

**Information provided in response to letter of 7 April from
the Clerk to Select Committee to inquire into the handling of
the Severe Acute Respiratory Syndrome outbreak by
the Government and the Hospital Authority**

In respect of the stool samples of some patients who were residents of Amoy Gardens which had been tested PCR-positive for the SARS coronavirus -

- (a) whether it was a standing practice to perform test on the stool samples for SARS coronavirus;*
- (b) who gave the instruction to perform such test and when the instruction was given if it was not a standing practice; and*
- (c) when the test results were available.*

Before responding to the above questions, some background information on the development of the Polymerase Chain Reaction (PCR) test for SARS coronavirus should be noted. The SARS coronavirus was recognized on 22 March 2003 while the gene sequence of the virus was made available from the US Centers for Disease Control and Prevention (CDC) on 24 March.

Thereafter, the Government Virus Unit (GVU) of the Department of Health (DH) immediately commenced the design of primers and the development of PCR test for detecting SARS coronavirus, using some specimens from clinically suspected SARS patients received from hospitals. On 27 March, one stool specimen from Queen Elizabeth Hospital and a number of respiratory specimens from various hospitals were tested PCR-positive for SARS coronavirus, with the experiments conducted with the primers from CDC. Since then, GVU started routinely doing SARS testing on specimens (including stool) of clinically suspected SARS cases received from HA, using primers from the CDC. On 30 March, GVU successfully designed a more sensitive pair of primers for the PCR test to replace the initial pair from CDC. At the same time, GVU started growing the virus in suitable cell line with a view to determining the growth characteristics of the virus.

Continuous efforts were made in improving the test. By mid-April 2003, it became clear that the SARS PCR test, when performed on specimens obtained during the second week of illness, gave higher yield than if it was done on earlier specimens. Revised protocol on laboratory testing for SARS was issued by the Hospital Authority on 17 April 2003, which included the advice that the PCR test is indicated for patients who met the case definition for SARS

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and three types of specimens including stool should be collected from SARS patients for laboratory testing.

As it was recognized that SARS was associated with coronavirus, the positive result on stool specimen was not a surprise but it was an indication that the virus could be present in the stool of SARS patients. This discovery assumed significance when the Secretary for the Environment, Transport and Works informed the Secretary for Health, Welfare and Food in the morning of 1 April that her team of experts working with DH investigators had some preliminary findings regarding the ventilation system of the lifts and sewerage system of Block E of the Amoy Gardens. The aforesaid findings, coupled with the positive result of PCR tests of stool samples, led to the suspicion that the sewerage system of Block E might have contributed to the vertical spread of SARS cases in Block E. Thus, a removal order was issued in respect of the whole block later that day, i.e. 1 April 2003.

Department of Health
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