PITTSBURGH, March 14, 2020 – UPMC has developed a test for the novel coronavirus SARS-CoV-2 — the virus that causes COVID-19 — and will use this test to diagnose select, symptomatic cases. The health system plans to rapidly increase capacity at its central laboratory and, if there is a need, could test hundreds of patients per week in the near future, filling a critical gap before other commercial tests come online.

“Developing this test for a never-before-seen virus in the midst of a pandemic was a tremendous challenge, even for our academic medical center with its long history of such developments,” said Alan Wells, M.D., D.M.Sc., medical director of the UPMC Clinical Laboratories and Thomas Gill III Professor of Pathology at the University of Pittsburgh School of Medicine. “But testing capabilities are absolutely essential to managing a pandemic. If the communities we serve see a surge in severe illnesses, we must be able to diagnose people quickly to give them the appropriate care while protecting our staff and the broader community.”

Additionally, UPMC on Tuesday will begin directing patients with symptoms consistent with COVID-19 to a specimen collection site in Pittsburgh’s South Side neighborhood. The site is not open to the general public. Patients must have a physician referral approved by UPMC’s infection prevention team and an appointment to have their specimen collected for testing by either UPMC or public health authorities.

UPMC will later open additional specimen collection facilities in Harrisburg, Erie, Williamsport and Altoona at an as-yet undetermined date after gaining experience with the South Side facility and after UPMC’s testing capacity increases.

“Testing capabilities for COVID-19 in the U.S. have been delayed and limited, creating anxiety for the people we serve and impairing our ability to optimally guide the public health response,” said Donald Yealy, M.D., chair of emergency medicine for UPMC and Pitt. “By creating our own test and collection centers, we can both help our patients and the overall community. We seek getting a diagnosis in hours, not days.”
The U.S. lagged behind other countries in testing capacity, which was centered around public health authorities. The tests created by commercial laboratories are either not serving the Pittsburgh region or can take longer for results, according to Wells.

Trained UPMC providers will collect specimens, doing so safely while wearing personal protective equipment, including gowns, gloves and N95 masks or respirators. Collection will occur in negative pressure rooms, which assure that air does not leave the room until it flows through a high-efficiency particulate air (HEPA) filter that removes pathogens. The process involves a “nasopharyngeal” swab, a thin device inserted through a patient’s nose into the nasal cavity.

The specimens will be safely transported for testing to the UPMC Clinical Laboratories, the largest academic clinical lab in the U.S. In most cases, results will be returned within 24 hours. UPMC may continue to send specimens to the Pennsylvania Department of Health’s laboratory in eastern Pennsylvania or health department laboratories in New York and Maryland as needed and for confirmation. UPMC will work with commercial laboratories to send specimens to them as soon as they have capacity, which will maximize the health system’s ability to test all who need it.

UPMC’s laboratory developed test was created using reagents already approved for making a SARS-CoV-2 test and following U.S. Centers for Disease Control and Prevention (CDC) guidelines. It is validated under the Clinical Laboratory Improvement Amendments program of the Centers for Medicare & Medicaid Services for use in human diagnoses.

The test was created by a virology team led by Tung Phan, M.D., Ph.D., assistant professor of pathology at Pitt and assistant director of clinical microbiology at UPMC; Charles Rinaldo, Jr., Ph.D., chair and professor of the Pitt Graduate School of Public Health’s Department of Infectious Diseases and Microbiology and director of the UPMC Clinical Virology Laboratory; and Stephanie Mitchell, Ph.D., assistant professor of pathology at Pitt and director of clinical microbiology at UPMC Children’s Hospital of Pittsburgh. Implementation work was done by Arlene Bullotta, Barbara Harris and Kathy Greenawalt of the Section of Virology at UPMC Clinical Laboratories. “This was a tireless effort by a team dedicated to serving the needs of our patients,” said Wells.

The test was validated with genetic samples of SARS-CoV-2 shared by Paul Duprex, Ph.D., director of Pitt’s Center for Vaccine Research, which is pursuing development of a COVID-19 vaccine.

Anyone whose sample is taken should self-isolate until results come back. If it is positive, UPMC will refer the patient to public health authorities and ensure ongoing care. All positive UPMC test results will be “presumed” positive until confirmed by the CDC or state public health laboratories.

People who suspect they have COVID-19 but do not have a high fever or breathing problems should call their primary care physician or use UPMC AnywhereCare, an online tool to get advice. Anyone with a high fever or breathing trouble should go to their local emergency department for evaluation and care.

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