For information

SARS Expert Committee

Measures to prevent and prepare for the resurgence of SARS or other emerging disease: Enhancing infection control in hospitals

Purpose

This paper provides an overview on measures which will be taken to enhance infection control in public hospitals to prevent and prepare for resurgence of SARS or other emerging infectious disease.

Introduction

2. Following outbreaks in different places across the world over a duration of several months, the transmission of SARS is interrupted, for the time being. There is no consensus as to whether and when SARS will come again, but several key questions remained unsolved. The exact animal reservoir of the pathogen, the precise mode of transmission, the availability of reliable diagnostic tests to detect the disease at the early stage, and whether immunity in convalescent patients is long lasting, are still undefined. The SARS outbreak also exposed the potential vulnerability of human population to pathogens with high infectivity, in particular pathogens which we have limited knowledge and experience in treating.

3. In short, we have to maintain our vigilance for a possible return of the coronavirus, and for that matter other respiratory pathogens with similar infectivity. The Hospital Authority (HA) will enhance its preparedness through enhancing infection control with improvements in the following areas:

3.1 enhancing disease surveillance and preventing outbreaks in the vulnerable groups;
3.2 enforcing infection control measures;
3.3 augmenting isolation facilities;
3.4 strengthening expertise in clinical management and outbreak management;

3.5 ensuring adequate supply of drugs, consumables and equipment;
3.6 formulating plans for distribution of patients;
3.7 enhancing management capabilities in:
3.7.1 human resources management; and
3.7.2 establishing an efficient and effective mechanism for communicating with staff and other key stakeholders.

Enhancing disease surveillance and preventing outbreaks in the vulnerable groups

4. To protect the elderly groups from falling victims to outbreak of infectious diseases, the visiting Medical Officer Scheme for old age homes launched during the SARS crisis will be taken forward. The visiting general practitioners will help to detect and manage early disease symptoms in collaboration with the HA's Community Geriatric Assessment Service.

5. The HA will, in partnership with the Department of Health (DH), launch the influenza vaccination programme for an extended patient population and staff groups. The vaccination programme will offer additional protection to the vulnerable patient groups and our staff.

6. The HA will enhance its surveillance of infectious diseases with the aid of information technology with designated funding from the Government to allow timely information interchange with key stakeholders.

7. Within the HA, infection control teams will be monitoring trends of infectious diseases. Abnormal surge of infections amongst patients or staff; or occurrence of a potentially significant infection will be promptly investigated and reported to the HA Head Office and the DH.

Enforcing infection control measures

8. Hospital beds will be spaced out to avoid overcrowding and cross infections. Patients suspected to have infectious diseases will be admitted to isolation areas in accordance with the mode of spread and risk stratifications with proper precautions measures taken.

9. A set of revised infection control guidelines with emphasis on maintaining vigilance and risk stratified infection control practices were promulgated for implementation as from 1 August 2003. Hospitals will be in a state of heightened preparedness, but the recommendations, for example on visiting policy and Personal Protective Equipment (PPE), would be pragmatic and commensurate with patient / procedure related risks, so that compliance can

be sustained. The guideline will be upgraded whenever there is evidence to suggest resurgence of SARS in Hong Kong.

10. Visitors to hospitals will be restricted; with no visiting to high risk area; not more than 2 visitors per patient per day and not more than 3 hours per day for acute and convalescent wards; and no more than 6 hours per day for infirmary wards. Visitors will be registered to facilitate contact tracing should an outbreak occur.

11. The ratio of infection control nurse to bed will be augmented through enhanced training on infection control and designation of staff.

12. Periodic documented audits on compliance with infection control measures will be undertaken by infection control teams and by infection control supervisors in the workplace.

Strengthening expertise in clinical management and outbreak management

13. Clinical management

13.1 Surveillance, case identification, alerting, isolation and clinical management of patients will be further strengthened.

13.2 Support from relevant clinical specialties (such as respiratory care, intensive care and, infectious diseases in adult and children) will be solicited in a structured manner for infectious disease management and on infection control. Each clinical specialty will establish a plan on enhancing preparedness and contingency response in the event of an outbreak to coordinate response and to communicate with the cluster management and the HA Head Office (HAHO).

14. Outbreak management

14.1 Expertise and capability in outbreak management for each infection control team in all hospitals will be strengthened. The hospital infection control team will be responsible for investigating, advising on control and reporting of hospital outbreaks to HAHO, who will in turn trigger central response, with mobilization of a central outbreak investigation team to assist hospitals if necessary and to ensure:

14.1.1 the source of the infection is promptly identified and controlled;

14.1.2 containment measures are in place to prevent further spread of infection;

14.1.3 necessary changes to prevent the recurrence of the problems are identified and implemented; and

14.1.4 the lessons learnt are rapidly shared with other hospitals.

Augmenting isolation facilities

15. Additional capital resources had been approved by the Government for the construction of isolation facilities and improvement of ventilation systems in hospitals. When this is completed, there will be additional 530 isolation facilities with a total of 1280 beds available. Such number of beds will be sufficient to cater for another SARS epidemic of similar magnitude. There will be continuous effort to carry out minor works in hospitals to enhance infection control and a contingency plan to further increase the capacity for isolation when a major outbreak occurs will be prepared. Portable High Efficiency Particulate Air (HEPA) filters will be made available in clinical areas where installations of permanent structures are not feasible or practical.

Ensuring supply of drugs, consumables and equipment

16. The HA has built up stock of appropriate drug, 3-month supplies of PPE and other essential consumables and equipment such as filters to ensure adequate supply in times of outbreak.

17. Learning from the experience during the SARS crisis, the HA will continue its efforts in sourcing additional suppliers for equipment, especially equipment which is difficult to acquire in times of global surge in demand e.g. small-sized N95 respirators.

18. Our experience with SARS has been that over-protection can be harmful, while proper behaviour and effective audits are more important to ensure staff safety. Such efforts on training and audits will continue to be emphasized.

Mobilization of patients

19. To avoid overloading a single hospital in times of outbreak, a staged response in mobilisation of hospitals to take in SARS patients are in place.

Stage		Hospital		Patient Intake	Total Patient Intake
1	1st 50 cases	Designated hospital	PMH	50	50
2	Local cluster	Designated hospital in clusters	TMH, AHNH, UCH/QEH, PYNEH/QMH (50 each)	50 x 4 = 200	250
3		Major hospitals in clusters	PMH, UCH/QEH, QMH/PYNEH, PWH (50 each)	50 x 4 = 200	450
4		Other cluster hospitals	TKOH (25), CMC (50), KWH (50), RH (25), NDH (25)	175	625
5	Cases over 625	Individual hospitals to increase intake up to 100			

20. If the outbreak involves primarily paediatric patient groups, patient mobilisation will be fine-tuned in accordance with the plan for staged mobilisation of paediatric hospital units. The HAHO will ensure that:

20.1 decanting is coordinated;

20.2 support to the receiving hospitals, including supplies and manpower is provided;

20.3 if there is still a need for additional facilities, the plans for arranging additional isolation facilities will be put into action; and

20.4 directions on service reprioritisation e.g. reducing other elective services are given.

Enhancing management capabilities

21. <u>Human resources capabilities in handing infectious disease and infection control</u>

21.1 In light of experience in the battle against SARS, there is a need to further strengthen staff training to enhance their expertise in

infectious disease management and infection control. The Government has approved additional allocation of resources for the establishment of a designated training fund for infectious diseases. HA will set up an Infectious Disease Control Training Centre to identify and develop suitable training programmes on infection control and infectious diseases 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.

21.2 HA will 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. Our 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 expertise in infectious disease control to partner with Infection Control Officers at hospital level for building up a new culture on infectious disease control in HA. Selected health care professionals will be supported to attend overseas training programmes/local post-graduate diploma programmes on infectious disease. Training on epidemiology of infectious disease and day-to-day outbreak investigation control will be strengthened, so that outbreak investigation teams in hospitals and at central level could be armed with necessary skills to respond to infectious disease outbreaks.

22. Communication

22.1 A hierarchical communication network for internal and external communications to facilitate effective dissemination of information and collection of feedback will be formulated.

23. Developing a contingency plan for another epidemic

23.1 Based on the lessons learned, the HA has formulated a contingency plan to respond to any outbreak of infectious disease. Contingency plans will be in place at all levels of operations, namely Head Office, cluster, hospital and departmental levels. The plans will traversely cover all major functional areas including

human resources, facilities and equipment, infection control, clinical management, surveillance and on communication.

23.2 The experience in management of SARS will be turned into valuable assets when we prepare ourselves for the next challenge.

Hospital Authority
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