

For information

SARS Expert Committee

**Briefing paper for SARS Expert Committee
on prevention and control of communicable diseases in Hong Kong**

Purpose

This paper provides an outline of the prevention and control measures on communicable diseases in Hong Kong.

Background

2. Infectious diseases are a continuous threat to the health of people that causes significant morbidity, mortality and economic loss to the community. In Hong Kong, mortality and morbidity from infectious diseases have been much reduced with the advances and improvements in economy, education, environment, technology and medical services. However, emerging and re-emerging infections continue to pose threats to public health because of globalization, global warming, population growth, human behaviour, risk of bioterrorism and so forth.

Public Health Infrastructure

3. An overview of the epidemiological service in Hong Kong is shown in Annex 1. The Department of Health (DH) is the Government's health adviser and agency to execute health care policies and statutory functions. It plays a major role in safeguarding public health through provision of various prevention and curative services, partnership with other sectors in the community and collaboration with international health agencies and authorities.

4. In terms of prevention and control of infectious diseases, the major responsibilities of the DH include the following:

- Surveillance of infectious diseases

- Statutory notification
 - Sentinel surveillance
 - Laboratory surveillance
 - HIV surveillance
 - Voluntary reporting
 - Other surveillance systems
- Territory-wide infection control programmes
 - Emergency preparedness and contingency planning
 - Enforcement of public health legislation
 - Immunisation programme for childhood and elderly
 - Curative services for tuberculosis and sexually transmitted infections
 - Public education and risk communication
 - Coordination and collaboration with related local and international parties

5. To effectively execute the above public health functions, DH solicit the support from the different disciplines, government departments, Hospital Authority, academic sector and sectors of the community including health professionals, the academics and the public. This ensures different expertise are coordinated to meet any communicable disease challenges, gauge the public expectations and prioritise research and development. The leading advisory committees or working groups are listed at Annex 2.

Public Health Surveillance in DH

6. Public health surveillance is the cornerstone of DH's work, which serves the following purposes:

- to characterize disease patterns by time, place, and person
- to detect epidemics

- to identify cases for epidemiological research
- to evaluate prevention and control programs
- to project future health care needs

7. There are a total of 39 surveillance systems (Annex 3) operated by the Department of Health and they fall into the following categories:

Statutory notifications

8. Doctors are required by law to notify certain diseases and conditions:

- 28 notifiable infectious diseases under the Quarantine and Prevention of Infectious Diseases Ordinance (Cap 141)
- 9 notifiable occupationally acquired infections under the Occupational Safety and Health Ordinance (Cap 509)

Sentinel Surveillance

9. This system uses sentinel doctors at defined sites to monitor disease trends. DH has a sentinel surveillance network of hospitals, clinics and laboratories in the public and private sectors to monitor the trend of influenza like illness, hand-foot-and-mouth disease, antibiotics resistance, acute conjunctivitis and acute diarrhoea in the community.

Laboratory surveillance

10. The DH Public Health Laboratory monitors the trends of many infectious diseases, including bacteria, viruses, and parasites. It also conducts serological surveillance to monitor population immunity against many infections such as measles, rubella, polio, etc.

HIV Surveillance

11. HIV surveillance programme collects data regularly through voluntary reporting, sero-prevalence monitoring of selected groups and unlinked anonymous screening. All personal information is kept confidential.

Voluntary Reporting

12. Doctors working in the public and private sectors are constantly encouraged to report to DH infectious diseases and unusual pattern of illness that, though not notifiable by law, may affect the population's health in a significant way. Examples include infectious diseases such as anthrax, hantavirus infection, typhus fever and Japanese encephalitis. Sexually transmitted infections (STI) are not statutorily notifiable. The statistics on STI mainly come from voluntary reporting and consultations at out-patient clinics.

13. DH has been sending out individual letters to doctors, publishing in the Public Health and Epidemiology Bulletin, and engaging them in professional exchange. Management of institutions such as child care centres, kindergartens, schools and elderly homes are regularly reminded to report to DH disease outbreaks occurring in the institutions.

Surveillance systems operated by other departments

14. These include vector surveillance (e.g. mosquito survey by ovitrap index) under the Food and Environmental Hygiene Department (FEHD), poultry surveillance in farms and wholesale markets under the Agriculture, Fisheries and Conservation Department (AFCD) and others. Such surveillance systems supplement the existing public health surveillance systems by instituting close monitoring of the reservoirs of infectious diseases or their vectors for transmission to provide early signs of warning for public health intervention.

15. DH meets with FEHD and AFCD regularly to exchange surveillance data on human diseases, animal diseases, and vector-borne diseases.

Emergency preparedness and contingency planning

16. The DH has a well-established emergency preparedness infrastructure and outbreak response mechanism. Contingent outbreak response is initiated once disease outbreaks are detected through the notification and surveillance systems. The DH will carry out immediate case investigation and isolation, identify the source of outbreak, perform active case finding, contact tracing (including travel collaterals), epidemiological investigations and environmental surveys. Immediate control measures, which include eradicating the source or reservoir (e.g. depopulation of chickens in avian influenza outbreak), quarantine (e.g. home confinement of close/household contacts) and aftermath medical surveillance (home contacts of cholera cases) will be instituted as appropriate.

17. Over the years, we have developed disease investigation protocols (Annex 4) to serve as guidelines and reference materials for management of communicable disease outbreaks.

18. We have also taken proactive measures to formulate contingency plans to deal with any potential public health crisis that causes human catastrophes, under the coordination of advisory, interdepartmental or inter-bureaux committees. Some priorities include the planning against bioterrorism attacks, pandemic influenza outbreak, dengue fever outbreak and so forth.

Public health legislations

19. The Director of Health is responsible for the enactment of a total of 23 public health legislations, of which the one having direct relevance to prevent infectious diseases is the Quarantine and Prevention of Disease Ordinance (Cap. 141). This Ordinance specifies 28 statutorily notifiable infectious diseases of which all medical practitioners are required to notify the DH.

20. We are also obliged to observe the guidelines and regulations set by the International health authorities, in particular the World Health

Organisation (WHO). Under the International Health Regulation, we have to report any case of cholera, yellow fever and plague to WHO within 24 hours upon receipt of notification.

Free immunization programme

21. The DH provides free immunization services to children and organizes inoculation teams for school immunization programmes to prevent nine major childhood infections. Free influenza vaccination is also offered to elderly home residents. All the immunization programmes are advised and regularly reviewed by the Advisory Committee on Immunization. There are campaigns to maintain high vaccination coverage from time to time.

Curative service for infectious disease

22. The DH provides curative services for tuberculosis patients to enhance accessibility and affordability and subsequently improve the cure rate and reduce spread of the disease. The DOTS (Directly Observed Treatment, Shortcourse) has been effective in achieving this goal. Out-patient services for sexually transmitted infections and HIV infection are also provided.

Public education and risk communication

23. The Central Health Education Unit is the main service responsible for devising health promotion strategies in DH. In order to allow people of Hong Kong a better understanding of the latest information on preventive measures for communicable diseases, the DH not only disseminates related statistics and information regularly through the internet and health education telephone hotline, but also issues health warnings prior to anticipated peaks of communicable diseases and organizes health talks to the public and community organizations. Patients as well as their contact or collaterals also receive health counselling service from medical/nursing staff of the Department during case investigation and contact tracing. For outbreak of infectious diseases with public health importance, the information will be disseminated for information of the public, medical profession, interested

parties both local and overseas through various channels e.g. media, press releases and conferences.

24. We also use targeted approach in the delivery of our services. Specific messages for prevention e.g. dengue fever will be tailor-made for different groups and settings e.g. workplace, schools. etc.

25. We put much emphasis on promoting travel health among the Tourism Industry and tourists. DH organise talks and seminars to the tour group coordinators and disseminate travel health messages e.g. prevention of dengue fever via the Tourism Industry to their clients. The Port Health Office (PHO) enforces relevant provisions of the Cap.141 and the International Health Regulations at the seaport, airport and borders of Hong Kong so as to prevent the introduction of quarantinable diseases, namely cholera, plague and yellow fever, into the territory. PHO provides consultation in the Travel Health Centres to assess travel health risks and give risk-reduction advice; with provision of travel-related vaccinations (including yellow fever vaccination), anti-malarial and other preventive medications, travel health kit, and information leaflets. Exhibitions have been organised by DH in the Travel Expo every year and border points to promote safe travel e.g. anti-mosquito measures, safe sex, etc. The travel health website is updated regularly by DH on travel health advice on a range of common diseases.

Collaboration with the Mainland

26. Hong Kong maintains close contacts with the Mainland Ministry of Health on exchange of infectious diseases of public health significance through letters, email, fax, telephone and meetings. Since 1988, in view of the increase in cross-border travel and trade, we managed to have regular exchange of infectious diseases including cholera, malaria, hepatitis and AIDS with 5 South China cities: Guangzhou, Shenzhen, Zhuhai, Hainan and Macao.

27. In addition to the regular exchanges on epidemiological information with the Mainland, the first tripartite meeting of Guangdong-Hong Kong-Macao Expert Group on Prevention and Treatment of Infectious Atypical Pneumonia was held on May 29 and 30

in Hong Kong, and the following consensus was reached:

- to expand the list of notifiable infectious diseases including AIDS, dengue fever, influenza, tuberculosis, cholera and malaria in the exchange of epidemiological information
- to further enhance co-operation on scientific research and set up mutual visit

The tripartite meeting will be held regularly.

Collaboration with the International health authorities

28. DH exchanges epidemiological data regularly with WHO, e.g., polio, rabies, influenza. We contribute data to WHO's FluNet which publishes influenza surveillance data worldwide. We also seek the technical assistance from the WHO whenever needed, for instance, during the avian influenza A outbreak in 1997 for epidemiological and laboratory investigations. This mechanism is further strengthened in the current SARS crisis when we provide daily reports to WHO and solicit their support in epidemiological, environmental and laboratory investigations. We also take part in the international networks of epidemiology, laboratory and clinical management on SARS under the coordination of WHO. It is envisaged that such common platform will be effective for future emerging pathogens with potential threat to public health.

29. Similarly, we have established a good communication network with other national health authorities such as the CDC of USA, Health Canada, etc. on the exchange of public health intelligence.

Future challenges

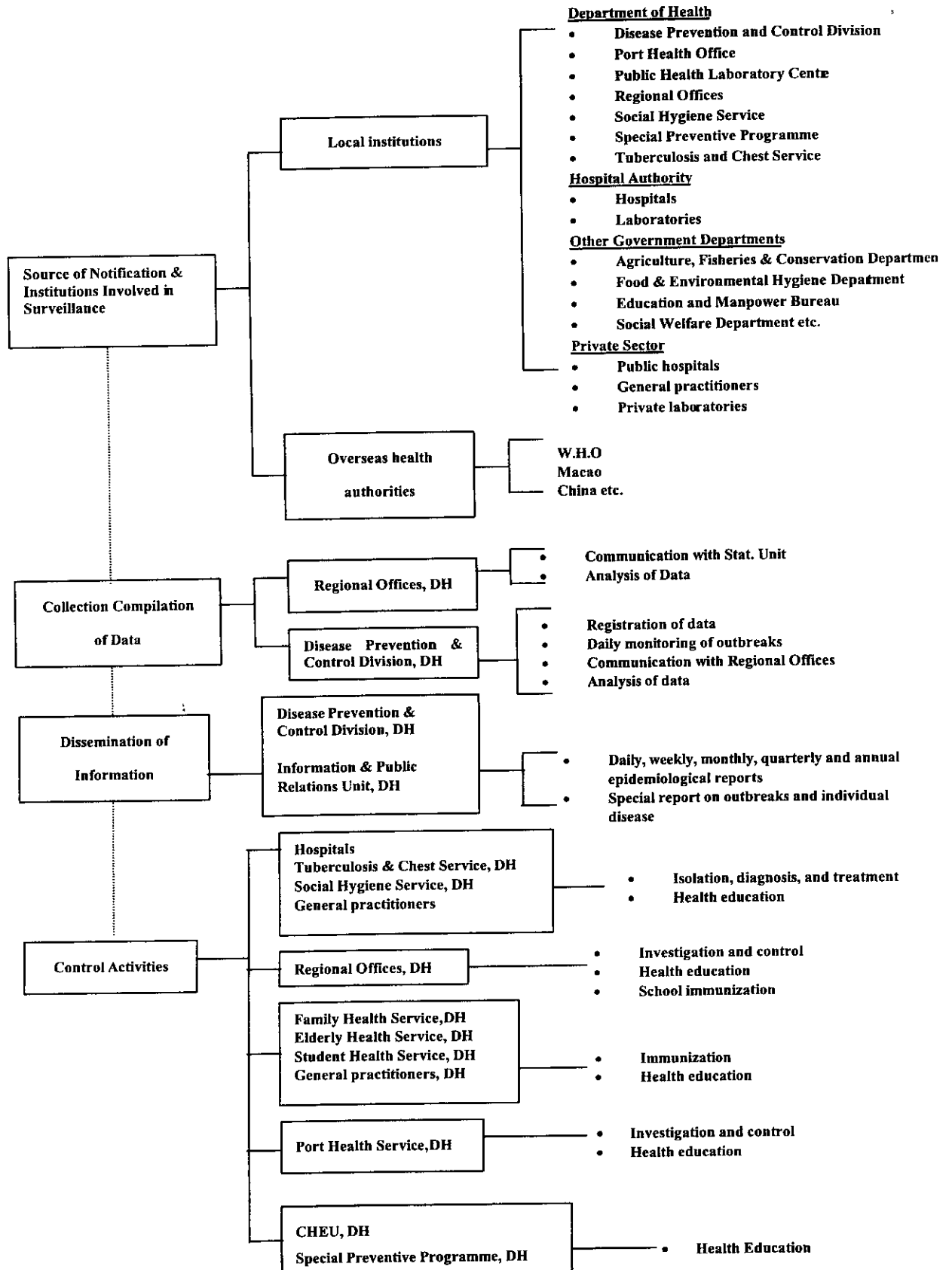
30. In view of the public expectation for DH to strengthen its roles as a regulator to safeguard public health and in health promotion to improve the quality of life of the population, the core roles will be redefined into the following:

- Regulatory: strengthen the prevention of importation of quarantinable diseases and their spread in Hong Kong by stepping up the enforcement of ordinances/regulations
- Advisory: provide health advice to support the formulation of health policy regarding communicable diseases and the work of other government bureaux and departments
- Health advocacy and promotion: health measures and workforce capacity have been developed
- Disease prevention & control: enhance the initiatives by expanding the surveillance system scope and network, conducting prompt field investigations, establishing more channels of communication with the Mainland, WHO and other national health authorities, building workforce capacity, introducing state-of-art techniques in Public Health Laboratory

31. The emerging and re-emerging infectious diseases pose a continuous challenge for the physicians and public health workers. They should be dealt with by the concerted efforts of physicians, public health professionals and various authorities at both the community and international levels. While different infections call on different control measures, a high degree of vigilance, an effective infectious disease surveillance system, an efficient communication network, well-equipped laboratories, availability of epidemiological and microbiological expertise, a set of effective emergency and response contingency plans, and close international liaison are all crucial to the effective prevention and control of such emerging and re-emerging infections, regardless of the type and nature of the disease.

Department of Health
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The organization of Epidemiological Services in Hong Kong



**EXPERT, ADVISORY OR WORKING GROUPS ON
PREVENTION AND CONTROL OF INFECTIOUS DISEASES**

- Advisory Committee on Immunization
- Committee for the Certification of Wild Poliovirus Eradication
- Expert Working Group on Avian Influenza
- Hong Kong Advisory Council on AIDS
- Interdepartmental Collaboration on Rabies
- Interdepartmental Committee on Control and Prevention of Food Safety Incidents
- Interdepartmental Coordinating Committee on the Control of Cholera
- Interdepartmental Coordinating Committee on Dengue Fever
- Interdepartmental Working Group on Enterovirus Infection
- Interdepartmental Working Group on Pest Prevention and Control
- Review Group on Communicable Diseases Surveillance
- Scientific Committee on AIDS
- Scientific Working Group on Viral Hepatitis Prevention
- Task Group on Health-related Issues of Drinking Water Supply

Surveillance systems on communicable diseases in DH

DPCD, TB & Chest Service, Regional Offices, SHS, SPP and PHLC are the main services in DH actively involved in the surveillance of infectious diseases. A total of 39 infectious disease surveillance systems (listed below) have been maintained by these services. The surveillance activities embrace notification/reporting of infectious diseases, prevalence of disease and risk factors of the diseases.

1. HIV/AIDS reporting (HIV)
2. Unlinked anonymous screening for HIV (HIV)
3. HIV clinic surveillance (HIV)
4. HIV risk behaviours surveillance (HIV Risk Behaviours)
5. Public service HIV antenatal testing (HIV)
6. Blood donors serology (HIV, HBV, HCV, Syphilis)
7. Antenatal screening (excluding syphilis) (HIV, HBsAg, Rubella Antibody)
8. Social Hygiene clinic surveillance (STI Risk Behaviours)
9. Social Hygiene workload reports (Syphilis, Gonorrhoea, NGU, Genital Wart, Herpes, Ped Pubis, Trichomonas, Genital Ulcer)
10. Community survey on STI pattern (STI, HIV/AIDS)
11. Positive detection of selected STI (Syphilis, Trichomonas, Chlamydia)
12. Notification of TB (TB)

13. X-Ray screening for TB (TB)
14. Tuberculin skin test screening (TB)
15. BCG vaccination coverage in neonates (TB)
16. TB mortality (TB)
17. DOTS outcome (TB)
18. TB drug resistance (TB)
19. TB and HIV co-infection registry (TB, HIV)
20. Report of occupationally acquired infections (Anthrax, Glanders, Leptospira, Brucella, TB, Viral Hepatitis, Strep Suis, Avian Chlamydiosis, Legionnaires)
21. Immunity screening for selected viruses (MMR, Polio, HAV, HBV, Chickenpox, Influenza)
22. Positive laboratory testing results (HIV, Hepatitis Viruses, Influenza, Others)
23. Sentinel surveillance of selected infections (ILI, Conjunctivitis, Acute Diarrheal Diseases)
24. Sentinel surveillance of selected infections (HFM)
25. Sentinel surveillance of antibiotic resistance (Selected Bacterial Infections)
26. Outbreak reports of selected infections (ILI, HFM, Acute Conj, Acute Diarrheal Ds, Head Lice, Norwalk-like Viruses, Parvovirus, Scabies, URI)
27. Summary discharge data from 12 hospitals (Influenza, HF M)

28. Voluntary reporting of selected infections (CJD, vCJD, EV71, E Coli O157:H7, Con Rubella, Hanta, H Meningitis, J Encephalitis, Spotted Fever)
29. Positive detection of malaria (Malaria)
30. Anti-rabies prophylaxis (Rabies)
31. Laboratory (hospital/PHL) surveillance of salm (Salmonella)
32. Acute Flaccid Paralysis Surveillance (AFP)
33. Notification of infections other than TB (Notifiable Diseases)
34. Death from notifiable diseases (Notifiable Diseases excluding TB)
35. Immunization coverage in infants (Vaccine Preventable Infections)
36. Immunization coverage in children (Vaccine Preventable Infections)
37. Food Poisoning Organisms surveillance (B cereus, Campylobacter, CI Perfringens, E Coli O157:H7, Listeria, S Aureus, V Cholerae, V Parahaemolyticus)
38. Water surveillance (Vibrio Cholerae)
39. Fish tank E Coli testing (E Coli)

Annex 4

Protocols on the following diseases are available :

1. Amoebic Dysentery
2. Bacillary Dysentery
3. Chickenpox
4. Cholera
5. Creutzfeldt-Jakob disease (CJD)
6. Dengue Fever
7. Diphtheria
8. E. coli O157 H7 Infection
9. EV71
10. Food Poisoning
11. Haemophilus Meningitis
12. Influenza
13. Japanese Encephalitis
14. Legionnaires' Disease
15. Leptospirosis
16. Malaria
17. Measles

18. Meningococcal Infections
19. Mumps
20. Norwalk-like Viruses Infection
21. Parvovirus Infection
22. Pertussis
23. Plague
24. Poliomyelitis
25. Rabies
26. Relapsing Fever
27. Rubella
28. Scarlet Fever
29. Tetanus
30. Typhoid Fever and Paratyphoid Fever
31. Typhus - Urban, Epidemic, Scrub
32. Viral Hepatitis A
33. Viral Hepatitis B
34. Viral Hepatitis (C, D and G)
35. Viral Hepatitis E
36. Yellow Fever