

Response on trial run of COVID-19 testing technique at airport

In response to media reports on discordant results between different tests conducted under the trial run of a COVID-19 nucleic acid testing technique at the Hong Kong International Airport (HKIA), a spokesman for the Food and Health Bureau (FHB) made the following response today (November 21):

The Government has been monitoring the latest developments of COVID-19 testing techniques, and would assess such testing techniques with reference to scientific studies around the world and in Hong Kong, practical experience, and expert advice.

The Government started on October 28 at HKIA a trial run of a nucleic acid test using reverse transcription loop-mediated isothermal amplification (RT-LAMP) technique using gargle as the specimen collection method, while also testing that technique using deep throat saliva (DTS) specimen. The RT-LAMP trial run was conducted in parallel with the reverse transcription polymerase chain reaction (RT-PCR) nucleic acid test used by the Department of Health (DH) with DTS as the specimen collection method for comparison, so as to examine the sensitivity and reliability of the RT-LAMP technique. During the trial, DH and the organisation participating in the trial also conducted RT-PCR tests on the gargle and DTS samples respectively for reference purpose. The three-week trial ended on November 17.

The Government is carefully examining the data collected from the trial, and will assess the efficacy of the testing technique including specimen collection method and the feasibility of applying it to different uses, including testing for arriving passengers.

Regarding the discordant results in the airport trial, FHB confirms that there were 25 cases in the trial that produced varying discordant results from tests conducted by different organisations, using different testing techniques, and with specimen collected using different methods, of which six cases' DTS specimens collected at the DH's Temporary Specimen Collection Centre at the airport were tested negative, while the gargle specimens separately collected by the organisation participating in the trial run returned positive, negative or indeterminate results using RT-PCR and RT-LAMP tests, among which four of the DTS specimens were tested positive when re-screened by DH using RT-PCR test. Among the other cases in the trial, there were also situations where the gargle specimens were tested negative using RT-PCR or RT-LAMP tests by the organisation participating in the trial, while the DTS specimens were tested positive by DH. The detailed results will need to be further assessed after the analysis of the trial data, and the Government has yet to come to a conclusion on the trial at this stage.

We stress that all relevant travellers who were re-screened as positive cases had been admitted to hospital for isolation in accordance with existing

procedures. There are advantages and limitations to different testing techniques and specimen collection methods for COVID-19 tests, and it is not uncommon that different testing techniques or specimen collection methods would generate discordant results, which might be due to the sensitivity and specificity of the testing technique, the viral load in the specimens provided by a sampling method or laboratory technical issues, etc. Specifically, the RT-PCR nucleic acid test is still the "gold standard" in COVID-19 tests, and is also the reference test employed by DH's Public Health Laboratory Services Branch (PHLSB) in confirming positive cases.

As for sampling methods, DTS, nasopharyngeal swab (NPS) and combined nasal and throat swab (CNTS) are more commonly used in Hong Kong for specimen collection, and the three methods are generally similar in accuracy and sensitivity, and could all effectively identify COVID-19 cases. DH's PHLSB has also been monitoring whether other specimen collection methods (such as gargle specimens) would be suitable. Scientifically, there is no single testing technique or specimen collection method that can ensure complete accuracy. The airport trial aimed to compare different testing techniques or specimen collection methods with the current arrangements. The Government will continue to analyse the trial data and review the suitability of different testing techniques and specimen collection methods.