

Coronavirus Prevention and Detection Tools to Protect Your Health

More than 2.5 million cases of coronavirus [had been reported](#) as of April 22, 2020, with the death toll at more than 172,000. Of course, many more people have likely become ill and even died due to the pandemic than have been tested. The need for rapid, accurate testing, along with tools for preventing and minimizing the likelihood of spreading COVID-19, has never been more clear.

Healthcare providers, researchers, and tech companies (<https://www.bairesdev.com/insights/net-development-services>) are scrambling to provide solutions to protect people around the world and curb the spread of the disease. Here are just some of the tools they have in the works. Some have even been approved for use.

At-Home Testing

On April 21, 2020, the United States Food and Drug Administration (FDA) [approved](#) the first at-home COVID-19 test kit. Developed and produced by LabCorp, the test involves swabbing the inside of the individual's nostrils. They'll still need to send the sample to a lab for analysis.

These tests are [just as accurate](#) as those performed by medical personnel, according to an assessment by the UnitedHealth Group and the Gates Foundation. LabCorp is prioritizing medical workers and first responders for the initial release, but ultimately, they should be available to the general public. They cost \$119 apiece.

Rapid Testing

There are several COVID-19 [detection tests](#) on the market that must be administered by healthcare workers. Camtech Diagnostics' COVID-19 IgG/IgM Rapid Qualitative Screening Test provides results in just 10 minutes. However, additional testing is required for confirming the diagnosis. JN Medsys' ProTect COVID-19 RT-qPCR Kit provides results within 2 hours with a 95% accuracy rate. It's approved for use in some countries and is under review by the FDA.

Meanwhile, scientists at the University of Oxford [produced a test](#) that delivers results in just half an hour. As of March, the test was validated using 16 clinical coronavirus samples at Shenzhen Luohu People's Hospital in China and showed 100% accuracy.

Predictive Analytics to Anticipate the Likelihood of Developing Severe Illness

Researchers have [created](#) a tool that may be able to predict which COVID-19 patients will develop complications resulting in respiratory disease. In a small-scale study of 53 patients who initially presented mild symptoms, scientists in the US and China used [AI](#) to predict how many would go on

to develop acute respiratory distress syndrome with approximately 80% accuracy.

The researchers' hope is that the tool can be used to determine which patients suffering from coronavirus can be safely discharged from hospitals and which ones need beds, given the limited resources available.

Big Data and AI Tracking the Spread of Coronavirus

[Nextstrain](#) is an open-source project that aims to track the evolution of pathogens. The website shows data and a visualization of how COVID-19 is evolving across continents with the goal of helping epidemiologists understand the virus and aid the response to the pandemic.

Meanwhile, Canada-based BlueDot has created outbreak-risk software using AI to serve as a warning system for infectious disease. The startup published the first [scientific paper](#) on COVID-19 accurately predicting the spread of the virus.

Controversially, China [is using](#) a surveillance system with facial recognition technology to flag people who could be feverish and infected. The government has also created a big-data-based system to identify potential cases based on factors like exposure to virus hotspots and infected individuals, along with travel history, to determine whether they must be quarantined.

Remote Treatment

In order to reduce the exposure of healthcare practitioners to infection, some countries are exploring the possibility of remote treatment. For example, experts from other parts of China are using 5G to [diagnose](#) patients in Wuhan. ZTE, a telecom equipment provider, has created a system to deliver diagnosis and treatment between West China Hospital and the Chengdu Public Health Clinic Center of Sichuan University and expanded the service to Wuhan.

Meanwhile, the World Health Organization (WHO) [created](#) a chatbot that delivers information about coronavirus and how to protect oneself via WhatsApp.

Vaccinations

This week, the United Kingdom's health secretary [announced](#) that the University of Oxford is developing a vaccine that will shortly enter human trials. However, it could be a long time before the vaccine is available for public use.

Meanwhile, supercomputers are hard at work trying to find ways to guard against and treat coronavirus. For instance, IBM's AI-powered [Summit](#) has run through countless simulations to identify compounds that might be able to effectively combat the disease, with 77 possible results.

These are just some of the ways technology has stepped up to battle the global pandemic. From [drones delivering](#) medical supplies to [robots sanitizing airplanes](#), organizations around the world are joining the fight.

Of course, until vaccines and treatments are developed and approved for the public, individuals will need to head governmental regulations and medical advice. That means staying home except when necessary, wearing a mask and keeping your distance from others when you do leave, and taking all other precautions put in place to protect you.