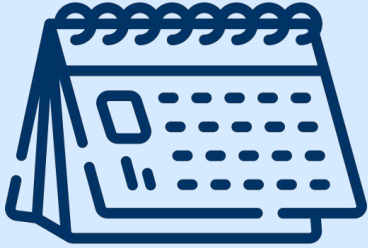


When Will The COVID-19 Pandemic End?

PRESCOUTER

May 2020



Major efforts to control the COVID-19 pandemic will not likely end before **2022**

COVID-19 will be with us for at least another 18 months.

As we are already seeing, states and governments will reopen on a much faster timeline, but there will be consequences to this. Outbreaks will continue to plague the economy as social distancing measures are relaxed.

In this report, we'll cover what companies can do sustain, and even grow, in this time. You'll learn about the strategies you can take to position your business to protect your employees and customers. We'll also show you where things stand with regard to vaccine development and herd immunity. While the medical community is making progress at a rapid rate, there is still a long way to go.



During this pandemic, PreScouter is leveraging its network of 4000+ experts, lab partners and prototyping firms to provide clients with the testing expertise and resources they need to safeguard their workplaces. While this report provides general recommendations, we welcome inquiries to help determine what may be best for your specific situation.

Contact us at covid19@prescouter.com or (708) 613-7132

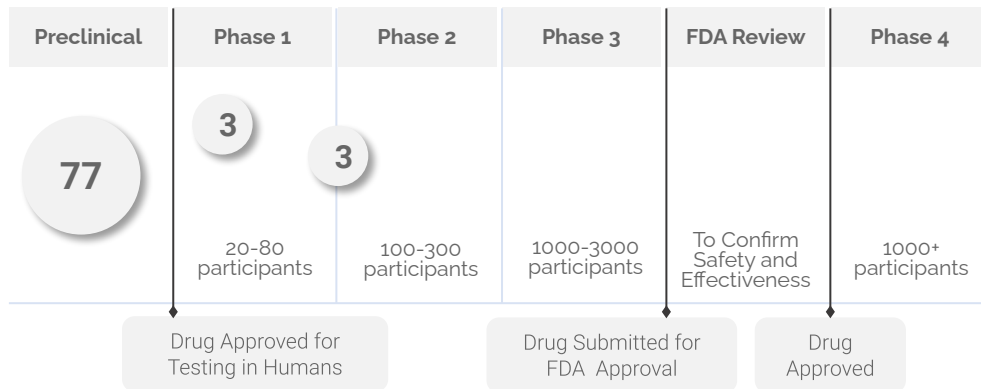
Until there is a vaccine, the virus will continue to spread and threaten healthcare system capacity.

2022 is the earliest that current leading vaccine candidates are expected to be tested and available to the public.

Vaccine development usually takes 10-15 years. By the time it is available to the public, the COVID-19 vaccine will have been developed in under 3 years.

HOW CLOSE ARE WE TO A VACCINE?

Number of COVID-19 vaccine candidates at each clinical trial stage



WHY NOT SKIP THESE PHASES?

In January 1976, a novel "Swine Flu" hit Ft. Dix, NJ. A massive government effort led to a vaccine available for mass consumption. An immunization program was signed into law in April of that same year. However, the vaccine has been linked to patients becoming susceptible to Gullain Barré Syndrome - a disorder in which the immune system attacks the nervous system.



WHAT TO KEEP AN EYE OUT FOR

The furthest along in the clinical process are vaccines from:

- CanSino Biological Inc. / Beijing Institute of Biotechnology
- Moderna Inc.
- Inovio Pharmaceuticals Inc.



PRESCOUTER EXPERT NOTE:

"The only reasonable way to develop an effective herd immunity is to develop a vaccine strategy that, ideally, provides long-term immunological memory."

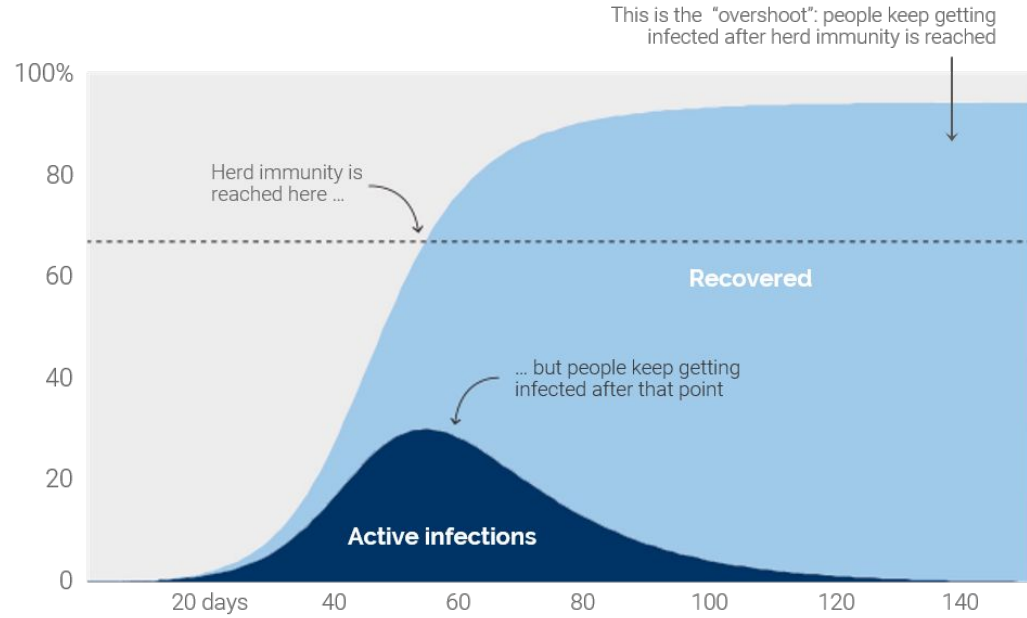
- Maikel Boot, PhD, Researcher, Yale University School of Medicine

The pandemic can also end through herd immunity. But, natural herd immunity will not likely be reached before a vaccine.

When ~70% of the population has immunity, it becomes difficult for the virus to spread. This is called “herd immunity”.

Natural herd immunity will most likely not be achieved because of the proactive lockdown measures governments are taking to slow the spread of the virus. Faster spread would overwhelm the health system.

In the worst hit area in the US - New York City - only ~20% have been infected, far from the 70% threshold for herd immunity. To achieve that level, more than 18,000 had residents died as of May 3rd, 2020.



Source: The New York Times



PRESCOUTER EXPERT NOTE:

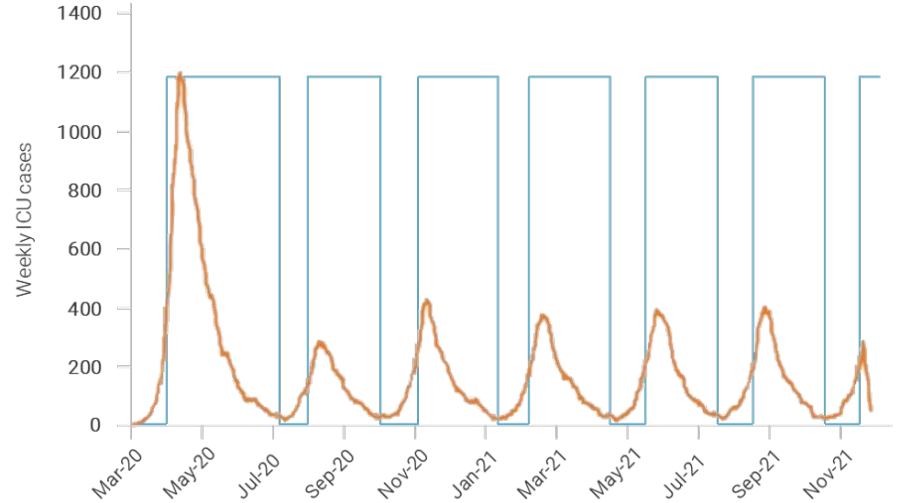
“Natural herd immunity in the United States would require at least 200,000,000 people to become infected with COVID-19. Society would not tolerate this if it were to happen all at once.”

- Jessie Abbate, PhD, Researcher, French National Institute for Development

Until there is a vaccine, countries can expect successive periods of lockdowns and re-openings.

While we all want the world to return to some normalcy, relaxing social distancing will result in more infections.

Until there is a vaccine, we can expect successive lockdowns in waves to prevent spread that will overwhelm hospitals. When hospitals are unable to function, people in need of intervention for both COVID19 and for completely unrelated conditions (such as heart attack, or during childbirth) no longer have access, and may die.



Source: Imperial College London

SECOND WAVES CAN AND WILL OCCUR

Reopening without proper precautions will lead to a second wave of the disease. Hokkaido, Japan lifted its state of emergency on March 19 and had to reimpose a second shutdown just 26 days later. Hong Kong also faced a resurgence of the virus after the initial wave had subsided.



PRESCOUTER EXPERT NOTE:

“The development of a vaccine will not necessarily result in a return to normalcy. Depending on how long the vaccine lasts in a patient, there may be a persistent risk of COVID resurgence. Adopting smart operational practices can be worthwhile both for now and the future.”

- Ryan LaRanger, PhD, PreScouter Technical Director

Some treatments are getting media attention, but antiviral drugs and antibody therapies are stop gap measures.

These therapies may extend the periods during which countries and states remain open, but they cannot themselves bring the pandemic to an end. None of the current candidates are safe or easy enough to administer without a diagnosis.

The hope is that treatments will reduce both illness/death and transmission, but none will likely be available without a diagnosis, which often comes only after it has already been spread.



PRESCOUTER EXPERT NOTE:

“Treatment safety is judged by cost-benefit analysis. Are the benefits of taking the drug worth its risks and side effects? Do not take any treatment without consulting your doctor.”

- Stephen Lauer, PhD, Researcher Johns Hopkins School of Medicine



Hydroxychloroquine was found by investigators at Harvard Medical School and Massachusetts General Hospital to not be effective against COVID-19.

- In some cases, the drugs hindered the immune response of patients.



Antiviral drugs are classes of existing FDA-approved drugs used to treat viruses that can be repurposed for COVID-19 therapy.

- Remdesivir is a leading candidate. Early results improved median time to recovery by 4 days and reduced mortality by 31%
- Other more recent results indicate higher adverse events, though it has received Emergency Use Authorization
- It cannot prevent people from becoming infected with the virus



Antibody therapies: Using COVID-19 antibodies from recovered patients to treat or prevent the disease.

- Convalescent plasma therapy can be used to speed recovery time in infected patients.
- Cloned antibodies may provide vaccine-like effects, but only for a very short time
- Regeneron Pharmaceuticals, Bii Biosciences and Vir Biotechnology are all pursuing treatments in this space



What does this mean for companies?

To resume operations, and avoid further lockdowns, businesses need to take responsibility for preventing the spread of the virus.

(Businesses should not rely on governments).

A successful, proactive response to COVID-19 will likely hinge on widespread corporate activity to identify and contain infections, even without a federal or state directive to do so.

These same measures will help your business be successful and profitable during the pandemic.

Workplace testing can prevent work sites from becoming the next hotspot, preventing financial and brand damage.

Many workplaces are conducting daily wellness checks, such as temperature reads and questionnaires asking employees about COVID-19 symptoms, before entering a site is permitted. While these, and other safety measures, reduce the risk of viral spread, many carriers of SARS-CoV-2 (the COVID-19 virus) are asymptomatic. This means the virus may be continuing to spread, but at a slower rate, because of the safety practises in place.

Even work sites with the most stringent safety practises may be “ticking time-bombs” that result in media headlines and shut-downs of business-critical facilities.

Preventative, regular testing of workers can catch asymptomatic carriers of the virus and further prevent a viral outbreak at company facilities. The EEOC, which regulates anti-discrimination laws, has provided [guidance](#) permitting such tests.

How Viral Spread Directly Shuts Down The Work Sites Where The Spread Started

Virus spreads at worksite due to asymptomatic employees not caught by wellness checks

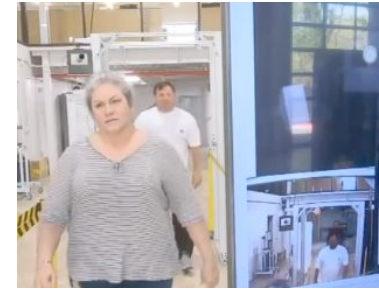
Local healthcare system overwhelmed with COVID-19 cases

Increased fatalities from COVID-19 patients and patients of other conditions not having access to hospital beds

To reduce infection rates, authorities shut down areas where virus is prevalent, including work sites.

Case Example:

Tyson's Pasco Plant Shut Down



Even with rotating shifts and other safety practises, 19% of the 1,482 workers at Tyson's Pasco, Washington, plant tested positive for COVID-19. Half of the workers who tested positive were asymptomatic. The plant was closed for about 12 days, in order to test all workers and conduct deep cleaning. Only enough workers were able to return to work to operate the plant at at little over half of normal production.

Image: Tyson workers passing through infrared temperature scanners. (Source: tri-cityherald.com)

ABOUT PRESCOUTER

DURING THIS PANDEMIC, PRESCOUTER IS LEVERAGING ITS NETWORK OF 4000+ EXPERTS, LAB PARTNERS AND PROTOTYPING FIRMS TO PROVIDE CLIENTS WITH THE TESTING EXPERTISE AND RESOURCES THEY NEED.

PreScouter traditionally provides corporate innovation and R&D leaders with expertise on emerging technologies and markets. During this pandemic, PreScouter is vetting, selecting and promoting *best in class* testing solutions from lab partners, to provide clients with the unbiased expertise and the resources they need to deploy testing to safeguard their workplaces.

To learn more, contact us at covid19@prescouter.com or (708) 613-7132.

EXAMPLES OF OTHER PRESCOUTER PROJECTS:



Technologies and tactics for reducing disinfection time: What tools can companies use to automate disinfection and other safety practices.



Supply Chain Disruption: When traditional resources or raw materials are not available during a pandemic, PreScouter helps clients find alternative solutions - uncovering connections around the world.



Driving Consumer Confidence: Tactics that give workers and consumers confidence that they are in a safe environment, to ultimately drive their re-engagement in economic activity.

Important Disclaimer: The information provided in this briefing report is based on advice from public health authorities, other regulatory agencies and vendors, as well as news reports and scientific publications. This information has been analyzed, reviewed, and summarized by PreScouter. It is not a substitute for medical or legal advice about your employees, workplace, or obligations.

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