Testing for COVID-19 With Machines Usually Used for HIV and Hepatitis

A Canadian hospital lab adapts two Roche diagnostic systems, allowing for over 2,000 COVID-19 tests a day. How many of the instruments are in the U.S.?

March 27, 2020 By Trent Straube

A hospital's virology lab in Canada devised a way to massively increase its capacity to test for COVID-19, the potentially fatal lung disease caused by the novel coronavirus.

Marc Romney, MD, and his team at St. Paul's Hospital in Vancouver altered an existing Roche diagnostic system used to test for HIV, hepatitis and cytomegalovirus so that it now tests for COVID-19.

"This new testing platform should allow us to increase significantly our testing capacity, possibly increasing testing capacity four- to fivefold—if there are no supply issues with respect to kits," said Romney, the medical leader for medical microbiology and virology at the hospital, in a press release from St. Paul's Foundation, which raises funds for the hospital.

Boosting the testing ability is important, Canada's Romney explained in the press release, because "testing is the key to COVID-19 diagnostics (for patient care) and surveillance (for public health). High-volume testing capacity is critical in our fight to contain and control the spread of COVID-19."

St. Paul's Hospital has two of the testing machines, the Roche cobas® 6800 system. If both run at full capacity, they'll be able to test over 2,000 COVID-19 samples in 24 hours.

But how will this help curb the pandemic in the United States? Michael Weist, a Roche spokesperson, tells POZ that "there are about 120 cobas® 6800 and cobas® 8800 instruments currently installed in the U.S." What's more, the Swiss company is helping meet testing demands in another way: "We are currently shipping about 400,000 cobas® SARS-CoV-2 tests per week to more than 30 lab sites across the country that already had these instruments and were ready to begin COVID-19 testing."

"The Roche cobas® 6800 instrument allows for fully automated, high throughput testing of patient samples (nasopharyngeal swabs in the case of COVID-19) and can even conduct testing and deliver results when samples are loaded overnight," Romney explained in the hospital press release. "It is based on polymerase chain reaction technology (PCR) and incorporates viral nucleic

acid extraction, purification, amplification and detection in a single instrument."

Romney received approval for the project from Health Canada. He and his team worked with Roche Canada; Roche is a global health care company based in Switzerland that operates pharmaceutical and diagnostics divisions. Read more about its COVID-19 response here.

In related news, keep in mind that novel coronavirus guidance and concerns for unique populations may vary. For example, see "3 Reasons COVID-19 Poses a Higher Risk for the LGBTQ Population," "UPDATED: What People With HIV Need to Know About the New Coronavirus" and the similar article for people with cancer.

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