-by-demographic-factors/?utm_source=STAT+Newsletters&utm_campaign=b79e8b740d-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-b79e8b740d-151778981.

²⁷ STAT, Health, Who is getting sick, and how sick? A breakdown of coronavirus risk by demographic factors, March 3, 2020, https://www.statnews.com/2020/03/03/who-is-getting-sick-and-how-sick-a-breakdown-of-coronavirus-risk-by-demographic-factors/?utm_source=STAT+Newsletters&utm_campaign=b79e8b740d-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-b79e8b740d-151778981.

²⁸ STAT, Health, Who is getting sick, and how sick? A breakdown of coronavirus risk by demographic factors, March 3, 2020, https://www.statnews.com/2020/03/03/who-is-getting-sick-and-how-sick-a-breakdown-of-coronavirus-risk-by-demographic-factors/?utm_source=STAT+Newsletters&utm_campaign=b79e8b740d-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-b79e8b740d-151778981.

²⁹ STAT, Health, Who is getting sick, and how sick? A breakdown of coronavirus risk by demographic factors, March 3, 2020, https://www.statnews.com/2020/03/03/who-is-getting-sick-and-how-sick-a-breakdown-of-coronavirus-risk-by-demographic-factors/?utm_source=STAT+Newsletters&utm_campaign=b79e8b740d-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-b79e8b740d-151778981.

³⁰ STAT, Health, Who is getting sick, and how sick? A breakdown of coronavirus risk by demographic factors, March 3, 2020, https://www.statnews.com/2020/03/03/who-is-getting-sick-and-how-sick-a-breakdown-of-coronavirus-risk-by-demographic-factors/?utm_source=STAT+Newsletters&utm_campaign=b79e8b740d-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-b79e8b740d-151778981.

³¹ STAT, Health, Who is getting sick, and how sick? A breakdown of coronavirus risk by demographic factors, March 3, 2020, <https://www.statnews.com/2020/03/03/who-is-getting-sick-and-how-sick-a-breakdown-of->

According to public health officials, the response to COVID-19 should be conscious of health inequities and mindful of ensuring health care access for populations that are disproportionately impacted, such as older adults.³² It is also important to focus outreach efforts on people who lack health insurance and other resources, as well as those with chronic conditions, and who may therefore be disproportionately impacted.³³

V. Preventing the spread of COVID-19—protective measures

To estimate how easily a virus spreads, scientists calculate its “basic reproduction number,” which is known as R_0 (pronounced R-nought).³⁴ R_0 predicts the number of people who can catch a disease from a single infected person.³⁵ The current R_0 for COVID-19 is estimated to be around 2.28.³⁶ By comparison, the flu has an R_0 of 1.3,³⁷ and the Measles has an R_0 of 12-18.³⁸

While it is not yet known exactly how COVID-19 spreads from person to person, similar viruses are spread via droplets, such as those produced when an infected person coughs or sneezes.³⁹ As such, while City health officials assert that people should go about their daily lives,

[coronavirus-risk-by-demographic-factors/?utm_source=STAT+Newsletters&utm_campaign=b79e8b740d-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-b79e8b740d-151778981](https://www.washingtonpost.com/outlook/2020/03/02/coronavirus-risk-by-demographic-factors/?utm_source=STAT+Newsletters&utm_campaign=b79e8b740d-MR_COPY_01&utm_medium=email&utm_term=0_8cab1d7961-b79e8b740d-151778981).

³² Mary T. Bassett & Natalie Linos, *The coronavirus could hit the U.S. harder than other wealthy countries*, The Washington Post, March 2, 2020, available <https://www.washingtonpost.com/outlook/2020/03/02/coronavirus-could-hit-us-harder-than-other-wealthy-countries/>

³³ Mary T. Bassett & Natalie Linos, *The coronavirus could hit the U.S. harder than other wealthy countries*, The Washington Post, March 2, 2020, available <https://www.washingtonpost.com/outlook/2020/03/02/coronavirus-could-hit-us-harder-than-other-wealthy-countries/>

³⁴ LiveScience, 12 Coronavirus myths busted by science, <https://www.livescience.com/coronavirus-myths.html>.

³⁵ LiveScience, 12 Coronavirus myths busted by science, <https://www.livescience.com/coronavirus-myths.html>.

³⁶ University of Minnesota, Center for Infection Disease Research and Policy, Study of 72,000 COVID-19 patients finds 2.3% death rate, Feb. 24, 2020, <http://www.cidrap.umn.edu/news-perspective/2020/02/study-72000-covid-19-patients-finds-23-death-rate>. See also LiveScience, 12 Coronavirus myths busted by science, <https://www.livescience.com/coronavirus-myths.html>.

³⁷ LiveScience, 12 Coronavirus myths busted by science, <https://www.livescience.com/coronavirus-myths.html>.

³⁸ The Lancet, Infectious Diseases, The basic reproduction number (R_0) of measles: a systemic review, [https://www.thelancet.com/journals/laninf/article/PIIS1473-3099\(17\)30307-9/fulltext](https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(17)30307-9/fulltext).

³⁹ BBC Health, What is coronavirus and what are the symptoms, March 2, 2020, <https://www.bbc.com/news/health-51048366>.

they emphasize that people should take the same precautions that they would otherwise take during cold and flu season, including:⁴⁰

- Getting a flu shot (Although the flu shot will not protect people from COVID-19, it will help prevent the flu, which has similar symptoms to COVID-19)
- Covering your nose and mouth with a tissue or sleeve when sneezing or coughing—do not use your hands
- Washing your hands often with soap and water for at least 20 seconds, or using an alcohol-based hand sanitizer
- Not touching your face with unwashed hands
- Staying home if you are not feeling well

New Yorkers experiencing fever, cough or shortness of breath, and who have traveled to an area where COVID-19 is spreading, should go to their health care provider, and individuals with symptoms but who have no travel history or exposure to an individual with travel history should stay home and call their doctor.⁴¹ Health care providers will work with DOHMH to determine whether individuals need to be tested for COVID-19.⁴²

According to DOHMH, New Yorkers should not limit their travel within the city, avoid public gatherings or public transportation, or change anything about where they get their food or how to prepare it at this time.⁴³ Additionally, individuals should not wear a face mask if they are

⁴⁰ DOHMH, Coronavirus, <https://www1.nyc.gov/site/doh/health/health-topics/coronavirus.page>.

⁴¹ DOHMH, Coronavirus, <https://www1.nyc.gov/site/doh/health/health-topics/coronavirus.page>.

⁴² DOHMH, Coronavirus, <https://www1.nyc.gov/site/doh/health/health-topics/coronavirus.page>.

⁴³ DOHMH, *What You Need to Know About COVID-19*, <https://www1.nyc.gov/assets/doh/downloads/pdf/imm/novel-coronavirus-wuhan-factsheet.pdf>

not sick, and should also not target anyone who chooses to wear a face mask.⁴⁴ There is a lot of misinformation circulating about COVID-19, and individuals should educate themselves about the facts by relying on reliable sources, such as DOHMH, the CDC, and the WHO.⁴⁵

VI. Conclusion

At today's hearing, the Committees will discuss the measures DOHMH and the City's hospitals taken to prepare for COVID-19, and provide information regarding what New Yorkers can do to limit their chances of contracting COVID-19.

⁴⁴ DOHMH, *What You Need to Know About COVID-19*,
<https://www1.nyc.gov/assets/doh/downloads/pdf/imm/novel-coronavirus-wuhan-factsheet.pdf>

⁴⁵ DOHMH, *What You Need to Know About COVID-19*,
<https://www1.nyc.gov/assets/doh/downloads/pdf/imm/novel-coronavirus-wuhan-factsheet.pdf>