

LCQ16: Specimen collection methods for virus testing

Following is a question by the Hon Wong Kwok-kin and a written reply by the Secretary for Food and Health, Professor Sophia Chan, in the Legislative Council today (February 3):

Question:

Currently, one of the specimen collection methods for Coronavirus Disease 2019 testing is that the persons to be tested (subject persons) collect by themselves specimens of their deep-throat saliva (DTS). Some experts have pointed out that this specimen collection method has weaknesses, including that (i) the quality of the saliva specimens hinges on a number of factors (e.g. whether the subject persons have grasped the skill for spitting out saliva from their throats, and whether they have eaten/drunk anything or brushed their teeth or rinsed their mouths within two hours prior to the collection of DTS specimens), and (ii) the subject persons may have submitted fake specimens (as revealed earlier on by a member of an expert advisory panel that, among the DTS specimens submitted by members of high-risk groups for testing last year, about 3 per cent of the specimens were suspected to be tap water only as they did not contain any human DNA). In this connection, will the Government inform this Council:

(1) of the number of suspected fake specimens received by the authorities so far, with a breakdown by the category of testing groups (including targeted groups and groups subject to compulsory testing) that have submitted the specimens concerned;

(2) whether those persons who have submitted fake specimens will be legally liable; if so, of the details (including the maximum penalty), and whether any prosecutions have been instituted so far; if so, of the government departments responsible for such work and the number of prosecutions instituted; if no prosecution has been instituted, the reasons for that; and

(3) of the measures in place to prevent persons who are subject to compulsory testing and members of high-risk groups from submitting fake specimens; as there are weaknesses in the method for collecting DTS specimens, whether the authorities will switch to use other methods (e.g. entrusting professionals to collect combined throat and nasal swabs) to collect specimens from these types of persons; if so, of the details; if not, the reasons for that?

Reply:

President,

Virus testing is an integral part of our anti-epidemic strategies. The Government's existing strategy aims to implement and expand the coverage of

various testing measures, including requiring specified persons of high risk to undergo compulsory testing on a mandatory basis, arranging targeted groups to undergo testing on an obligatory basis, and encouraging more members of the public to undergo testing on a voluntary basis.

Regarding the method of specimen collection, the Government has been closely monitoring the latest developments of COVID-19 testing and making reference to scientific research, practical experience and expert opinions from various places and Hong Kong in selecting the appropriate specimen collection method for different testing schemes.

Deep throat saliva (DTS), nasopharyngeal swab (NPS) and combined nasal and throat swab (CNTS) are the most common specimen types used in Hong Kong for specimen collection. The three methods are generally on par in terms of accuracy and sensitivity, and have so far been effective in identifying COVID-19 cases. At present, the Government would select different specimen collection methods having regard to the actual situation, including factors such as testing purpose, site environment and convenience to the public, etc.

My reply to the questions raised by the Hon Wong Kwok-kin is as follows:

(1) and (3) To ensure specimen quality, currently, the majority of specimen collection for the purpose of compulsory testing under the Prevention and Control of Disease (Compulsory Testing for Certain Persons) Regulation (Cap. 599J) (the Regulation) has adopted professional swab sampling of CNTS, including:

(i) Setting up mobile specimen collection stations with professional swab sampling (CNTS) for virus testing near residential buildings of persons subject to compulsory testing; and

(ii) Arranging professional swab sampling (CNTS) for compulsory testing for targeted groups such as staff of residential care homes for the elderly and persons with disabilities, as well as taxi drivers.

To further prevent importation of cases, the temporary specimen collection centre set up at the Hong Kong International Airport has already adopted the specimen collection method of professional swab sampling (CNTS) for people arriving Hong Kong. As for people arriving Hong Kong from places outside China who are subject to compulsory quarantine, the sampling and testing required at designated quarantine hotels (including two tests on the 12th and 19th or 20th day of arrival in Hong Kong) has also adopted professional swab sampling (CNTS).

For January 2021 (as of January 25), a total of about 360 000 tests have been carried out through the above-mentioned compulsory testing, with professional swab sampling (CNTS) accounting for close to 85 per cent of the specimens tested. During the same period, the community testing centres' fee-paying testing service and free tests provided to targeted groups, as well as other services provided at other mobile specimen collection stations, had provided professional swabbing service (CNTS) to about 300 000 persons,

accounting for close to 60 per cent of the 1 million tests conducted in Hong Kong during that period.

Other community testing arrangement for surveillance purpose under "targeted testing" and "voluntary testing" for general public and targeted groups are conducted on voluntary basis. The Government would adopt different sampling methods, including distribution of DTS specimen bottles, having regard to the venue and other factors. In fact, through the 188 distribution points (including 47 designated general outpatient clinics under the Hospital Authority, 121 post offices or vending machines set up at 20 MTR stations) and 83 collection points for citizens to obtain free testing, it is indeed more convenient for citizens who feel that they are at a higher risk of infection or are mildly unwell to submit DTS samples. It would facilitate voluntary testing as recommended by overseas and local experts. From November 15 last year to January 25 this year, we have distributed close to 540 000 specimen bottles through these distribution points and collected about 480 000 samples for testing. Among them, 378 positive cases were detected (0.08 per cent). If the service providers for government testing services find that the DTS samples received for testing do not contain any human DNA, they will not provide any test results to those who submitted the DTS specimen.

(2) According to the compulsory testing notices issued under section 10 of the Regulation, specified person may be required to submit specimen in the way specified in the notice in undergoing a polymerase chain reaction-based nucleic acid test for COVID-19. If the person concerned fails to follow the specified way in submitting a specimen, the person cannot be deemed to have performed the relevant test in compliance with the compulsory testing notice. According to section 13 of the Regulation, such person, without lawful authority or reasonable excuse, commits an offence and is liable on conviction to a fine at level 3. Prescribed officers may also issue compulsory testing order to that person, requiring the person to undergo the specified test.