

**SARS Expert Committee Report recommendations :
Research and Training**

Purpose

The paper serves to report to the Monitoring Committee the progress of implementation of recommendations 35-40 of the SARS Expert Committee.

Background

2. The SARS Expert Committee made 46 key recommendations to strengthen system capability and preparedness for future outbreaks of communicable diseases. The theme of recommendations 35-40 centres specifically on research and training.

3. After the SARS epidemic, the Government established a \$500 million research fund to encourage, facilitate and support research on the prevention, treatment and control of infectious diseases, in particular emerging infectious diseases such as SARS. Of this amount, \$50 million is provided to support research projects on infectious disease in Mainland through the Chinese Ministry of Science and Technology. The remaining \$450 million is used to establish a fund, named the Research Fund for the Control of Infectious Diseases (RFCID), which is open to researchers from public, private and academic sectors in Hong Kong. There is also a strong emphasis on collaborative research with Mainland China and overseas institutions.

4. For the purpose of infection control training, the Government has provided \$130 million from the Training and Welfare Fund. This is administered through the Infectious Disease Control Training Centre (IDCTC) under the Hospital Authority (HA) Institute of Healthcare.

Progress on SARS Expert Committee Report recommendations

Recommendation 35

The Government and HA should work with universities and research funding providers to ensure that research places due emphasis on public health, and that priority is given to projects that need to be undertaken urgently in order to prepare for any future outbreak of SARS.

5. To ensure that research places due emphasis on public health, the scope of RFCID has been specifically designed to include public health and epidemiology as one of its thematic priorities. Another fund, the Health and Health Services Research Fund, has also built the public health theme into its recent call for grant applications. It is envisaged that this will become a regular theme for future calls for research proposals by the Health and Health Services Research Fund.

6. On the urgent research to be undertaken, RFCID has initiated the commissioning process to address the priority research topics. Specifically, the University of Hong Kong (HKU) and the Chinese University of Hong Kong (CUHK) have been commissioned to undertake a portfolio of research on infectious diseases to fill gaps in scientific knowledge and strengthen our system capability to respond to public health needs and threats. A brief summary of the portfolio of research from HKU and CUHK is attached as Annex.

7. In addition, a collaborative research project involving the HA, the Hong Kong Polytechnic University and the Hong Kong University of Science and Technology is being commissioned to address nosocomial infection and long-term follow-up of SARS patients.

Recommendation 36

Further research should be conducted on-

- (a) Improved diagnostic techniques*
- (b) Clinical management of SARS, including therapeutics and role of traditional Chinese medicine*
- (c) Transmission risks of SARS*
- (d) Most appropriate hospital infection control measures for SARS*

- (e) *Seroprevalence of SARS in defined populations and communities*
- (f) *Cost and clinical effectiveness of community infection control measures for SARS*
- (g) *Long-term consequences of SARS*

8. Apart from the commissioned projects, RFCID also issued its first call for grant applications in September 2003. Closed on 29.11.2003, the first round netted 114 research proposals. The research topics are wide ranging. Together with those of the commissioned projects, the proposals cover all the priority items described in this recommendation.

Recommendation 37

Cross-boundary research within the Pearl River Delta region should be actively encouraged. Advantage should be taken of the readiness of the international research community to work in collaboration with their colleagues in Hong Kong.

9. RFCID has a key role in encouraging, facilitating and supporting cross-boundary communicable disease research. Cross-boundary professional collaboration is an essential component of the strategy to prevent and control future outbreaks of communicable diseases. In the commissioned project with HKU for instance, a prominent feature is its collaborative research with scientists and clinicians within the Pearl River Delta Region. Moreover, in the first round of public call for grant applications, approximately 10% of the proposals involve collaboration with Mainland institutions.

10. Furthermore, as mentioned in para. 3, \$50 million has been separately provided to support research projects on infectious disease in the Mainland through the Chinese Ministry of Science and Technology.

Recommendation 38

The Government should give a policy commitment to public health training and ensure that priority is accorded in allocation of resources.

11. Public health training is a policy priority of the Government. For instance, Department of Health (DH) has developed partnership programmes with the Hong Kong College of Community Medicine, local universities, and overseas institutions including the Faculty of Public Health of

the United Kingdom to provide public health training to its staff on a systematic basis. For HA, \$130 million has been provided out of the \$200 million Training and Welfare Fund, to set up programmes of infectious disease control training, epidemiology, crisis evaluation, quality management and risk assessment. The plan is to train an average of 10,000 health care workers across different disciplines in HA every year over a span of five years.

Recommendation 39

The Government, HA, universities, training institutes, and private sector employers should ensure that all healthcare workers get basic and ongoing training in infection control and have an understanding of fundamental epidemiology and public health principles.

12. The training initiatives sponsored/provided by the Training and Welfare Fund administered by the HA include:-

- Postgraduate diploma in infectious diseases by HKU,
- 2-week full-time infection control training programme by Hong Kong Asia-Pacific Society for Infection Control,
- 10-evening certificate course on infection control by the Hong Kong Infection Control Nurses' Association
- Certificate course on Epidemiology and Control of Infectious Diseases
- Sharing session on infection control with private sectors
- 3-day intensive training programme on infectious disease epidemiology and control, covering field epidemiology, mathematical modelling, public health control and risk communication. The programme was co-organised by DH and HA in collaboration with the US Centres for Disease Control and Prevention, Harvard Centre for Risk Analysis and the Department of Infectious Disease Epidemiology, Imperial College, London.

13. As of January 2004, approximately 6,600 participants have been enrolled into the above training initiatives with a budget commitment of \$3.26 million.

14. In addition, secondment opportunities for appropriate staff to get exposure in field epidemiology and infection control have been developed by

DH and HA. Sponsorship for appropriate staff to pursue studies in Master in Public Health or equivalent is also available.

Recommendation 40

DH, HA and universities should establish joint academic and clinical appointments of public health staff to work across the health and healthcare system.

15. Discussions have been held between universities and DH/HA on joint appointment of public health staff. Progress is being made. The establishment of the Centre for Health Protection (CHP) will serve as an added catalyst.

Conclusion

16. Members are requested to note and comment on the aforementioned.

Health, Welfare and Food Bureau
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HKU proposal

Research preparedness for emerging and potentially re-emerging infectious disease in Hong Kong.

Objectives

1. The stated objectives of this research are:-
 - (a) Establish a team of epidemiologists and microbiologists, supported by a biosafety level 3 laboratory, to research and control potential locally emerging infections.
 - (b) Provide expertise and research capability to respond immediately to emerging infectious diseases through a combination of microbiology, clinical medicine and public health epidemiology.

Research Portfolio

2. The HKU proposal includes three broad elements:-
 - (a) *Epidemiology of emerging or potentially emerging infections*
 - Advanced data analysis and disease modelling (with emphasis on influenza and SARS)
 - Risk communication research
 - (b) *Microbiology*
 - Influenza, SARS, multi-drug resistance
 - Rapid diagnostic system
 - (c) *Biosafety level 3 laboratory (BL-3) capability*
 - Upgrade laboratory facilities to allow use of animal models in infection studies

Deliverables

3. The deliverables of the proposed research include:-
 - (a) An early response system for pandemic influenza virus and the diagnosis of other infectious diseases
 - (b) Increased understanding of SARS and its prevention
 - (c) Enhanced preparedness of Hong Kong to respond to outbreaks of multi-drug resistant pathogens
 - (d) Rapid diagnostic tools for emerging resistance mechanisms of local importance
 - (e) Enhanced judicious use of antibiotics in Hong Kong
 - (f) Training in testing, diagnosis and characterisation of antibiotic resistance
 - (g) Support and advise HA and DH in combating antibiotic resistance

CUHK proposal

Basic, epidemiological, public health and clinical research on emerging infectious diseases.

Objectives

4. The stated objectives of this research are:-
 - (a) To generate knowledge useful to the health care system in Hong Kong
 - (b) To work as a partner with HWFB, HA, DH and CHP
 - (c) To foster international research collaborations into infectious diseases
 - (d) To develop sensitive and specific diagnostic methods for early SARS diagnosis
 - (e) To explore new therapies for SARS, define the factors contributing to super-spreading events, study the effectiveness of hospital infection control measures and follow up patients to document long-term complications
 - (f) To conduct research on public health issues including sero-prevalence of SARS in Hong Kong, environmental factors

contributing to SARS outbreaks, psychological and social impacts of infectious diseases

Research Portfolio

5. A series of 10 initial projects was submitted that specifically address WHO international research priorities, i.e.

- (a) Molecular studies of the virus and its genome
- (b) Nosocomial infections
- (c) SARS diagnosis and monitoring
- (d) Evaluation of novel SARS treatments
- (e) Long-term sequelae of SARS

6. In addition, CUHK intends to undertake a series of population-based public health research programmes with the establishment of the Center for Emerging Infectious Diseases

Deliverables

7. The deliverables of the proposed research include:-

- (a) Understanding the evolutionary mechanisms of SARS-CoV that shaped the epidemic of SARS
- (b) Understanding the risk factors of individual susceptibility to SARS
- (c) Information on risk factors of hospital outbreaks and devise cost-effective methods to avoid outbreaks in future
- (d) Develop reliable tools for early diagnosis and monitoring of SARS with prognostic values
- (e) Develop new treatment modalities
- (f) Information on the long-term physical and psycho-social consequences of SARS