The Secretary
SARS Expert Committee
Room 1808, Murray Building
Garden Road
Hong Kong
(Attention: Mr Patrick Nip)

12 August 2003

Dear Patrick,

SARS Expert Committee
Submission from the Hong Kong Doctors Union

Thank you for your letter of 30 July inviting my comments on the Hong Kong Doctors Union's (HKDU) submission dated 28 June which mainly focused on some events/issues in the early stage of the outbreak.

2. First and foremost, I have to re-emphasize that our public health control work was constrained by a number of factors particularly during the initial stage of the outbreak, including the absence of a laboratory diagnostic test during the early phase and imprecise case definition resulting in some degree of over-diagnosis and under-diagnosis. On balancing risks and practical factors in the face of limited knowledge, we adopted a graduated and evidence-based approach in the light of the developing situation. Draconian quarantine measures were not introduced from the outset for fear of driving SARS patients into hiding and due regard was given to relevant considerations such as civil liberty, public acceptability, effectiveness of the measures (especially the counter productive effect of discouraging patients from disclosing contact history), risk of aggravating spread of the disease, as well as the feasibility of enforcement.

3. The background, rationales, objectives, progress etc. of the various public health control measures taken by Department of Health (DH) in the outbreak were already covered in details in our recent submissions to and discussions with the Expert Committee. In particular, the earlier papers summarized DH's efforts in the initial stage of the outbreak, provided a detailed chronology of the major events and measures, and focused on the full range of public health control measures which included medical surveillance, home confinement, border control, public health education and infection control guidance.

4. The information given is self-explanatory and we will not repeat the details here. Nevertheless, I wish to highlight/elaborate the following facts in the light of HKDU's submission:-

(a) We have maintained regular and open communication with the public:

- Upon learning the high incidence of pneumonia cases in Guangzhou on 10 February, DH immediately contacted the Mainland authorities and conducted a press briefing on the following day. Likewise, we also promptly informed and alerted the public when the two H5N1 infections were confirmed on 19 and 20 February respectively.

- On 12 March, DH held the first standup briefing expressing concern on the outbreak of atypical pneumonia (AP) among health care workers in the Prince of Wales Hospital (PWH). Thereafter, we conducted regular joint media briefings with the Hospital Authority – daily from 9 April onwards until early June – to keep the public abreast of developments. In fact, your recent paper has more details on public communication strategy in the SARS outbreak.

- Through the press briefings and frequent press releases, latest information on the outbreak, including updates on developments, numbers of cases reported, cluster information, related findings and health advice etc. were conveyed to the public. Indeed, Hong Kong was commended by the WHO in June 2003 for its open and transparent reporting of the outbreak.

(b) Medical professionals are our close partners and we always provide timely information and advice to them:

- Detailed information on the H5N1 infections was provided to all medical practitioners on 20 February, reminding them of the need to report on any unusual or unexplained pattern of illness detected.

- During 12 to 27 March, DH issued six letters to all doctors, providing information and advice on AP/SARS. Copies of the letters are at Annex. In gist, doctors were immediately alerted on the PWH cluster on 12 March and were reminded to take necessary infection control measures in handling patients. Specifically on wearing masks, the guidelines issued to doctors on 15 March included, inter alia, the advice to wear masks when treating/nursing patients with respiratory illness. Similar messages were repeated in further letters issued on 20 and 24 March.

- Apart from medical practitioners, persons with respiratory tract infection and their caretakers, including health care workers handling such patients and persons taking care of sick family members, were also advised to put on masks (and wash hand thoroughly) to reduce the chance of spreading/contracting the disease. Similar advice was extended to public transport operators, food handlers and the school community.

- Advice on infection control measures for clinics/health care facilities was also issued to other medical or health related professions/agencies, including the supplementary medical professionals, chiropractors, nurses, pharmacists, Chinese medicine practitioners, allied health professionals, exempted clinics and nursing homes.

(c) Effective border control measures were implemented:

- Health declaration for all arriving passengers was effected on 29 March and all departing passengers at the International Airport were also required to answer questions related to SARS before they were allowed to get on board. Travelers have been cooperative and two SARS cases were detected through health declaration.

- We started implementing body temperature check in the International Airport on 17 April and eventually covered all nine checkpoints. Limiting factors in logistics support including supply, efficiency and effectiveness of the required equipment, as well as physical setting were resolved through joint efforts of the parties concerned. There has not been any export of SARS from Hong Kong since implementation.

(d) Suitable resources were deployed to fight against SARS:

- To cope with the extra workload and activities associated with the SARS outbreak, DH has promptly mobilized internal resources and manpower. Temporary staff were employed to supplement the existing workforce. External help was also obtained through partnership and collaboration with other departments/agencies, as well as other organizations and sectors in the community.

- At the same time, the Government has allocated additional resources to support the cause. A total of $1,809.6 million has been approved by the Finance Committee since 31 March to meet various funding requirements/commitments for the fight against SARS, including public health control measures such as port health, home confinement and isolation arrangements, infection control and surveillance; public health education; training and welfare of health care staff; and research on controlling infectious diseases.

5. Lastly, I wish to respond to two specific personal allegations in the submission. First, I did not recall having discussed the specific case of KK, a private practitioner, with the President of HKDU on 17 March. DH first noted the case when the President told the media on 13 March that KK and three nurses were suspected suffering from AP. We immediately initiated follow up action on the same day. Contact tracing was conducted on KK and all his close contacts, the four nurses of his clinic and their close contacts, as well as their hospital visitors. They were given health advice and placed under medical surveillance. Apart from the wife of KK who contracted the disease from her husband, no other contacts developed SARS. As regards the other private practitioner quoted by HKDU in the submission, the two cases were unrelated and they had the same onset date of 10 March. In short, the cluster relating to KK clinic only involved a total of five cases, namely KK, his wife and three clinic nurses. This could hardly be said as another source of SARS

in Hong Kong as alleged by HKDU.

6. Second, the allegation that Dr P Y Leung, Deputy Director of Health criticized the Union as creating panic in the community. What actually happened was that Dr Leung called the President of HKDU on 23 March to thank the Union's proactive effort in supporting the Government in the prevention and control of SARS and encourage continued collaboration in this regard. Dr Leung recalled having explained to the President that the Administration had been monitoring the situation closely with suitable consideration to various measures as appropriate, including closure of schools, but remarked that the latter would require thorough advance planning and a comprehensive communication strategy to avoid creating unnecessary panic in the community. Based on these facts, the allegation was unfounded and we regret the misunderstanding.

7. I trust the above has provided further insights into the matter.

Yours sincerely,

SIGNED

(Dr Margaret Chan)
Director of Health

Annex

Letters/guidelines issued to Registered Doctors in February to March 2003

Date	Key content of the letter/guidelines
20/2/2003	• Alerted on the two H5N1 infections found and provided related advice on initial clinical presentation and appropriate management and counseling • Appealed to doctors to notify incidents of unusual or unexplained pattern of illnesses to DH
12/3/2003	• Alerted on the health care workers infections in PWH • Reminded on the need to take necessary infection control measures in handling patients • Appealed to doctors to notify incidents of unusual or unexplained pattern of illnesses to DH
15/3/2003	• Disseminated health advice on the prevention of respiratory tract infections, providing update on the position, general health advice as well as specific advice for institution settings, clinic settings and family context. • The health advice included the wearing of masks for patients of respiratory symptoms or their caretakers.
17/3/2003	• Provided guidelines on the management of cases of suspected Severe Acute Respiratory Syndrome (SARS), highlighting the symptoms and signs as issued by the WHO. • Attached WHO's guidelines on referral of patients with SARS conditions to hospital for further management.
20/3/2003	• Provided an update on the outbreak in Hong Kong
24/3/2003	• Suggested infection control measures for primary care clinics against SARS
27/3/2003	• Alerted on the inclusion of SARS as a statutory notifiable disease under the Quarantine and Prevention of Disease Ordinance, Cap 141 and the need to report to DH on suspected cases.

Note: Similar advice on infection control measures for clinics/health care facilities was issued to the Supplementary Medical Professions; Chiropractors, Nurses, Pharmicists, Chinese Medicine Practitioners, Professional bodies of allied health, Exempted Clinics, and Nursing Homes on 24/3/03.

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圖文傳真 FAX No: (852) 2575 4110
(852) 2574 2113

20 February 2003

Dear Doctor,

Two cases of H5N1 infection in 2003

In Hong Kong, the Department of Health (DH) operates a highly sensitive influenza surveillance system comprising a network of hospital, laboratories and clinics in the public and private sectors. Through this system, two cases of influenza A(H5N1) infection have recently been detected. The patients were a 9-year-old boy and his 33-year-old father with onset of illness on 9 Feb and 7 Feb 03 respectively during their visit to Fujian (福建), China earlier this year. Both had good past health. The boy is in stable condition but his father died on 17 Feb 03. Their nasopharyngeal aspirates were tested positive for influenza A(H5N1) on 19 Feb and 20 Feb 03 respectively.

The 9-year-old boy went to Fujian with his mother and two sisters during the period 25 Jan – 9 Feb 03, his father joined them since 31 Jan. The boy had onset of low grade fever, cough and runny nose on 9 Feb. On 12 Feb, he was admitted into Princess Margaret Hospital (PMH) and chest X-ray showed left lingular lobe consolidation. He was put on intravenous cefotaxime, klacid and oral amantadine. His condition is improving. His father had acute onset of high fever, blood-stained sputum and myalgia on 7 Feb. On admission into PMH on 11 Feb, he also had nose-bleeding, nausea and abdominal pain; his chest X-ray showed right lower zone consolidation. His condition deteriorated progressively and he eventually succumbed on 17 Feb 03.

The boy's younger sister (8-year-old) had onset of pneumonia on 28 Jan and died on 4 Feb while in Fujian. The exact cause of death cannot be identified. The boy's mother developed parainfluenza infection after the trip and has recovered already. His elder sister remains asymptomatic.

The avian influenza virus A(H5N1) was first known to cause human infection in 1997 when 18 cases (including 6 deaths) were identified in Hong Kong. In-depth studies showed that the main mode of transmission of influenza A(H5N1) was from bird to man, and man-to-man transmission was very ineffective. After that outbreak, there has not been any isolate of influenza A(H5) virus in human specimens prior to the recent two cases.

Use of Amantadine in the Management of H5N1 Infections

From the drug sensitivity study at Centres for Disease Control and Prevention (CDC) on the isolates from two H5N1 cases in 1997, it has been shown that the H5N1 virus is sensitive to amantadine. This drug is an effective agent for the treatment and prophylaxis of influenza A (but not B). However, it is prudent to note that the influenza viruses can rapidly develop resistance to this drug. Hence, doctors are advised to use the drug appropriately for treatment or prophylaxis of influenza A. The following guidelines which have incorporated the advice from the CDC experts are recommended for doctors' reference.

Confirmed case of H5N1 infection

Amantadine 100mg twice a day for 5 days can be used to treat cases of H5N1 infection. If started within 48 hours of the start of illness, amantadine can reduce the severity and shorten the duration of illness. Doses should be reduced for children and elderly, and those with underlying renal diseases. For children aged 1 to 9, the dosage is 5mg/kg/day in 2 divided doses up to 150 mg. For children aged greater than 9, adult dosage can be used but if the body weight of the child is less than 40kg, use the regime of 5mg/kg/day in 2 divided doses up to 150 mg.

Symptomatic Contacts of H5N1 cases

Close contacts, i.e. home contacts and medical staff providing direct care to patients with H5N1 infection, should be put on medical surveillance. If they develop symptoms compatible with influenza (fever of 38°C or higher, together with cough or sore throat), they should have a throat swab or nasopharyngeal aspirate taken for viral cultures. Treatment with amantadine (100mg twice for 5 days) can be started pending viral culture results.

Side effects

Amantadine can cause neurological and gastrointestinal side effects. In one study of healthy adults, approximately 13% of those treated with amantadine developed side effects. Neurological side effects include nervousness, anxiety, difficulty in concentrating and dizziness. More serious neurological side effects like marked behavioural changes, delirium, hallucinations, agitation and seizures have been observed. Gastrointestinal side effects include nausea, vomiting abdominal pain and constipation. These side effects will stop after the drug has been withdrawn. Cautions must be exercised for people with renal insufficiency and in the elderly age group. The drugs are contraindicated for persons with seizure disorders.

The initial clinical presentation of influenza A(H5N1) infection was similar to that of other influenza viruses, typically with fever, malaise, myalgia, sore throat and cough. The appropriate management consists of adequate rest, fluid replacement and antipyretic as necessary. Aspirin should be avoided. Persistent high fever (>39°C) is a common sign among the cases in 1997. In some cases, influenza A(H5N1) caused a rapid downhill course ending with viral pneumonia, respiratory distress syndrome and multi-organ failure. If there are signs of complications such as pneumonia, the patient should be hospitalized. Nasopharyngeal aspirate should be taken from patients suspected to have severe influenza illness. There are rapid screening tests for detection of influenza A antigen. Virus isolation by culture is required for confirmation and subtyping. A four-fold or greater rise in antibody titre from the acute phase to the convalescent phase serum samples is indicative of recent infection. The use of antiviral therapy such as amantadine is discussed in the attached note.

Appropriate counselling on prevention of influenza should be given to patients and members of general public. Important messages include avoidance of contact with live poultry / birds, wash hands thoroughly after contact with live poultry / birds, observance of good personal hygiene, maintaining good ventilation, no smoking, and have a balanced diet, regular exercise and adequate rest to maintain body immunity.

In light of the recent increase in atypical pneumonia cases in Guangdong Province, the DH has stepped up the local surveillance on severe community acquired pneumonia cases through the network of public and private hospitals. The number of hospital admissions for pneumonia or severe community acquired pneumonia has remained stable. So far, testing of all severe pneumonia cases for H5 has not found any other H5 positive result.

The DH stands ready to offer advice and assistance to medical professionals who detect unusual or unexplained pattern of illnesses. Please notify such incidents to the respective Regional Office of the DH. The contact numbers are as follows :

Regional Office	**Telephone Number**
Hong Kong Regional Office	2961 8791
Kowloon Regional Office	2199 9149
New Territories East Regional Office	2158 5107
New Territories West Regional Office	2615 8571

Yours faithfully,

(Dr. L. Y. TSE)
for Director of Health

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[redacted]

"Department of Healt..." <co...@h...gov.hk>

12.03.2003 19:34

To: <[redacted]>

cc:

Subject: Infection among health care workers.

__ Urgent __ Return Receipt

Dear Doctor,

I enclose a letter on infection among health care workers for your information.

Dr L Y Tse

for Director of Health

[redacted] Infection among health care workers.rtf

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(852) 2574 2113

12 March 2003

Dear Doctor,

Infection among health care workers

The Department of Health (DH) is conducting a detailed investigation into the case of Prince of Wales Hospital staff developing fever and respiratory infection symptoms. Up to date, 26 staff have developed febrile illness, hospitalized and put under observation / treatment. Amongst them, ten subsequently were noted to have early chest x-ray signs of pneumonia.

Please take the necessary infection control measures in handling patients and advise health care staff under your supervision to do likewise.

The DH stands ready to offer advice and assistance to medical professionals who detect unusual or unexplained pattern of illnesses. Please notify such incidents to the respective Regional Office of the DH. The contact numbers are as follows -

Regional Office	Telephone Number
Hong Kong Regional Office	2961 8791
Kowloon Regional Office	2199 9149
New Territories East Regional Office	2158 5107
New Territories West Regional Office	2615 8571

Yours faithfully,

(Dr. L Y TSE)
for Director of Health

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"Department of Health" <cor@dh.gov.hk>
15.03.2003 10:38

To: <Undisclosed-Recipient:>
cc:
Subject: Health Advice on the Prevention of Respiratory Tract Infections
Urgent Return Receipt

Dear Doctor,

I enclose a Health Advice on the Prevention of Respiratory Tract Infections for your information.

Dr L Y Tse

for Director of Health Health Advice on Prevention of Respiratory Tract Infections.tif

Health Advice on the Prevention of Respiratory Tract Infections

Update

- In view of a recent outbreak of febrile respiratory illness among health care staff in Prince of Wales Hospital, the Department of Health (DH) is conducting a detailed investigation with the Hospital Authority and the Hong Kong University and Chinese University of Hong Kong to identify the cause of infection. The situation will be monitored closely.
- As at 14 March 2003, 43 public hospital staff who suffered from respiratory tract infection have been hospitalized - 34 in Prince of Wales Hospital, 3 in Kwong Wah Hospital, 5 in Pamela Youde Nethersole Eastern Hospital and one in Princess Margaret Hospital.
- The Department of Health has informed the World Health Organization (WHO) about the latest developments. Hong Kong is working closely with the WHO on disease control and prevention.

Advice applicable to all

- As a precautionary measure, members of the public are advised to take precautionary measures to prevent respiratory tract infections:
  - Build up good body immunity. This means taking a proper diet, having regular exercise and adequate rest, reducing stress and avoiding smoking
  - Maintain good personal hygiene, and wash hands after sneezing, coughing or cleaning the nose
  - Maintain good ventilation
  - Avoid visiting crowded places with poor ventilation
  - Consult their doctor promptly if they develop respiratory symptoms

For schools and pre-school institutions and other institutional settings

- 'Guidelines on Prevention of Communicable Diseases in Child Care Centres / Kindergartens / Schools' and 'Guidelines on Prevention of Communicable Diseases in Residential Care Homes for the Elderly and People with Disabilities' published by the Department of Health are available at DH's website http://www.info.gov.hk/dh. Specific advice in the institutional setting that helps to prevent respiratory tract infections includes:
  - Cleanse used toys and furniture properly
  - Keep hands clean and wash hands properly
  - Cover nose and mouth when sneezing or coughing
  - Wash hands when they are dirtied by respiratory secretions e.g. after sneezing
  - Use liquid soap for hand washing and disposable towel for drying hands
  - Do not share towels

For health care workers in clinic setting

- There is as at date no unusual upsurge of pneumonia cases in the community.
- All clinic staff should enforce strict infection control measures appropriate for their particular setting, especially observance of good personal hygiene.
- If staff fall sick, they should report to their seniors and take sick leave as appropriate.
- Where considered necessary, for example, treating or nursing a patient with respiratory symptoms, staff may wear masks.
- Patients with respiratory symptoms are advised to wear mask to reduce the chance of spread of the infection.

Caring for sick family members with respiratory illness

- Patients should consult a doctor if they are unwell.
- They should follow instructions given by the doctor including the use of drugs as prescribed and taking adequate rest as appropriate.
- Adhere to good personal hygiene practices.
- Ensure adequate ventilation.
- Patients should put on masks to reduce the chance of spread of infection to caretakers.
- Caretakers may also put on masks to reduce the chance of acquiring infection through the airways.

Department of Health
14 March 2003

[redacted]

Department of Health

Facsimile Transmission Leader Page

From: Dr Monica Wong, PMO (1) Tel: 2961 8894 Fax: 2573 7745 Our ref: in DHHQ/1065/2/4 Date: 17 March, 2003 Page No. 1 including this page *Please notify Ms Chan on Tel 2961 8906 if message received is incomplete*	To: [redacted] Fax [redacted]

Message

Dear Sir / Madam,

Severe Acute Respiratory Syndrome (SARS)

The World Health Organisation (WHO) has designated the recent atypical pneumonia cases of unknown aetiology as Severe Acute Respiratory Syndrome (SARS). Symptoms and signs of SARS include –

- high fever (>38°C) AND
- one or more respiratory symptoms including cough, shortness of breath, difficulty breathing AND
- close contact* with a person who has been diagnosed with SARS, OR have a recent history of travel to areas reporting cases of SARS.

*close contact means having cared for, having lived with, or having had direct contact with respiratory secretions and body fluids of a person with SARS.

In addition to fever and respiratory symptoms, SARS may be associated with other symptoms including: headache, muscular stiffness, loss of appetite, malaise, confusion, rash, and diarrhea.

WHO has issued health advice on Hospital Infection Control Guidance and Management of SARS on its website http://www.who.int/csr/don/2003_03_16/en/. Copies of the guidelines are enclosed for your easy reference.

In view of the severity of SARS, please remind staff to strictly adhere to the infection control measures. Staff who take care of patients with respiratory tract infections should put on masks, gloves and gowns. If staff fall sick, they should report to their seniors and take sick leave as appropriate.

Thank you for your attention.

Yours sincerely,

(Dr Monica Wong)
for Director of Health

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Guidelines to Primary Care Physicians / Family Physicians on the management of cases of suspected Severe Acute Respiratory Syndrome (SARS)

In accordance with World Health Organization, symptoms and signs of SARS include –

- high fever (>38°C) AND
- one or more respiratory symptoms including cough, shortness of breath, difficulty breathing AND
- close contact* with a person who has been diagnosed with SARS

*close contact means having cared for, having lived with, or having had direct contact with respiratory secretions and body fluids of a person with SARS.

In addition to fever and respiratory symptoms, SARS may be associated with other symptoms including: headache, muscular stiffness, loss of appetite, malaise, confusion, rash, and diarrhea.

When to refer

Doctors are advised to refer patients with the following conditions to hospital for further management –

(I) Fever more than 38° Celsius and new onset of pulmonary infiltrate and either shortness of breath or cough and no symptomatic response to standard therapy including a beta-lactam (penicillin & cephalosporin groups) and coverage for atypical pneumonia (a fluoroquinolone, tetracyclines, or a macrolide) after 2 days of therapy in terms of fever and general well being

OR

(II) Fever more than 38° Celsius and new onset of pulmonary infiltrate and either shortness of breath or cough and patient has been exposed to patients with pneumonia in the previous 7 days

Department of Health
17 March 2003

World Health Organization

Hospital Infection Control Guidance

Care for patients with probable SARS

WHO advises strict adherence with the barrier nursing of patients with SARS using precautions for airborne, droplet and contact transmission. Triage nurses should rapidly divert persons presenting to their health care facility with flu-like symptoms to a separate assessment area to minimise transmission to others in the waiting room. Suspect cases should wear surgical masks until SARS is excluded.

Patients with probable SARS should be isolated and accommodated as follows in descending order of preference:

1. negative pressure rooms with the door closed
2. single rooms with their own bathroom facilities
3. cohort placement in an area with an independent air supply and exhaust system:

Turning off air conditioning and opening windows for good ventilation is recommended if an independent air supply is unfeasible. Wherever possible, patients under investigation for SARS should be separated from those diagnosed with the syndrome.

Disposable equipment should be used wherever possible in the treatment and care of patients with SARS. If devises are to be reused, they should be sterilised in accordance with manufacturers' instructions. Surfaces should be cleaned with broad spectrum (bactericidal, fungicidal, and virucidal) disinfectants of proven efficacy.

Patient movement should be avoided as much as possible. Patients being moved should wear a surgical mask to minimise dispersal of droplets. NIOSH standard masks (N95), often used to protect against other highly transmissible respiratory infections such as tuberculosis, are preferred if tolerated by the patient. All visitors, staff, students and volunteers should wear a N95 mask on entering the room of a patient with confirmed or suspected SARS. Surgical masks are a less effective alternative to N95 masks.

Handwashing is the most important hygiene measure in preventing the spread of infection. Gloves are not a substitute for handwashing. Hands should be washed before and after significant contact with any patient, after activities likely to cause contamination and after removing gloves. Alcohol-based skin disinfectants formulated for use without water may be used in certain limited circumstances. Health care workers are advised to wear gloves for all patient handling. Gloves should be changed between patients and after any contact with items likely to be contaminated with respiratory secretions (masks, oxygen tubing, nasal prongs, tissues). Gowns (waterproof aprons) and head covers should be worn during procedures and patient activities that are likely to generate splashes or sprays of respiratory secretions.

HCWs must wear protective eyewear or face-shields during procedures where there is potential for splashing, splattering or spraying of blood or other body substances.

HCWs are advised to wear masks whenever there is a possibility of splashing or splattering of blood

or other body substances, or where airborne infection may occur. Particulate filter personal respiratory protection devises capable of filtering 0.3um particles (N95) should be worn at all times when attending patients with suspected or confirmed SARS.

Standard precautions should be applied when handling any clinical wastes. All waste should be handled with care to avoid injuries from concealed sharps (which may not have been placed in sharps containers). Gloves and protective clothing should be worn when handling clinical waste bags and containers. Where possible, manual handling of waste should be avoided. Clinical waste must be placed in appropriate leak-resistant biohazard bags or containers labelled and disposed of safely.

World Health Organization

Management of Severe Acute Respiratory Syndrome (SARS)

Management of suspect cases

- patients with symptoms of SARS should be triaged immediately to designated examination rooms or wards
- issue patients with surgical mask
- obtain and record detailed clinical, travel and contact history including occurrence of acute respiratory diseases in contact persons during the last 10 days
- obtain chest X-ray (CXR) and full blood count (FBC)
- if CXR is normal:
- provide advice on personal hygiene, avoidance of crowded areas and public transportation, remain at home until well
- discharge with advice to seek medical care if respiratory symptoms worsen
- if CXR demonstrates uni- or bi-lateral infiltrates with or without interstitial infiltration → SEE MANAGEMENT OF PROBABLE CASES

Management of probable cases

- hospitalize under isolation or cohorted with other SARS cases
- sample for laboratory investigation and exclusion of known causes of atypical pneumonia:
  1. throat and/or nasopharyngeal swabs and cold agglutinins*
  2. blood for culture and serology
  3. urine
  4. bronchoalveolar lavage
  5. postmortem examination as appropriate
- it is advised that specimens are collected on alternate days. A number of reference laboratories are able to receive and process samples. This should be co-ordinated through your national public health authority (See list below). Samples should be investigated in laboratories with proper containment facilities (BL3).
- monitor FBC alternate days
- CXR as clinically indicated
- treat as clinically indicated

Comments:

- Broad-spectrum antibiotics have not appeared to be proven effective in halting SARS progression to date.
- Intravenous ribavirin and steroids may have stabilised the condition of one critically ill patient.

* Alternative names: Weli-Felix reaction; Widal' s test

Management of contacts of suspected and probable cases

- Provide reassurance
- Record name and contact details
- Provide advice in the event of fever or respiratory symptoms to:
  1. immediately report to doctor/physician/health authority

2. not report to work until advised by health authority
3. avoid public places until advised by health authority
4. minimize contact with family members and friends

Laboratories able to receive and process samples

[redacted]
Tel: [redacted]
Fax: [redacted]

[redacted]
Tel: [redacted]
Fax: [redacted]

[redacted]
Tel 2: [redacted]
Fax: [redacted]

[redacted]
Tel.: [redacted]
Fax: [redacted]

List of other laboratories willing to assist is currently being compiled. This list will be updated daily.

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圖文傳真 FAX No: (852) 2575 4110
(852) 2574 2113

20 March 2003

Dear Doctor,

Atypical pneumonia outbreak in Hong Kong

Since March 2003, an outbreak of atypical pneumonia has occurred in some hospitals in Hong Kong. As of 3 p.m., March 19, there were a total of 145 cases of atypical pneumonia, including five deaths. All atypical pneumonia case patients have radiological evidence of pneumonic changes. The salient clinical and epidemiological findings are shown in the following paragraphs.

The Prince of Wales Hospital (PWH) has the majority of cases, and they mainly concentrated in one medical ward (8A). A detailed analysis of 31 atypical pneumonia cases among health care workers (HCW) at PWH has been performed. Fifteen (48%) of the cases were female. The age range was 21 – 54 years (median 32 years). Clinical presentation of the case patients included fever (100%), malaise (100%), chills (97%), headache (84%), myalgia (81%), dizziness (61%), rigors (55%), cough (39%), sore throat (23%) and runny nose (23%). Patients often first presented with severe headache, dizziness and myalgia. Onset of fever was abrupt, typically with chills and rigors, and temperature persisted above baseline. In some cases, they experienced rapid deterioration with low oxygen saturation and acute respiratory distress requiring support with ventilator.

Initially the blood picture was normal. However, by day 3 – 4 of the illness, lymphopenia was commonly observed (≥50%), and less commonly, there might be thrombocytopenia. Elevated alanine aminotransferase and abnormal APTT were sometimes seen while prothrombin time was usually normal. Creatine phospholcinase was raised in some cases.

In typical severe cases, chest x-ray began with a small unilateral patchy shadow, and progressed over 24 – 48 hours to become bilateral, generalized, interstitial/confluent infiltrates. Patchy chest x-ray changes were sometimes noted in the absence of chest symptoms. Acute respiratory distress syndrome might be observed in the end stage. Post-mortem lung tissue showed generalized alveolar damage and lymphocytosis without obvious viral inclusion bodies.

Cases have been treated with a variety of antibiotics and antivirals, including ceftriaxone, ciprofloxacin, oseltamivir and others. None has been proven to yield consistent results. High dose corticosteroids with or without ribavirin shows favorable response in some patients.

Based on the history of a few indicative cases, the mean incubation period is estimated to be 3 – 4 days, and the range can be 2 – 7 days.

The available evidence suggests the mode of transmission is most consistent with droplet spread through respiratory secretions. Since the introduction of heightened infection control measures and barrier nursing on March 10, the number of cases dropped substantially.

Epidemiological investigations revealed that seven atypical pneumonia cases, including the index patient of the PWH outbreak, were linked to a hotel in Kowloon. The index patient of the PWH outbreak, who had onset of illness on Feb 24, had gone to the hotel to visit a friend staying there during Feb 15 – 23. The other six cases lodged at the 9th floor of the hotel sometime between Feb 12 and Mar 2. One of these six had onset of illness before he arrived in Hong Kong and lodged at the hotel on Feb 21; and we believe that he was the source of infection.

Staff of this hotel had not reported sickness related to this outbreak, and they have been kept under medical surveillance. We believe there is no residual risk for customers and staff of the hotel as well as residents in the area. The 9th floor of the hotel has been closed for thorough cleansing and disinfection as a precautionary measure.

The Department of Health, the hospital laboratories, the Chinese University of Hong Kong (CUHK) and the University of Hong Kong have been performing extensive laboratory investigations. The CUHK has recently detected a virus belonging to the Paramyxoviridae family among the specimens. There have been similar reports from overseas. The World Health Organization will coordinate efforts to verify and confirm the findings, and more research will be necessary to understand the unusual behaviour of the virus.

The Government has been providing daily updates on this outbreak to keep the public informed of the latest situation. The Department of Health has launched a dedicated website on atypical pneumonia to provide health advice on the prevention of respiratory tract infection and the latest information on the cases. You are welcome to visit our website at http://www.info.gov.hk/dh/ap.htm

For prevention of respiratory tract infection, please advise your clients to adopt the following measures:

- Build up good body immunity by having a proper diet, regular exercise and adequate rest, reducing stress and avoiding smoking;
- Maintain good personal hygiene, and wash hands after sneezing, coughing or cleaning the nose;
- Maintain good ventilation;
- Avoid visiting crowded places with poor ventilation;
- Put on a mask if taking care of a patient with respiratory symptoms and wash hands thoroughly afterwards;
- Put on a mask if suffering from respiratory tract infection to reduce the chance of spreading the infection to people around them; and
- When visiting hospitalized patients, take due precautions in infection control, e.g. wearing mask and gowns and wash hands thoroughly afterwards.

Yours faithfully,

(Dr. L. Y. TSE)
for Director of Health

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來函檔號 YOUR REF.:

電 話 TEL.: 2961 8918

圖文傳真 FAX No.: (852) 2575 4110
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24 March 2003

Dear Doctor,

Infection control measures for medical clinics in the community

You are probably aware of the outbreak of severe acute respiratory syndrome (SARS) occurring in Hong Kong recently. The available evidence suggests that the mode of transmission is most consistent with droplet spread through respiratory secretions. The following are suggested control measures for primary care clinics in the community setting, which emphasize on the use of barrier apparels, personal hygiene and environmental cleaning, in addition to universal precautions:

- Masking
  - All staff should wear a surgical mask
  - Patients should be asked to wear a mask if they have respiratory symptoms
- Handwashing with liquid soap
  - Before and after patient contact, and after removing gloves
- Wear gloves
  - For all direct patient contacts
  - Change gloves between patients, and wash hands
- Wear gown
  - During procedures likely to generate splashes or sprays of blood & body fluids, secretions, or excretions
- Eye protection (e.g. goggles)
  - For aerosol / splash generating procedures
- Avoidance of aerosols
  - Do not use nebulisers in patients with symptoms compatible with SARS
- Environmental disinfection
  - Clean surfaces daily with a disinfectant e.g. 1:49 diluted household bleach, sodium hypochlorite 1,000 ppm or 70% alcohol for metallic surfaces
- Disease detection
  - Seek medical attention promptly if symptoms compatible with SARS (e.g. fever, chills, myalgia, shortness of breath and difficulty in breathing)

Yours faithfully,

(Dr. L.Y. Tse)
for Director of Health

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THE GOVERNMENT OF THE HONG KONG
SPECIAL ADMINISTRATIVE REGION
DEPARTMENT OF HEALTH
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27 March 2003

Dear Doctor,

Amendment to the Quarantine and Prevention of Disease Ordinance, Cap 141

A recent cluster of a new respiratory illness known as "Severe Acute Respiratory Syndrome" has made a significant impact on the local community and other places worldwide. In order to effectively control the spread of this disease in Hong Kong, the Director of Health has issued an Order today (27 March 2003) to amend the First Schedule of the Quarantine and Prevention of Disease Ordinance by adding "Severe Acute Respiratory Syndrome" (嚴重急性呼吸系統綜合症) to the list of infectious diseases specified in that Schedule. Another Order to add this disease to the notification form i.e. Form 2 of the Schedule to the Prevention of the Spread of Infectious Diseases Regulations (Cap 141 sub. leg. B) has also been issued as a consequence of the inclusion of this disease in the list of statutory notifiable diseases. The two Orders have been gazetted today with immediate effect.

As Severe Acute Respiratory Syndrome is a new disease entity, the clinical presentation and diagnosis of which may be changed when more information is being revealed in due course. At the moment, the case definition proposed by the World Health Organisation should be used as the criteria for a confirmed case of Severe Acute Respiratory Syndrome.

Case Definition of Severe Acute Respiratory Syndrome as at 27 March 2003

1. high fever (>38°C), AND
2. one or more respiratory symptoms including cough, shortness of breath, difficulty breathing, AND
3. close contact* with a person who has been diagnosed with Severe Acute Respiratory Syndrome

** close contact means having cared for, having lived with, or having had direct contact with respiratory secretions and body fluids of a person with Severe Acute Respiratory Syndrome*

We will keep you informed of the latest definition of Severe Acute Respiratory Syndrome based on the best available information.

According to regulation 4 of the Prevention of the Spread of Infectious Diseases Regulations, medical practitioners are required to report to the Director of Health a suspected case of the disease.

Attached please find a revised notification form for reporting infectious disease. The form can also be downloaded from Department of Health's website (www.info.gov.hk/dh). Your co-operation to combat the disease is very much appreciated. Thanks.

Yours faithfully,

(Dr. L.Y. Tse)
for Director of Health

FORM 2

QUARANTINE AND PREVENTION OF DISEASE ORDINANCE
(Cap. 141)

Notification of Infectious Diseases other than Tuberculosis
Particulars of Infected Person

Name in English:	Name in Chinese:	Age/Sex:	I.D. Card/Passport No.:
Address:			Telephone Number:
Place of Work/ School Attended:			Telephone Number:
Hospital(s) attended:			Hospital/A&E Number:

Disease ["✓"] below Suspected/Confirmed on ____/____/____.

☐ Acute Poliomyelitis	☐ Leprosy	☐ Rubella
☐ Amoebic Dysentery	☐ Malaria	☐ Scarlet Fever
☐ Bacillary Dysentery	☐ Measles	☐ Severe Acute Respiratory Syndrome
☐ Chickenpox	☐ Meningococcal Infections	☐ Tetanus
☐ Cholera	☐ Mumps	☐ Typhoid Fever
☐ Dengue Fever	☐ Paratyphoid Fever	☐ Typhus
☐ Diphtheria	☐ Plague	☐ Viral Hepatitis
☐ Food Poisoning	☐ Rabies	☐ Whooping Cough
☐ Legionnaires' Disease	☐ Relapsing Fever	☐ Yellow Fever

Notified under the Prevention of the Spread of Infectious Diseases Regulations by

Dr._____ on ____/____/____
(Full Name in BLOCK Letters) (Date)

Telephone Number: _____ _____
(Signature)

Remarks:

表格2
檢疫及防疫條例
(第141章)
非嚴結核病的傳染病通知書
受感染人士的詳情

英文姓名：	中文姓名：	年齡/性別：	身分證/ 護照號碼：
地址：			電話號碼：
工作地點/就讀學校：			電話號碼：
就診醫院：			醫院/急症室 編號：

懷疑/證實於 _____ 年 ___ 月 ___ 日患上以下疾病(√)

- [ ] 急性脊髓灰質炎 (小兒麻痺)
- [ ] 阿米巴痢疾
- [ ] 桿菌痢疾
- [ ] 水痘
- [ ] 霍亂
- [ ] 登革熱
- [ ] 白喉
- [ ] 食物中毒
- [ ] 退伍軍人病
- [ ] 麻風
- [ ] 痲疾
- [ ] 麻疹
- [ ] 腦膜炎雙球菌感染
- [ ] 流行性腮腺炎
- [ ] 副傷寒
- [ ] 鼠疫
- [ ] 狂犬病
- [ ] 回歸熱
- [ ] 風疹 (德國麻疹)
- [ ] 猩紅熱
- [ ] 嚴重急性呼吸系統綜合症
- [ ] 破傷風
- [ ] 傷寒
- [ ] 班疹傷寒
- [ ] 病毒性肝炎
- [ ] 百日咳
- [ ] 黃熱病

由下述醫生根據《防止傳染病蔓延規例》作出通知

_____ 醫生　　____/____/____

(請用正楷填寫姓名)　　(日期)

電話號碼： _____　　_____

(簽署)

附註：

DH1(a)(Rev. 2003)