

### **MODULE 3: Current Situation and Healthcare Response, in Massachusetts and Beyond**

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In Module 3 of this curriculum, students will begin to consider the broader implications of the COVID-19 pandemic, locally and globally. The first section of the module will walk students through the current landscape of the pandemic locally in Massachusetts. In order to stay up-to-date, this section will provide students with several useful links, so that real time data may be accessed. In the next two sections, students will see how the basic science principles behind COVID-19 diagnosis, investigational therapeutics, and vaccines (discussed in [Module 1](#)) are currently being implemented-- the status of testing in the United States regarding capacity and eligibility, and the most recent data on various therapies and vaccines. Finally, students will receive a general overview of how the pandemic may impact the social and financial aspects of daily life. While the final section is by no means a complete review, we hope that this will invite further consideration of the broader scope of the pandemic. We expect that this module will take **2 hours** to complete.

#### **OVERARCHING LEARNING GOAL:**

Appreciate the complex and rapidly changing landscape of the COVID-19 pandemic as it stands in Massachusetts, as well as the adapting responses of the healthcare system and society as a whole.

#### **LEARNING OBJECTIVES:**

At the end of this module, medical students should be able to:

- Access useful sources on the current landscape for coronavirus infection in Massachusetts
- Illustrate how practical considerations of a healthcare system impact testing capacity and eligibility
- Describe the current landscape of clinical trials on experimental antiviral treatments and vaccine development
- Identify at least 3 different ways in which the pandemic has impacted the global economic and social climate

## CURRENT LANDSCAPE FOR COVID-19 IN MASSACHUSETTS

While this document will be regularly updated, the data regarding the current landscape is ever changing. As such, the following is a set of links that will be useful to stay as current as possible.

### Important definitions:

1. Persons under investigation (PUI): individuals suspected of having COVID-19
2. Presumptive positive cases: an individual who has had a positive COVID-19 test at a state or local lab, but not yet confirmed by the CDC. This word is being phased out as samples can now be confirmed at the Massachusetts state lab.
3. Laboratory confirmed cases: an individual who has tested positive for COVID-19 at the CDC lab

### Latest Number of Cases (updated frequently)

Mass. Department of Health COVID-19 cases **as of 3/19/20** (reporting from [boston.gov](https://www.boston.gov)):

- Massachusetts (*including presumptive and confirmed*): **328**
- Boston (*including presumptive and confirmed*): **61**

Mass. residents subject to COVID-19 quarantine by current status **as of 3/17/20 5pm** (reporting from [mass.gov](https://www.mass.gov))

- Total of individuals subject to quarantine: **2054**
- Total of individuals who have completed monitoring (no longer in quarantine): **886**
- Total of individuals currently undergoing monitoring/under quarantine: **1168**

### Relevant links regarding number of cases and policy changes

Global: [COVID-19 Country Specific Information](https://travel.state.gov) - travel.state.gov

US: [Coronavirus Disease 2019 \(COVID-19\) in the US](https://www.cdc.gov) - CDC

Massachusetts:

- Number of cases: [COVID-19 Cases, Quarantine and Monitoring](https://www.mass.gov) - mass.gov
- Policies: [COVID-19 State of Emergency](https://www.mass.gov) - mass.gov
- Emergency preparedness: [COVID-19 Preparation in Massachusetts](https://www.mass.gov) - mass.gov

Boston:

- Policies and number of cases: [Coronavirus Disease \(COVID-19\) in Boston](https://www.boston.gov) - boston.gov
- Overview of COVID response in Boston: [Coronavirus Disease \(COVID-19\) timeline](https://www.boston.gov) - boston.gov

### Relevant links regarding travel restrictions and visa information

- Restrictions on US Visas and Entry: [COVID-19 Restrictions on U.S. Visas and Entry](https://www.nafsa.org) - NAFSA
- Travel Restrictions by Country: [COVID-19 Country Specific Information](https://travel.state.gov) - travel.state.gov
- CDC Travel Recommendations (International and Domestic): [Travel](https://www.cdc.gov) - CDC

### Latest Announcements in Massachusetts

**As of March 17, 2020:** Governor Charlie Baker has recently enacted a number of policies aimed at reducing the spread of COVID-19. They are summarized here:

1. Elementary and secondary schools (public and private) are suspended from March 17 through April 6.
2. Gatherings are limited to no more than 25 people.
3. On-premises consumption of food or drink at restaurants and bars is prohibited.
4. Hospital visitors are now being restricted to 1 visitor at a time. Visitor has to remain 6 feet from the patient and can stay for no longer than 15 minutes. No visitors under the age of 18 are allowed in the hospital unless they are the child of a patient. (Though hospitals have set more restrictive policies than the state government is mandating, and are now restricting all visitors.)
5. Any hospital visitors with symptoms of respiratory infection are not allowed to visit.
6. Assisted living facilities are required to restrict all visitors.
7. Nursing homes are required to restrict all visitors.
8. Pharmacies are now allowed to create and sell hand sanitizer over the counter.
9. Hospitals must cancel elective procedures.
10. The Registry of Motor Vehicles will extend renewal timelines to decrease the need for people to come in person.
11. All commercial insurers are required to cover telehealth as it relates to COVID-19 testing and treatment.

## DIAGNOSTICS: TESTING CAPACITY AND ELIGIBILITY

### Testing Capacity

SARS-CoV-2 testing is a rapidly evolving aspect of the healthcare response to the COVID-19 pandemic. As discussed in [Module 1](#), the current test to detect SARS-CoV-2 is a RT-PCR test, designed to detect small amounts of the pathogen in a patient's respiratory tract. The assay is described in further detail here: [How Coronavirus Test Kits Work | WSJ](#), [CDC Tests for COVID-19](#), [CDC Detailed Protocol](#).

[Testing capacity](#) in the United States initially lagged far behind other countries. Factors contributing to the low U.S. testing capacity included regulatory requirements by the FDA, some of which have now been lifted; [faulty tests](#) initially provided by the CDC; and limitations in healthcare infrastructure such as not enough laboratory personnel, supplies, and/or testing facilities such as tents and drive-through centers. This had resulted in “rationing” of tests, with eligibility being based not just on viral pathophysiology and clinical judgment, but also on epidemiology and public safety. The limitations of testing in the United States prevented contact tracing and effective individual isolation, as has been done in [South Korea](#) (discussed in [Module 2](#)).

Over the course of days, however, commercial lab tests and hospital-specific protocols were developed based on CDC protocol, rapidly underwent FDA Emergency Use Authorization, and are beginning to address the need for diagnostics in the United States. On March 13, [Roche](#) was the first US company to receive FDA emergency use authorization for its commercially-developed test kits; 400,000 of its test kits per week will be shipped nationwide. [Thermo Fisher](#) was the second to receive FDA emergency use authorization on March 16, and hopefully these commercial tests will alleviate growing need. Increased testing capacity has also reduced

turnaround time of testing from the initial estimate of days, to just 24-48 hours, though this may again shift as more people are tested.

As of 3/18, Massachusetts can test approximately 400 patients per day through the Massachusetts Department of Public Health (MA DPH) Laboratory, though commercial laboratories in Massachusetts are ramping up their capabilities. As of 3/18, Massachusetts General Hospital and Brigham and Women's Hospital, as two examples in the Boston area, are live with their in-house tests as well.

*Thought questions:*

Based on what you have learned from Modules 1 and 2, for whom would you recommend PCR testing in an ideal resource situation?

With limited testing resources, who should be tested?

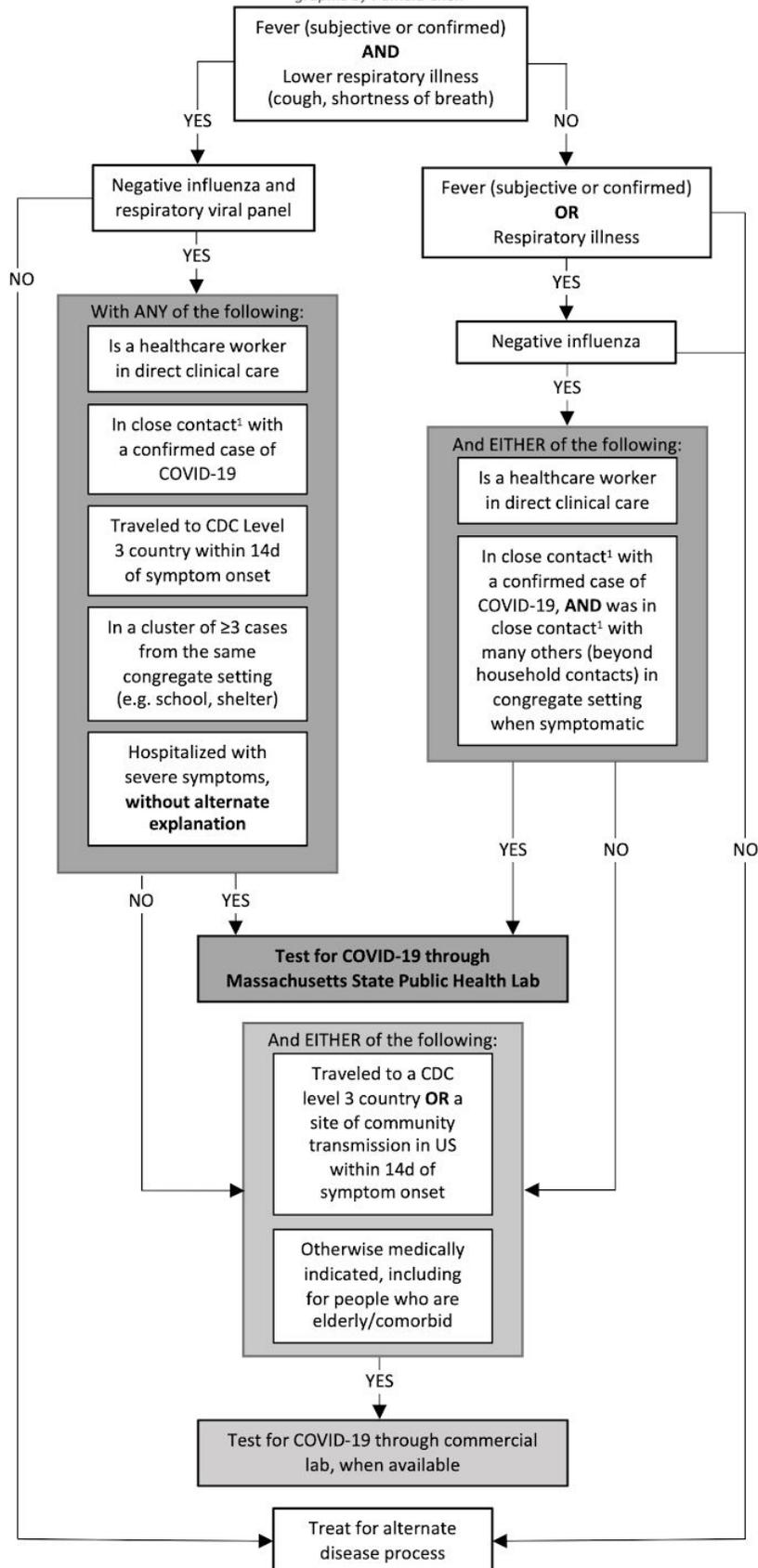
### **Testing Eligibility**

On the following page is an algorithm simplifying testing eligibility for COVID-19, adapted from MA DPH [guidelines](#), published on 3/13/20 (note: this was five days before many commercially-designed testing kits would be available). As resource availability changes, these criteria may also change. Nevertheless, note how several categories of test eligibility initially queried epidemiological risk factors, such as the individual's risk of disease transmission to multiple others, rather than just the probability of an individual having the disease.

Per MA DPH guidelines, all persons under investigation for COVID-19 should self-isolate until test results return. The CDC has released new [guidelines](#) for discontinuing home isolation for symptomatic patients who are unable to be tested as well (72 hours of no fevers without the use of antipyretic medications, improvement in other symptoms, and 7 days since symptom onset). If a patient is tested, the CDC recommends that patients can leave their home after meeting three criteria: they no longer have a fever, other symptoms (e.g. cough, shortness of breath) have improved, and they have received two consecutive negative tests 24 hours apart.

Algorithm for COVID-19 Testing  
Per Massachusetts Department of Public Health guidelines, 3/13/20

graphic by Pamela Chen



<sup>1</sup> Close contact: being within 6 feet of a COVID-19 case for a prolonged period (e.g.: living with, caring for, sharing a hospital waiting room with a case) OR having direct exposure to infectious secretions of a COVID-19 case (e.g.: being coughed on) while not wearing recommended personal protective equipment

*Thought question:*

Do you agree with the testing guidelines of the Massachusetts Department of Public Health? (This is an area of active controversy!)

What high-risk groups might be missing from these categories?

While the MA DPH guidelines are being followed locally, other institution-specific testing guidelines approach eligibility from a purely clinical view, rather than an epidemiological one. Especially for *inpatients* with severe disease, these guidelines may incorporate additional workup, including signs (SpO<sub>2</sub> <93%), and/or pertinent positive or negative laboratory findings (lymphopenia, negative procalcitonin) and imaging findings (bilateral pneumonia on chest X-ray or bilateral ground-glass opacities on CT). Additional workup for *outpatients* may be costly, however, and carry the potential for disease transmission to healthcare workers and other patients in that healthcare facility. The differences in these guidelines emphasize the “art” of medicine.

*Thought questions:*

How would increased testing help or hinder the healthcare system response to COVID-19?

What factors would be important to consider in implementing a widespread testing protocol for asymptomatic individuals? How might you weigh test characteristics, clinical management strategies, risks of testing, and economic implications?

### **Telephone Triage and Drive-Through Testing**

Many strategies are being implemented to limit transmission of SARS-CoV-2 from those awaiting testing to other patients in healthcare waiting rooms or healthcare workers themselves. Often, patients are screened remotely, via virtual visit or telephone, by the above guidelines. Exact triage protocol varies by institution. For those who are determined to require testing, some institutions are attempting to develop “[drive-through](#)” testing capabilities to further limit exposure. As of 3/18, drive-through testing for patients who meet certain criteria by telephone triage is available in Massachusetts at several sites including through [Atrius Health](#) in Fenway, Peabody, and Braintree; through Beth Israel Deaconess Medical Center; through [Cambridge Health Alliance](#) in Somerville; through Brigham and Women’s Hospital at multiple sites; and at multiple sites in Cape Cod and Worcester. **The list of available drive-through testing sites is growing daily, and institutions will notify their healthcare personnel and patients.** All healthcare workers must wear droplet precaution personal protective equipment when obtaining respiratory specimens, and N95 respirators and eyewear if there is a risk of aerosolization of droplets during specimen collection (e.g. bronchoalveolar lavage).

Finally, it is important to note that RT-PCR testing of respiratory samples is not perfect. One estimate of the sensitivity of this test is only around 70% ([Xia et al, 2020](#)). Serological tests are also being developed to aid in diagnosis of COVID-19, though they are not considered the gold standard diagnostic. Chest CT may also help, though, again, this modality is not recommended for first line diagnosis. See [Module 1](#) for more information.

## ONGOING CLINICAL TRIALS: TREATMENT AND PREVENTION

### Treatment

#### Current status of antiviral treatment for COVID-19

**There is currently no controlled clinical data supporting the efficacy of any agent for the treatment of COVID-19.** Therefore, current treatment recommendations by the WHO and the CDC comprise optimal supportive care only. Both organizations state that investigational agents should only be administered in the context of ethically-approved clinical trials or under the Monitored Emergency Use of Unregistered Interventions (MEURI) framework (known as “compassionate use”).

[Module 1: Investigational Therapeutics](#) provides background information and prior data on some of the most prominent antiviral agents currently being investigated for repurposing including chloroquine, hydroxychloroquine, remdesivir, lopinavir/ritonavir, and tocilizumab.

Here, we will outline recent reports and ongoing trials. A registry of clinical trials ongoing globally can be found on the [WHO International Clinical Trials Platform](#).

#### Recent data supporting repurposed drug candidates for COVID-19

##### 1. Chloroquine and Hydroxychloroquine

###### *Recent Findings:*

- February 2020: Gao et al. report that in a series of “more than 100 patients” in 10 hospitals across China “chloroquine phosphate is superior to the control treatment in inhibiting the exacerbation of pneumonia, improving lung imaging findings, promoting a virus-negative conversion, and shortening the disease course” ([Gao et al., BioScience Trends 2020](#)). However, no clinical data has been provided, nor information on whether the study protocols were similar across the 10 hospitals.
- March 2020: Yao et al. determine that SARS-CoV-2 is inhibited by both chloroquine and hydroxychloroquine in vitro, with hydroxychloroquine more potent than chloroquine ([Yao et al., Clin Inf Dis 2020](#)).

*Ongoing Clinical Trials:* [> 20 ongoing clinical trials](#) in China as of March 10 2020. [A post-exposure prophylaxis trial of hydroxychloroquine](#) is also underway at the University of Minnesota.

*Implications:* Hydroxychloroquine is a widely available drug (chloroquine is currently in limited supply). If proven clinically efficacious, their implementation would be relatively easy.

*Future Questions:* Interim trial results of ongoing trials in China will provide important information as to efficacy.

##### 2. Remdesivir

###### *Recent Findings:*

- February 2020: Wang et al. demonstrated that remdesivir possesses antiviral activity against SARS-CoV-2 in vitro ([Wang et al., Nature 2020](#)).

- March 2020: Holshue et al. describe a case report of the ‘compassionate use’ of remdesivir in one of the first patients in the United States, who had clinical improvement after critical illness ([Holsue et al., NEJM 2020](#)).

*Ongoing Clinical Trials:* [Multiple randomized trials of remdesivir](#) expect results by April or May 2020 (recruiting in China, Hong Kong, Singapore, South Korea, and the United States). A large multicenter [NIH adaptive randomized controlled trial](#) is also investigating remdesivir.

*Implications:* Remdesivir is a prominent candidate due to its high efficacy against all coronaviruses (it was considered the most promising in the [WHO’s R&D Blueprint Report](#)) and the robust clinical safety exhibited in the Ebola virus trials.

*Future Questions:*

1. Trials underway are investigating optimal length of infusion with a loading dose followed by 5 or 10 days.
2. Is remdesivir most efficacious for mild, moderate, or severe disease? Trials underway are recruiting patients based on disease severity.

### 3. Lopinavir/Ritonavir

*Recent Findings:*

- March 2020: a case series in Singapore with 3 out of 5 patients treated with lopinavir/ritonavir exhibiting improvements in fever and need for supplemental oxygen ([Young et al., JAMA 2020](#)).
- March 2020: in a randomized controlled open label trial in 199 patients in Wuhan, China with enrollment from January 18 - February 3, there was no observed benefit of lopinavir/ritonavir over standard of care in terms of viral load, time to clinical improvement, or mortality ([Cao et al., NEJM 2020](#)).

*Ongoing Clinical Trials:* [Multiple trials are ongoing](#) involving lopinavir/ritonavir in comparison to and/or in combination with arbidol, ribavirin, IFN-beta, umifenovir, hydroxychloroquine, and additional protease inhibitors in China and Hong Kong.

*Future Questions:* Whether these drugs alone or in combination have an effect on COVID-19 remains to be determined and is currently being investigated with larger sample sizes in clinical trials.

### 4. Tocilizumab

*Recent Findings:*

- March 2020: Xu et al. described that in 15 out of 20 patients, treatment showed rapid resolution of symptoms, prompting China to approve the use of tocilizumab to treat patients with severe or critical disease ([Xu et al., ChinXiv 2020](#)).

*Ongoing Clinical Trials:* The WHO registry currently lists three studies ([one RCT](#)) taking place in China, using tocilizumab as the primary intervention for the treatment of COVID-19. A randomized study on a related IL-6 receptor monoclonal antibody [sarilumab](#) will also begin in the United States.

*Future questions:* High levels of IL-6 appear to correlate with disease severity ([Liu et al., bioRxiv preprint, 2020](#)). More studies need to be conducted to explore this relationship.

## Antibody treatments

These treatments are based on the idea that immunity can be transferred from one person to another by providing an antibody developed in someone (or an animal) previously exposed to the SARS-CoV-2 virus or a virus similar to SARS-CoV-2 to a previously unexposed (and thus unprotected immunologically) to the virus. Different approaches are currently being used ([A detailed guide to the coronavirus drugs and vaccines in development](#)):

- Regeneron Pharmaceuticals: Using antibody-generating mice exposed to a harmless analogue of SARS-CoV-2, they aim to find a potent antibody that provides immunity in these mice to SARS-CoV-2. The hope is that these antibodies can also be given to humans to fight against the SARS-CoV-2 virus. During the Ebola outbreak in 2015, Regeneron Pharmaceuticals used a similar approach to develop a treatment for Ebola that significantly improved [the survival rate](#).
- Vir Biotechnology: By isolating antibodies from patients who survived SARS (which is a coronavirus related to the novel SARS-CoV-2 coronavirus), they hope to determine whether these antibodies against SARS provide some benefit against this new related SARS-CoV-2 virus.

## **Vaccines**

For background on vaccines and their development, please see the section “[Vaccine Development](#)” in Module 1.

Many pharmaceutical companies and governments are currently in the process of developing SARS-CoV-2 vaccines, and strategies with all of the above vaccine types are being utilized ([Pang et al., JCM 2020](#)).

In general, potential mRNA and DNA vaccines have been developed more quickly because they only require knowing the [genetic sequence](#) of SARS-CoV-2 (which was identified and quickly uploaded by Chinese researchers in January), whereas whole pathogen vaccines require growing the virus and subunit vaccines require production of the proteins in a laboratory. Specific promising vaccines being developed include ([A detailed guide to the coronavirus drugs and vaccines in development](#)):

- Moderna Therapeutics: mRNA vaccine
  - Moderna Therapeutics has developed a potential mRNA vaccine (mRNA-1273) for SARS-CoV-2. The use of this vaccine entered a Phase 1 study on March 16, 2020 conducted by Kaiser Permanente Washington Health Research Institute in Seattle. The goals of this study are to determine the safety & immunogenicity of the supposed vaccine and not the ability to prevent COVID-19 infection. The study involves 45 healthy adults aged 18-55 who each receive two injections of mRNA-1273 28 days apart. The group is also split up into 3 different series of dosages being tested. Moderna is the first company attempting to use mRNA as a basis for vaccine development. While they have several other vaccines using this technology in development (H10N8, H7N9, RSV, chikungunya virus, hMPV/PIV3 and CMV), there are no vaccines currently on the market that utilize this strategy for prophylactic vaccine treatment.
- CureVac: mRNA vaccine
  - Preclinical

- Inovio Pharmaceuticals: DNA vaccine
  - Preclinical
- Johnson and Johnson: Killed/inactivated whole pathogen vaccine
  - Preclinical
- Sanofi: Chimeric whole pathogen vaccine
  - Preclinical

## **SOCIOECONOMIC RAMIFICATIONS**

As we know, illness and health have an impact on our lives and communities, and vice versa. COVID-19 is no exception--the ways we gather and interact with one another directly enable transmission of this disease, and steps to mitigate disease spread have ripple effects in our social and economic lives. While it is impossible to cover all of these ripple effects in our communities and our world, we hope this section will spark your curiosity and creativity in thinking about the mutual impacts of COVID-19, our society, and our economy. In particular, we encourage you to consider how infectious diseases and societal responses to them disproportionately impact folks experiencing:

- Social isolation
- Housing insecurity
- Incarceration
- Insecure immigration status
- Lack of paid sick leave/ability to take time off work
- Financial instability
- Lack of childcare in light of school closings

Several of these effects are discussed below, with others explored in the further reading section.

### **Social Isolation**

Social distancing asks us to stay physically separated from one another, which poses the risk of increasing social isolation and loneliness (social distancing still allows for other forms of social connection, mostly through technology, that can help decrease social isolation and loneliness). This risk is particularly high for elderly individuals and those already isolated. While social distancing itself has not been studied, experts on social isolation and associated negative health outcomes have begun to [weigh in](#) on potential impacts social distancing may have. If you're interested, check out [this meta-analysis](#) on the effect of social relationships on morbidity and mortality.

### **Impact on Work**

Social distancing has become an important strategy for slowing down spread of the virus and 'flattening the curve'. For those unable to work from home or take time off work, social distancing could mean making the choice between risking spread of the virus and not having the resources to secure food, rent, and/or childcare. As of March 17, [one in five](#) US households had experienced layoffs or reduced work hours. [This article](#)

describes the struggle of food service workers whose work requires them to be public-facing, often without the option for paid sick leave. In addition, small business owners [here in Boston](#) are grappling with closing their doors to help with social distancing efforts, even if that means losing income.

### **Financial Instability**

On a larger scale, COVID-19 is already affecting the global marketplace, and will likely continue to evolve over the coming weeks. For anyone watching the nightly news, it's hard to ignore the market tickers at the bottom of the screen as they drop precipitously. Stocks have had some of their largest single day declines since 1987, and continue their downward trajectory. While certainly not this audience's area of expertise, it may prove beneficial to understand the economic implications of a pandemic as its impact will be felt universally. To understand how the economy has already been impacted, please see [this article](#) from the BBC.

The likely economic impact of this pandemic is two-fold. First, there will be a supply shock as supply chains are affected by factory closings, worker absences, and border closures. This is exacerbated by a collapse in consumer demand. On several measures, consumer confidence is already lower than it was during the financial crisis of 2008. Ongoing social distancing measures have necessarily resulted in some businesses needing to be shut down, leading to cuts to wages and hours and even layoffs. Unfortunately, our fundamental governmental levers for both fiscal and monetary policy do at some level presume that there is no shortfall in economic labor. The situation is quite challenging.

Both supply and demand shocks are quite complex and interact in a complex manner. Structural and political mismanagement of the situation could further an economic downturn. These and other economic principles, in addition to GDP trends during other pandemics in history, are nicely outlined in [an article](#) from the Harvard Business review.

### **What Is Being Done in Response?**

Congress has begun to address these social and economic impacts with the Families First Coronavirus Response Act, which has passed both chambers of Congress and been signed by the President. This bill includes the following (read the full text [here](#)):

- Expands paid sick leave
- Provides additional funding to WIC and other supplemental nutrition programs
- Expands requirements for SNAP
- Mandates that COVID-19 testing will be free
- Expands requirements around employers' infectious disease control plans

[Additional considerations](#) and priorities put forth by experts from a variety of fields (and co-authored by HMS classmates!) include targeting protections for vulnerable groups, bolstering public health infrastructure, and enabling the rapid development of vaccines and treatments. Centers for Medicare and Medicaid Services have expanded access to [telemedicine](#), particularly to serve those with routine health care needs, as well as those with mild symptoms. This will minimize the number of people in clinic and hospital waiting rooms who

could acquire and/or spread COVID-19 while waiting to be seen. The White House has also invoked the [Defense Production Act](#), which gives the president authority to order manufacturers to increase their production of needed supplies (such as masks, respirators, and ventilators) (Module 5 will cover more on the PPE shortage in the United States). Local action has taken place around housing, with Massachusetts [suspending](#) all non-emergent housing court proceedings (including most evictions) until April 21.

*Thought questions:*

What types of public health and health care delivery interventions introduced during this crisis have staying power, and why? (e.g. telemedicine, expansion of sick leave)

The pandemic has been described as a global phenomenon that has exposed the “Achilles’ heel” of many social and structural shortcomings. What shortcomings have you identified during this pandemic and if given the chance, how would you propose we address them after the pandemic is over?

### **Further Reading and Updates**

- Detailed description of the economic impact of the pandemic from KPMG: [Mapping & Analyzing the Possible Impact of #COVID-19](#)
- Details and loopholes on paid sick leave as proposed in Families First bill: [Paid sick leave: Who gets it during the coronavirus outbreak](#)
- Places of worship as major gathering places, their role in social distancing: [Churches Grapple With Whether To Suspend Worship Services](#)
- Grocery shopping and risks to grocery store workers: [Coronavirus Panic Buying Puts Grocery Workers and Shoppers at Risk of Infection](#)
- Which workers are most at risk? [The Workers Who Face the Greatest Coronavirus Risk](#)
- Resources for preventing spread of infectious disease among those with unstable housing: [Infectious Disease Toolkit for CoCs](#)
- Unique barriers for low income immigrant communities: [Low-income immigrants are afraid to seek health care amid the Covid-19 pandemic](#)
- Preparation for prevention and treatment of COVID-19 in prisons: [What COVID-19 Means For America's Incarcerated Population — And How To Ensure It's Not Left Behind](#)
- Unintended consequences of social distancing: [Social Distancing Leads To Blood Shortage](#)
- CDC Considerations for School Closure: [Considerations for School Closure](#)
- International view of school closures and implications: [Mid-term break - How covid-19 is interrupting children's education | International](#)

## SUMMARY & FINAL THOUGHT QUESTIONS

The situation around the world and here in Massachusetts is rapidly evolving, as we move from imported cases to community spread. For individuals like **Brian** and **Diane**, significant changes in day-to-day routines and long-term plans have to take place in order to protect the community as a whole. Both Brian and Diane will have to minimize trips outside their homes. Brian is disappointed he will no longer be able to eat out at restaurants with his friends, while Diane is disappointed her grandkids from across the country will no longer be visiting due to decreased air travel. Both are trying to wash their hands more often.

**Diane** worries what will happen if she develops symptoms. She knows she is at higher risk given her age and other health conditions. What might be some of Diane's concerns around testing?

**Brian** wonders if testing would even be worth it for him, especially if he won't get that sick. He doesn't know anyone personally who has had symptoms, but he has been out in some large groups over the past weeks. What could Brian's concerns be, and how might they differ from Diane's?

**Brian** is worried about how the changing economy will impact the job he has lined up for after graduation. What are other ways Brian's life might be impacted in the coming months?

**Diane** is worried about leaving her home for her usual book club and to volunteer at the library. How can Diane stay connected to her community? Are there programs or interventions you could imagine setting up to help her stay connected?

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We hope this module helped capture the complex and rapidly changing landscape of the COVID-19 pandemic as it stands in Massachusetts, as well as the adapting responses of the healthcare system and society as a whole.

To continue in our COVID-19 curriculum, please click here: [Module 4: Communicating Information about COVID-19](#). Click here to return to our [Overview](#).

We welcome your feedback on this module and on the curriculum overall. Please share it [here](#).