8. Supporting Students through In-House COVID-19 Testing

Support for Learners

RCSI COVID-19 Laboratory Governance Committee
RCSI University of Medicine and Health Sciences

RCSI UNIVERSITY OF MEDICINE AND HEALTH SCIENCES

Introduction

The SARS-CoV-2 virus that causes COVID-19 is amongst the most transmissible pathogens seen in decades and can spread by contact with contaminated surfaces, droplets, and aerosols. Unlike other respiratory infections, significant spread may occur before symptom onset and a confirmed diagnosis. Hence, it caused significant disruption throughout society, including in healthcare and higher education institutions. Healthcare education involves significant in-person training and instruction, e.g., examination of the abdomen that cannot be duplicated by online or virtual educational sessions. Therefore, RCSI adopted a multi-pronged strategy to support face-to-face clinical education, including an innovative programme of testing students for COVID-19.

Initiative

Over the summer of 2020, RCSI began to plan to deliver in-house testing for COVID-19 to screen for SARS-CoV-2 infection. Planning included other measures such as questionnaires on possible symptoms and compliance with infection prevention and control measures. Given the huge pressure on health systems, and the logistical challenges in using a commercial laboratory (e.g., delays in transport, communication, and interpretation of results), RCSI undertook to establish a laboratory testing facility on its own campus. The objective was to use testing to facilitate face-to-face teaching, protect students, staff, and patients, and reassure hospital management that major efforts were being made to avoid RCSI students spreading SARS-CoV-2 in hospitals. A multi-disciplinary COVID-19 Laboratory Governance Committee was established to oversee the development of testing. Members included medical doctors, scientists, nurses, and management. It reported and liaised with the SMT, SU, COVID-19 Scientific Advisory Group and the RCSI Student Health Management Group. The involvement of consultant staff with joint RCSI and Beaumont Hospital posts and staff in RCSI's primary care facility (Mercer's Medical Centre) was vital to ensure effective communications and the necessary clinical liaison with those who tested positive and their contacts. All positive results were notified to the HSE, who were kept abreast of this development. Protocols for individual case management were compliant with national guidelines.

Outcome

In-house testing on nasopharyngeal swabs commenced in November 2020 and continued up to February 2022. This was based on the protocol recommended by the Centre for Disease Control and Prevention in the USA. All positives were confirmed by re-testing the same sample. To comply with public health surveillance requirements, students and staff who were positive were sent to the HSE HealthLink to ensure that the result was recorded in the national database. Students were tested at the start of the semester, before placements on clinical sites, and at other times. The staff tested included those who needed to be on campus and who agreed to be tested.

In October 2021, following RCSI's publication on the confirmation of SalivaDirect method as a valuable alternative to nasopharyngeal swabs, RCSI moved towards saliva as the specimen type for COVID-19 testing. Those being tested welcomed this and it was cheaper and quicker from a laboratory perspective. By early 2022, the literature was strongly suggesting that saliva was more sensitive than NSP for testing. In total, 22,008 samples were received from students (1,962 from those with symptoms and 20,046 for screening) and 1,102 from staff. There were179 positive results from students, 78% of which were salivary samples.Whole genome sequencing indicated that the genotypes detected mirrored those circulating in the community (Figure 1). No student acquired COVID-19 on a clinical placement or contributed to healthcare-associated COVID-19 cases or outbreaks.

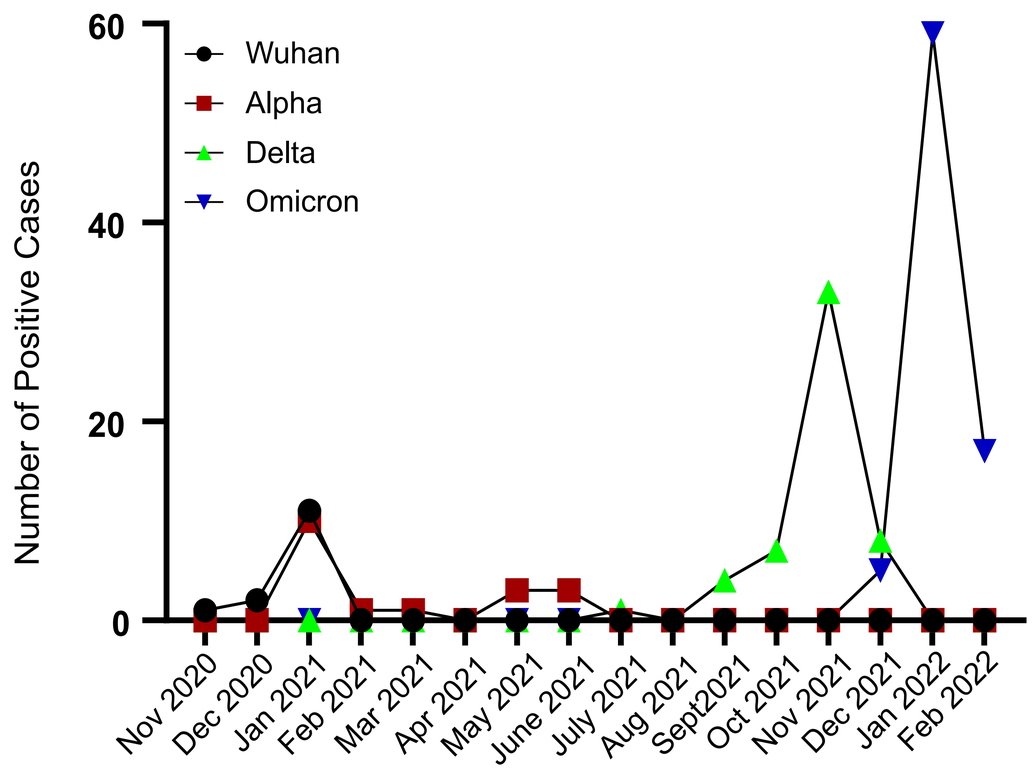

Figure 1. *Genotyping of COVID-19 Positive Results*

Mercer's Medical Centre expanded to providing a seven-day primary care COVID-19 service in March 2020. Both clinical and administrative staff worked every evening and weekend until July 2021, to provide rapid direct advice and clinical care to all patients, including RCSI students. There were 10,000 COVID-19 related consultations with 673 student positives from in-house and external testing (e.g., HSE testing), while routine services were being maintained. Significant emphasis was placed on providing accurate, up-to-date, and easily accessible information for the public, RCSI students and staff. This was largely achieved by upgrading and expanding the Mercer's Medical Centre website, which received 55,000 visits between September 2020 and August 2021. Excellent clinical and administrative support was provided to Mercer's from other RCSI personnel, particularly senior clinical microbiology and infectious disease colleagues in Beaumont Hospital, the School and Faculty of Nursing and Midwifery, Student Welfare, SARA and CoMPPAS.

There has already been one publication with possibly more to follow. The lessons learned can be briefly summarised as follows:

- Students were enabled to continue their clinical education through the support provided by this initiative.
- Benefits arose form clinical staff with joint appointments supporting an integrated approach. Primary care and hospital-based group members brought the benefit of their experience of diagnostic laboratory testing, patient management and infection prevention and control protocols to the educational setting.
- RCSI have world-class expertise and state of the art equipment. This can be of great support to the national effort.
- The non-laboratory (pre and post analytical) elements of laboratory testing must be considered: Communication, Clinical Liaison and Governance.This is especially important in the context of a public health emergency; however, it is also crucial for all laboratory testing. The testing component is only one component of SARS Co-V2 laboratory testing and cannot be established in isolation.
- Importance of the RCSI as a healthcare institution with 80% of students from overseas. RCSI always needs to retain a global perspective.
- The COVID-19 testing facility and all equipment will remain in place for the near future, should there be a need to ramp up testing again.

In-house COVID-19 testing was just one element of RCSI's response to the pandemic with considerable evolution in the digital, campus and clinical learning environments. Many students volunteered at vaccination centres, in Irish hospitals, and as contact tracers. RCSI also made its educational expertise available to the Irish government to train contact tracers, and its simulation facilities available to help upskill hospital staff working in challenging COVID-19 environments.