

**For discussion  
9 July 2003**

**LegCo Panel on Health Services**  
**Measures to Prevent and to Prepare for the Resurgence of SARS**

**PURPOSE**

This paper gives an overview of the measures to prevent and to prepare for the possible resurgence of Severe Acute Respiratory Syndrome (SARS) in Hong Kong.

**BACKGROUND**

2. With the effective public health measures implemented by the Government, the SARS epidemic has been contained in our community. On 23 June 2003, the World Health Organisation (WHO) announced the removal of Hong Kong Special Administrative Region from the list of areas with recent local transmission of SARS. To prevent future resurgence of SARS, the Government will remain vigilant and ensure that adequate preventive measures and preparations in various aspects are put in place. These measures can be broadly classified into two areas – public health and hospital services.

**PUBLIC HEALTH MEASURES**

Prevention of importation/exportation of new cases

3. Health checks measures at the border control points will remain in place to prevent importation of SARS cases into the territory as well as exportation of cases to other places. The requirement for all passengers arriving at Hong Kong and outbound air passengers to complete a health declaration form, as well as the temperature screening for all passengers at the Airport and other border control points will continue. SARS patients and their household contacts will continue to be barred from leaving Hong Kong during the home confinement period.

## Disease surveillance in the international, regional and local context

4. Surveillance of SARS is central to its containment because it affects the speed and comprehensiveness of control measures that are carried out. Our experience shows that, given the transmission of SARS and other emerging diseases does not respect national border and in view of the heavy international flow of people nowadays, surveillance work must be conducted in concert with our counterparts around the world. In this connection, DH will continue to maintain close communication with WHO, share data with the Organisation and the health authorities in other countries to better understand epidemiological parameters of SARS, as well as to solicit technical assistance from our counterparts when necessary. DH will release timely and accurate information on SARS development to both the local and international communities to keep people on high alert should the disease re-emerge again.

5. DH will maintain close ties with the Mainland health authorities in the control of SARS. Apart from regular exchanges on a formal and informal basis, tripartite meetings of Guangdong-Hong Kong-Macao Expert Group on Prevention and Treatment of Infectious Disease will be held regularly to strengthen information exchange on communicable diseases, treatment protocols and laboratory technology.

6. Disease surveillance in our community will continue with enhanced reporting mechanism as SARS has been made a statutorily notifiable disease. Medical practitioners are required to report to DH all cases of SARS, and they will be constantly reminded to remain vigilant to ensure early detection of cases. DH has developed a Centralized Case and Contact Information System (“SARS-CCIS”) to provide a central database for all cases and contacts for tracking and analysis by integrating information from the eSARS information system of the Hospital Authority (HA) and that from the Major Incident Investigation and Disaster Support System (the MIIDSS) of the Police Force. As such, “SARS-CCIS” assists the Regional Offices of DH to trace and analyze clusters of SARS cases and facilitates other government departments in their collaborative action to contain SARS.

## Disease control

7. Epidemiological investigations, contact tracing and medical surveillance of close contacts are imperative in the control of SARS, as they ensure that ill contacts of cases are detected early and promptly isolated in the hospital to prevent spread in the community.

8. Suspected cases would be isolated for hospital treatment and quarantine measures applied to all close contacts of SARS patients. The close contacts may choose between home confinement or confinement at holiday camps for ten days after last contact with the SARS case. We shall also continue our deployment of multidisciplinary response team for investigations, disinfection and health education to any buildings where SARS patients have been residing during the incubation period.

## Public awareness, personal and environmental hygiene

9. The prevention of SARS will only be successful if every member of the community is co-operative and committed to combating the disease. In our fight against SARS, the Government has drawn up specific advice for different sectors e.g. health care professionals, elderly homes, workplace and tour operators, and in different languages to cater for the need of the ethnic minorities. DH will continue to educate the public and conduct public education campaigns to promote personal and environmental hygiene through different channels and in different settings.

10. One of the lessons we have learnt is the importance of environmental hygiene. Team Clean, chaired by the Chief Secretary for Administration, is tasked to devise strategies to promote a sustainable, cross-sectoral approach to achieve this aim. Phase 1 measures to be implemented over the next three to six months have been announced. The emphasis is zero tolerance of unhygienic behaviour, civic education, stiffer fines and stronger law enforcement. A sustainable system and time frame for implementing medium and long-term initiatives will soon be established.

## **HOSPITAL PREPARATION PLAN**

### Surveillance of Infectious Diseases

11. Based on the lessons learnt from SARS, HA and DH have enhanced communications under the disease surveillance mechanism. Upon notification by DH, HA will promptly disseminate alerts and managements guidelines to hospitals, and clinicians will in turn report suspected cases to DH. With the transfer of management of general outpatient clinics from DH to HA in July 2003, HA will further enhance the role of these clinics in disease surveillance, particularly with the aid of computerised information flow.

### Clinical Management

12. SARS is a new respiratory disease caused by a virus never seen in humans. Much remains unknown about the virus. HA will continue to collaborate with academics in conducting research to fill the knowledge gaps. In this connection, HA has set up an HA SARS Collaborative Committee to steer future treatment direction in respect of SARS. In this connection, the Committee has initiated a number of studies to understand more about the impact of the disease and to prepare treatment protocols for future use. HA has also identified priority areas for urgent follow up action. These include studies on the effectiveness of infection control measures, such as enhancement of facilities, equipment and personal protective equipment, epidemiological modelling to define infectivity in different phases of the disease, evaluation of new nursing procedures and care model to facilitate service and facility reorganization in preparation for the possible resurgence of the epidemic later in the year.

### Infection Control Measures

13. HA is developing a more reliable diagnostic index for adoption by the Accident and Emergency (A&E) Departments and fever clinics for early identification of SARS patient. Through analysing the accumulated knowledge on the clinical presentation of SARS, the effectiveness of A&E triaging will be enhanced and the need for

hospitalisation minimised. Early diagnosis and timely isolation of SARS patients will shorten the duration of unnoticed stay of patients with atypical presentation and reduce the chance of cross-infection among patients.

14. To prevent hospital acquired infection, HA will put in place appropriate infection control measures, which are risk-based, practical and sustainable, in all hospitals. HA will conduct evidence-based evaluation of the effectiveness of its existing infection control measures. HA will revisit its existing ward routines, including the visiting policies, with a view to exploring how the routines can be further improved for better infection control. HA will also seek to enhance its infection control capacity through training, improved communication and auditing of the infection control practices.

#### Care for the Elderly

15. The experience of the SARS outbreak has shown that frail elders in residential care homes are particularly vulnerable to SARS. In order to provide better protection to these elders against the risk of SARS, HA has enhanced its outreach support to all elderly care homes, including the recruitment of additional visiting medical officers (VMOs) from the private sector, with a view to reducing the admission of elders into hospitals. With the support of additional general practitioners recruited for the said purpose, the coverage of the existing Community Geriatric Assessment Teams (CGATs) of HA to residential care homes has been extended. Over 53 000 elders are now covered by the enhanced outreach support of CGATs. HA will roll out and evaluate the VMO–CGAT collaboration model and collaborate with the Government and Non-Government Organisations in reviewing and upgrading infection control practices and facilities of residential care homes for the elderly.

#### Strategy for Cohorting Patients

16. Having reviewed local and international experiences in handling SARS in the past months, the handling of future SARS patients will be shared among acute hospitals using a strategy for cohorting patients based on the following principles :

- (a) A staged approach would be adopted in the mobilization of hospitals in handling SARS.
- (b) The number of confirmed SARS patients in any hospitals would be initially limited to 50 to avoid major disruption to existing services. The number could be increased to 100 in the case of a major outbreak.
- (c) Capacity planning should take into account the number of suspected SARS cases in addition to confirmed SARS cases.
- (d) Priority will be given to suspected SARS cases for the use of isolation facilities to minimize the risk of cross-infection.
- (e) In case of major epidemic, confirmed SARS patients may be cohorted in open wards with improved ventilation, and with beds suitably spaced as the risk of cross-infection among these patients is lower. Such an arrangement can also reduce the cross-infection risk to health care workers.
- (f) Adequate backup facilities and expertise, including intensive care, should be made available in hospitals treating SARS patients.

### Infection Control Facilities in Public Hospitals

17. The recent outbreak of SARS has revealed that there is a need to enhance and expand the infection control facilities in the public hospital system. During the SARS outbreak, public hospitals have made make-shift arrangements by spacing out patients and installing exhaust fans in SARS wards with a view to reducing cross-infection. All these arrangements however cannot provide proper isolation facilities within the ward itself.

18. In order to prepare Hong Kong for the possible resurgence of SARS outbreak later in the year, facilities provision for “fever” wards for isolation of suspected SARS cases and SARS ward for probable SARS

patients would need to be enhanced. HA has identified nine major acute hospitals, namely Alice Miu Ling Nethersole Hospital, Kwong Wah Hospital, Pamela Youde Nethersole Eastern Hospital, Prince of Wales Hospital, Princess Margaret Hospital, Queen Elizabeth Hospital, Queen Mary Hospital, Tuen Mun Hospital and United Christian Hospital which require substantial improvement works to enhance their “fever” ward / SARS ward facilities. Feasible short-term improvement plans for the nine acute hospitals have already been drawn up having regard to the need to meet the cohorting strategy, the constraint of ongoing service requirements and the limitations of the physical layout of the hospitals concerned. Upon completion of these works as improvement measures in the short-term, the hospitals concerned will be able to provide 167 isolation rooms with a total of 492 beds for SARS patients and 369 isolation rooms with 789 beds for suspected SARS patients.

#### Human Resource Capabilities in Handling Infectious Diseases

19. In the light of experience in the fight against the SARS, there is a need to further strengthen training of HA’s health care staff to enhance their expertise in infectious disease management and infection control in the hospital setting, and to instil a culture of constant awareness and alertness to infection control and infectious diseases. In this connection, the Legislative Council has approved on 27 June 2003 an allocation of \$130m for the establishment of the Dr Tse Yuen-man Training Fund. HA will set up Infectious Disease Control Training Centre to identify and develop suitable training programmes on infection control and infectious disease for HA staff across all disciplines. The Centre will lead a full-scale study on the competency gap in infectious disease control and management within HA, develop a strategy for enhancing the competency of HA staff in this regard, source and develop relevant training programmes, develop in-house trainers and evaluate the impact of training at the organisational level.

20. HA plans to develop and provide in-house induction training for all HA staff across all disciplines, and provide staff who have day-to-day contact with patients with annual updates. HA’s target is to train an average of 10 000 health care workers each year in a span of five years. HA will send nurses and allied health professionals to attend local

full time/part-time training courses on infection control so as to develop a pool of nurses and allied health experts in infectious disease control to partner with Infection Control Officers at the hospital level for building up a new culture on infectious disease control in HA. HA plans to build up its expertise in infectious disease by sending selected health care professionals to attend overseas training programmes/local post-graduate diploma programmes on infectious disease. HA will also send selected health care professionals overseas for clinical attachment to learn from overseas experts, share experience in infectious disease control and build an international expertise network for infectious disease control.

### Contingency Panning

21. Based on the experience gained from the SARS outbreak, HA is formulating a contingency plan to ensure that HA will have adequate surge capacity to cope with future outbreaks through staged mobilisation of its acute hospitals. HA will develop contingency plans covering all levels of the organisation (i.e. from the Head Office down to the cluster, hospital and department levels), all major functional areas (including human resources, facilities and equipment, infection control, patient triage, clinical management, surveillance, and communication) and essential logistics (such as decanting, facility enhancement, procurement of equipment, distribution of resources and deployment of staff). Specialty-specific plans will also be developed to dovetail with the plans at the cluster level. As part of the overall contingency plan, HA will formulate a plan for the construction, commissioning and operation of temporary isolation facilities at pre-selected site(s) within short notice to accommodate patients with relatively mild SARS symptoms or convalescing SARS patients who may require isolation. The plan will be triggered if there are indications of extensive outbreak resulting in patient load in excess of the planned surge capacity.

### **CENTRES FOR DISEASE CONTROL AND PREVENTION-TYPE ORGANISATION**

22. Options are being studied for setting up an organisation similar to the Centers for Disease Control and Prevention in the United States to build up our strengths in the longer-term prevention and control of



infectious diseases. Initially, we envisage this organization to concentrate on the prevention and control of communicable diseases, including conducting research and surveillance, facilitating training of health care professionals, providing health education to the general public etc. The specific functions of the organization, its institutional set up and resources requirements will be looked at in detail. The SARS Expert Committee will also cover this in its deliberations.

## **RESEARCH**

23. The significant contribution of the world-class medical researchers in Hong Kong to the global fight against SARS is well recognized by the international scientific communities, including the WHO. Being the first group of scientists who identified and isolated the coronavirus, developed a diagnostic test and identified environmental risk factor in the transmission of the disease, our researchers have made the treatment and prevention of the disease much more effective. To support further research projects on the prevention, treatment and control of infectious diseases (in particular emerging diseases), we will allocate \$500 million for research in this end, of which \$450 million is for local research and \$50 million for financing research projects in the Mainland.

## **THE WAY FORWARD**

24. The SARS Expert Committee is in its deliberations and will submit a report with its recommendations to the Chief Executive in September 2003. The recent SARS epidemic has provided a good opportunity to review the weaknesses and strengths of our public health care system. To prepare for future challenges, it is of utmost importance to build up the capacity of our communicable disease surveillance and response system. The effectiveness of our central coordination is crucial for gearing up the efforts of all disciplines and sectors. We will continue to improve our public health infrastructure, with the support of advances in medical and information technology.

25. Members are invited to comment on the measures set out in this paper.

**Health, Welfare and Food Bureau**  
**July 2003**