

**Select Committee to inquire into the handling of
the Severe Acute Respiratory Syndrome (SARS) outbreak by
the Government and the Hospital Authority**

Meeting with Dr Stephen Ng Kam-cheung on 5 April 2003

INTRODUCTION

This paper provides an account of a meeting between Dr Stephen Ng Kam-cheung and representatives of various Government departments on 5 April 2003. In order to provide a better understanding of the background and nature of the meeting, the paper also gives an account of other meetings with Dr Ng as well as an overview of the expert support received by the Government during the SARS outbreak.

EXPERT SUPPORT RECEIVED BY THE GOVERNMENT DURING THE SARS OUTBREAK

2. During the early phase of the SARS outbreak in Hong Kong, the Government made three strategic decisions at the Senior Officials Meeting chaired by the Chief Executive on 14 March 2003, namely –

- (a) Information on the outbreak should be disseminated to the public on a daily basis;
- (b) Advice should be given to the public on precautionary measures; and
- (c) Hong Kong should work closely with international organizations and seek expert help if necessary.

3. In regard to the last decision, the Government sought the assistance of experts from international bodies including the World Health Organization (WHO), the Centers for Disease Control and Prevention (CDC) in Atlanta, the United States of America (USA) and Health Canada to aid in the investigation into the outbreak and to advise on control measures. At various stages of the epidemic, a number of world-renowned experts were also recommended to the Government and provided invaluable advice. These included –

- Dr David Ho, Scientific Director and Chief Executive Officer of the Aaron Diamond AIDS Research Center, USA;
- Dr Robert Webster, Director of the US Collaborating Center of WHO;

- Dr Jeffrey Koplan, Vice President for Academic Health Affairs of the Emory University in USA, and former Director of CDC in Atlanta; and
- Dr Meirion Evans, Senior Lecturer at the Department of Epidemiology of the University of Wales College of Medicine in the UK, and member of a WHO expert team that has performed an assessment of the SARS situation in the Guangdong province.

4. Other than international experts, the Government also solicited advice from local experts with proven track records in areas such as public health, respiratory medicine and microbiology. Some of them were invited to serve as members of the Health, Welfare and Food Bureau (HWFB) SARS Task Force, or as consultants to the Government.

OTHER SERVICES OFFERED TO THE GOVERNMENT

5. In addition to the above, during the outbreak many individuals also offered their services to the Government through various channels. Despite the very tight schedule that Government officials were working on to investigate and control the outbreak, efforts were made to meet with some individuals who might have some expertise in the relevant fields. It has not been possible to accept all the offers. This is primarily because some of the offers related to areas of work which had already been undertaken by other experts, and some of the offers related to the promotion of commercial products.

MEETINGS WITH DR STEPHEN NG

6. Dr Ng was introduced to the Government through the University of Hong Kong on 3 April 2003 as someone who had training in the field of epidemiology and who wished to assist in the investigation of the outbreak. The Government was given to understand that although Dr Ng was a businessman by trade, he was an Adjunct Associate Professor at the Department of Community and Family Medicine, Chinese University of Hong Kong and that he had been an Assistant Professor at the School of Public Health, Columbia University, USA.

7. Subsequent to Dr Ng's initial introduction to the Secretary for Health, Welfare and Food (SHWF) through the Office of the Chief Executive on 3 April, SHWF made arrangements for representatives from various Government departments to meet Dr Ng to exchange views on the SARS outbreak in general, and the Amoy Gardens outbreak in particular. Dr Ng subsequently participated in two meetings, the first being held in the afternoon of 4 April and the second in the morning of 5 April. Dr Ng was not employed or commissioned by the Government in any capacity during the SARS outbreak. He did not participate in the field investigation of the Amoy Gardens outbreak in association with Government departments. Neither was he a consultant to the Government.

8. As the meetings on 4 April and 5 April were not committee meetings of any sort, and the purpose of the meetings was merely to provide a forum for the exchange of views and possible insights into the investigation, there were no records for the meetings. In view of the request for information from the Select Committee concerning the meeting on 5 April 2003, and as the discussions in the meeting on 5 April 2003 related to those in the one on 4 April 2003, the following paragraphs provide an account of the two meetings. In preparing the account, we have consulted those attendees from the Government.

Meeting on 4 April 2003

9. Dr Ng met with SHWF and the Secretary for the Environment, Transport and Works (SETW) in the afternoon of 4 April. SETW was invited to participate in the meeting as her personal professional background on environmental health could be useful to the investigatory work of SHWF and the Department of Health (DH). Also in attendance were representatives from the Environment, Transport and Works Bureau and DH. Although the Government then already had some preliminary evidence indicating that the sewerage and drainage systems might have been involved in the vertical spread of SARS cases in Block E, all other possible factors, including person-to-person spread, contamination of water supplies, garbage, lift system, and animal vectors such as rats, were also actively investigated.

10. At the meeting, Dr Ng expressed his views on the outbreak at Block E of the Amoy Gardens, citing rats as the most probable cause. He made the following points in respect of his hypothesis that rats could have been responsible for the outbreak –

- (a) Rats were somehow carrying the coronavirus through contact with contaminated garbage at the garbage collection point or at the toilets of restaurants at the podium of Block E to which infected residents might have visited; and
- (b) The rats moved along the pipes of Block E, urinated on the pipes and contaminated the water supplies.

11. In response to Dr Ng's hypothesis, SETW made the observation that it was not possible that urine of the rats could have seeped through the cracks, if present, of the pipes supplying water to the residential units due to positive pressure inside the pipes. As an alternative, Dr Ng also postulated that the urine of rats could have contaminated the water supplies at source (i.e. at the main water tanks on the rooftop of Block E). However, SETW also highlighted that the chlorine in the water should have prevented the extended isolated survival of the virus.

12. The meeting also noted that no worker at the garbage collection point and the restaurants at the podium of Block E was infected. If those areas had been

the "sources" of the contamination for the rats, then the possibility of infections of those individuals would be extremely high. At the end of the meeting, it was noted that Dr Ng did not put forward any information to substantiate his hypothesis.

Meeting on 5 April 2003

13. At the invitation of SHWF, Dr Stephen Ng attended another meeting in the morning of 5 April with representatives from Government departments to exchange views on the epidemiological investigations carried out by the Government. Attendees for the meeting included Dr Stephen Ng; Dr E K Yeoh and Dr S V Lo from HWFB; Dr Thomas Tsang from DH; Dr Trevor Ellis from the Agriculture, Fisheries and Conservation Department (AFCD) who attended the first part of the meeting; Mr M C Yuen from the Food and Environmental Hygiene Department (FEHD) who attended the second half of the meeting and Dr Paul Saw.

14. Apart from the epidemic curve information, the meeting also noted that initial test results for rat droppings collected by FEHD had shown positive Polymerase Chain Reaction (PCR) results for coronavirus in some of the samples. Dr Ng indicated that this was the confirmation that rats were the cause of the Amoy Gardens outbreak. As there had already been earlier reports of domestic cats kept by residents being tested positive for coronavirus but with the subsequent evidence pointing to cats being carriers rather than the cause, the meeting recognized that the positive PCR results in the rat droppings could have been due to a number of factors, including environmental contamination. Noting that autopsies would show changes in the rats if they had been infected, SHWF instructed the AFCD expert to carry out autopsies on trapped rats immediately. The AFCD expert subsequently left the meeting to head back to his laboratory to conduct the autopsies. He reported the preliminary results on the same day, which indicated no changes indicative of a severe respiratory virus infection in the rats. Moreover, the PCR results of the swabs and tissues taken from these autopsied rats were all later found to be negative.

15. In order to further clarify the precise role, if any, played by rats in the Amoy Gardens outbreak, SHWF instructed in the meeting that investigations on rats should be intensified with additional tests (including autopsies) to be carried out on more rat specimens. The Government Virus Unit also carried out additional PCR tests on tissue samples and antibody tests on the blood samples from the rats. The reports of these serological tests also did not show evidence of SARS coronavirus infection in the rats.

16. To better understand the rat infestation situation in Amoy Gardens, a pest control expert from FEHD was summoned to the meeting. The expert explained there were two main species of rats commonly seen in Hong Kong - sewer rats (*Rattus norvegicus*) and roof rats (*Rattus rattus*). As their names implied, sewer rats mainly infested sewers and lower levels of buildings while roof rats were normally found at higher levels. The two types of rats usually did not mix as rats

were territorial creatures. The expert further gave details of the pest control measures in the Amoy Gardens area. He observed that rat infestation did not appear to be a problem in Amoy Gardens and there were few rat signs. He further explained that obvious signs of rat infestation had not been detected in the common areas of Block E, including the roof-top, staircases, light wells, utility rooms, as well as pipes on walls.

17. Following the briefing by the FEHD pest control expert, SHWF instructed FEHD to intensify their pest control efforts in Amoy Gardens and the surrounding areas. He also asked FEHD to collect more specimens and to extend the collection area to beyond Amoy Gardens, such as Lower Ngau Tau Kok Estate and Telford Gardens.

18. Recently, there had been reports in the press on what issues were supposedly discussed, and what was allegedly said by certain participants in the meeting on 5 April 2003. We would like to take the opportunity to clarify that at the meeting, there was no discussion on the evacuation of all the residents of Amoy Gardens because evidence at that time, and even in retrospect, did not provide a basis for any further evacuation plan other than the removal of Block E residents, which had already been carried out on 1 April. Further, at no point during the meeting did SHWF make any statement to the effect that the residents of Amoy Gardens would have to be sacrificed. His guiding principle at all times was that public health, and the health of every member of the community must be paramount in every Government decision relating to the SARS outbreak. As the decisions made and the actions taken by Government both at and subsequent to the meeting showed, there was absolutely no basis for any allegation that the Government had covered up the possibility that rats might have been a factor of transmission, or had attempted to halt investigations in this regard. In fact, the actions taken attest to the contrary and that the Government actively investigated the role of rats in the outbreak.

SUBSEQUENT DEVELOPMENTS

19. Further to the morning meeting on 5 April, SHWF briefed the Chief Executive on the various initial PCR test results relating to animals in Amoy Gardens, including those for cats and rats, and kept him informed of the progress of the investigation into the outbreak. SHWF and representatives from DH attended a meeting of the Chief Executive's Steering Committee (CESC) in the afternoon of 5 April. CESC was briefed on the findings in respect of domestic cats and the rat droppings. The different hypotheses regarding the Amoy Gardens outbreak were also discussed. The meeting noted that the evidence thus far pointed to the sewerage and drainage systems of Block E of Amoy Gardens as the most likely environmental factor accounting for the outbreak.

20. DH and its multi-disciplinary team (which included WHO experts) continued their extensive investigation on the Amoy Gardens outbreak. With regard to rats, a series of investigations were carried out, including the following –

- Autopsies and examinations of 14 rats trapped in the Amoy Gardens area were carried out, which showed no gross abnormalities; and
- 62 specimen samples (including throat swabs, droppings, urine and blood) of the rats were collected and tested. Of these, six samples from droppings and two samples from throat swabs were positive. However, all the blood samples were negative, indicating that the rats themselves were not infected and supported the conclusion that the rats were mere mechanical carriers for the virus.

21. Following the extensive investigation by DH and its multi-disciplinary team, the findings on the Amoy Gardens outbreak investigation was announced by the Government on 17 April, including the fact that the SARS coronavirus had been found in rats. The investigation report also stated that as the rats showed no signs of SARS coronavirus infection, the findings only point to environmental contamination and that pests were likely to be no more than mechanical carriers for the virus in the Amoy Gardens outbreak. These findings of the Government's investigation were subsequently supported by an independent investigation conducted by a separate team of WHO experts, the result of which was announced on 16 May 2003.

22. The Government understands that Dr Ng subsequently published a hypothesis that roof rats were the culprits responsible for the transmission of the SARS coronavirus in the Amoy Gardens outbreak. However, the hypothesis does not tally with the findings of the field investigation by FEHD that rat infestation in Amoy Gardens was not serious, and that sewer rats, rather than roof rats, was the more common species in Amoy Gardens. The fact was that between 2 April and 30 May 2003, approximately 100 traps were set everyday (equivalent to some 4,500 trap-days) in various parts of Amoy Gardens, including residential blocks and the common areas, only a total of 14 rats were trapped. No dead rat was found at Amoy Gardens during the period, and, indeed, no rat was trapped after 11 April. Of the 14 rats trapped in Amoy Gardens, only one belonged to the roof rat category. Further, positive PCR results were all traced to sewer rats, not roof rats. The finding that rat infestation was not serious was consistent with information as reported by the management of Amoy Gardens.

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