

Severe Acute Respiratory Syndrome: Response from Hong Kong

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Hong Kong Special Administrative Region Government

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SARS Disease Burden in Hong Kong

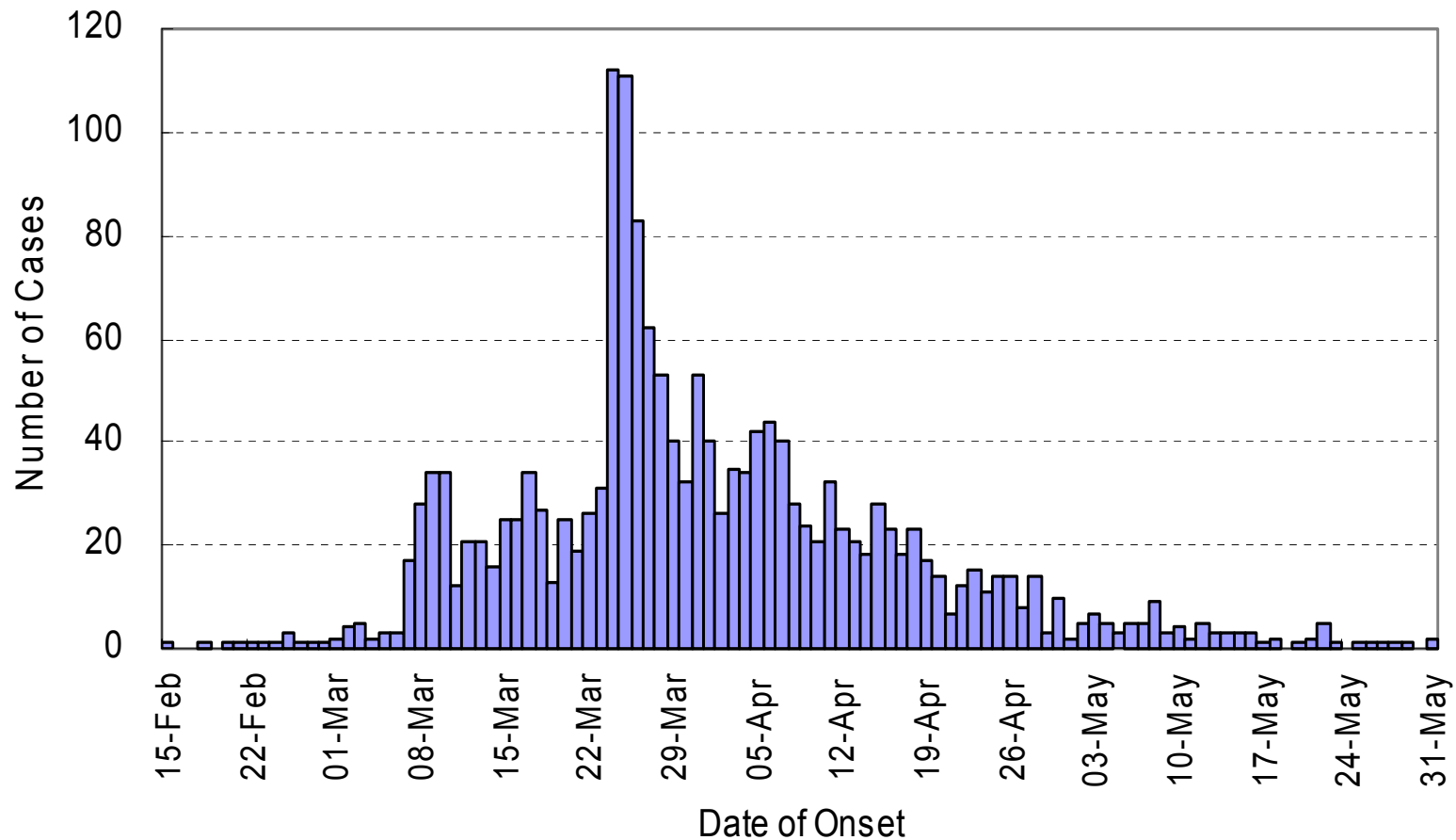
As at 16.06.2003,

● Total confirmed cases	1755
● Recovered & discharged	1386 (79.0%)
● Died	295 (16.8%)
● In convalescent facilities	28 (1.6%)
● In non-ICU setting	31 (1.8%)
● In ICU setting	15 (0.9%)

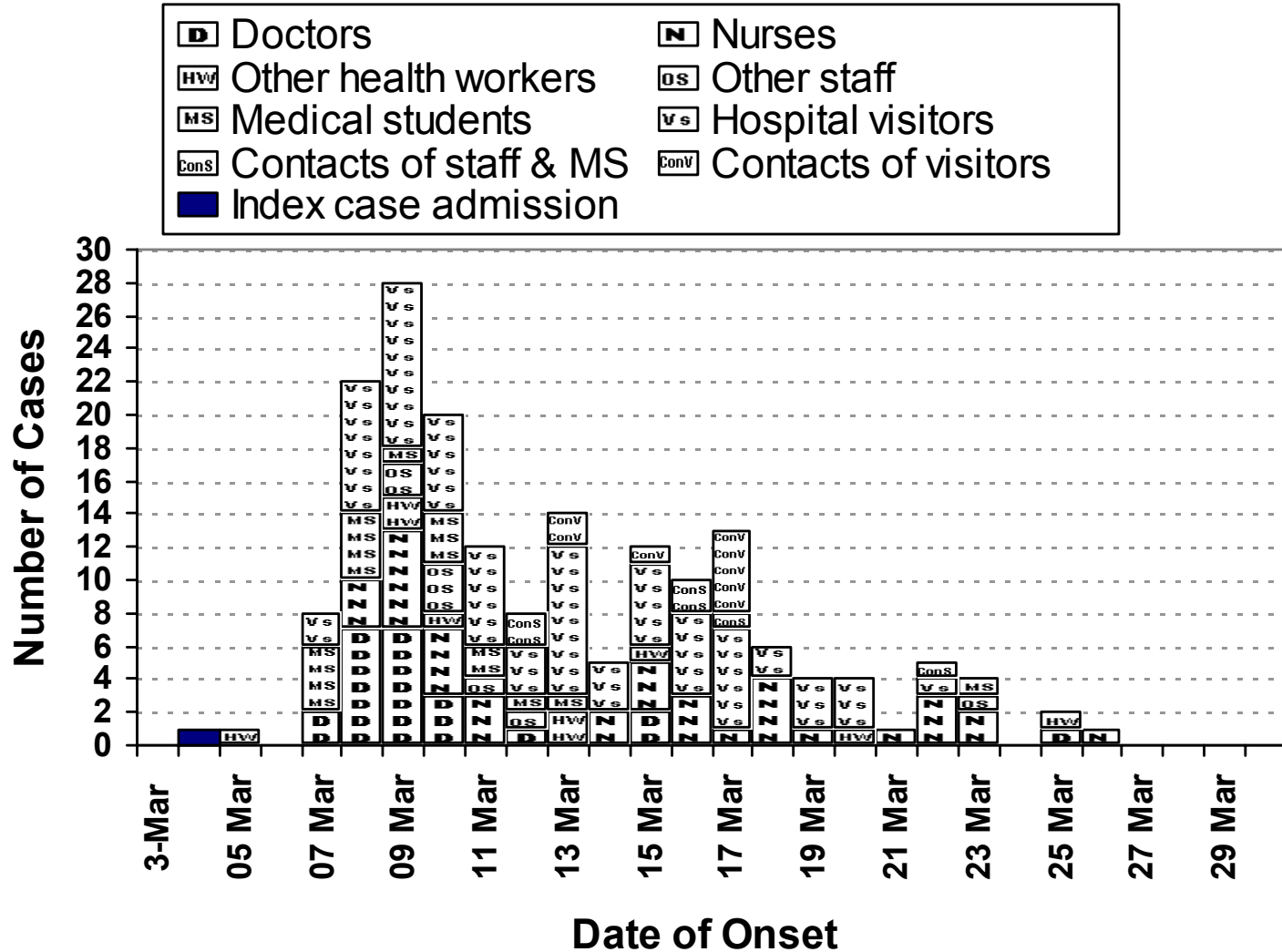


Epidemic Curve – Hong Kong

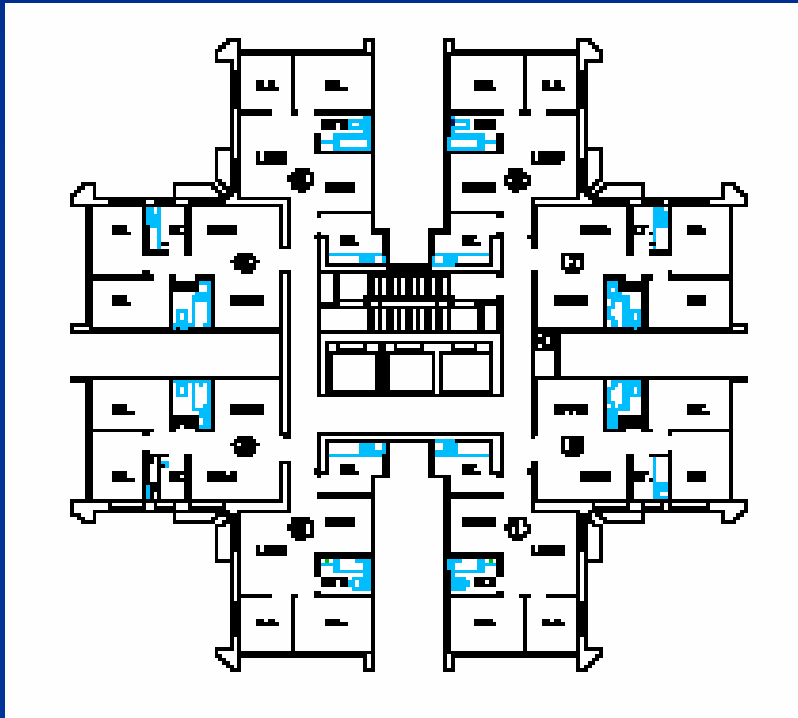
As at 16.06.2003



Initial Hospital Outbreak



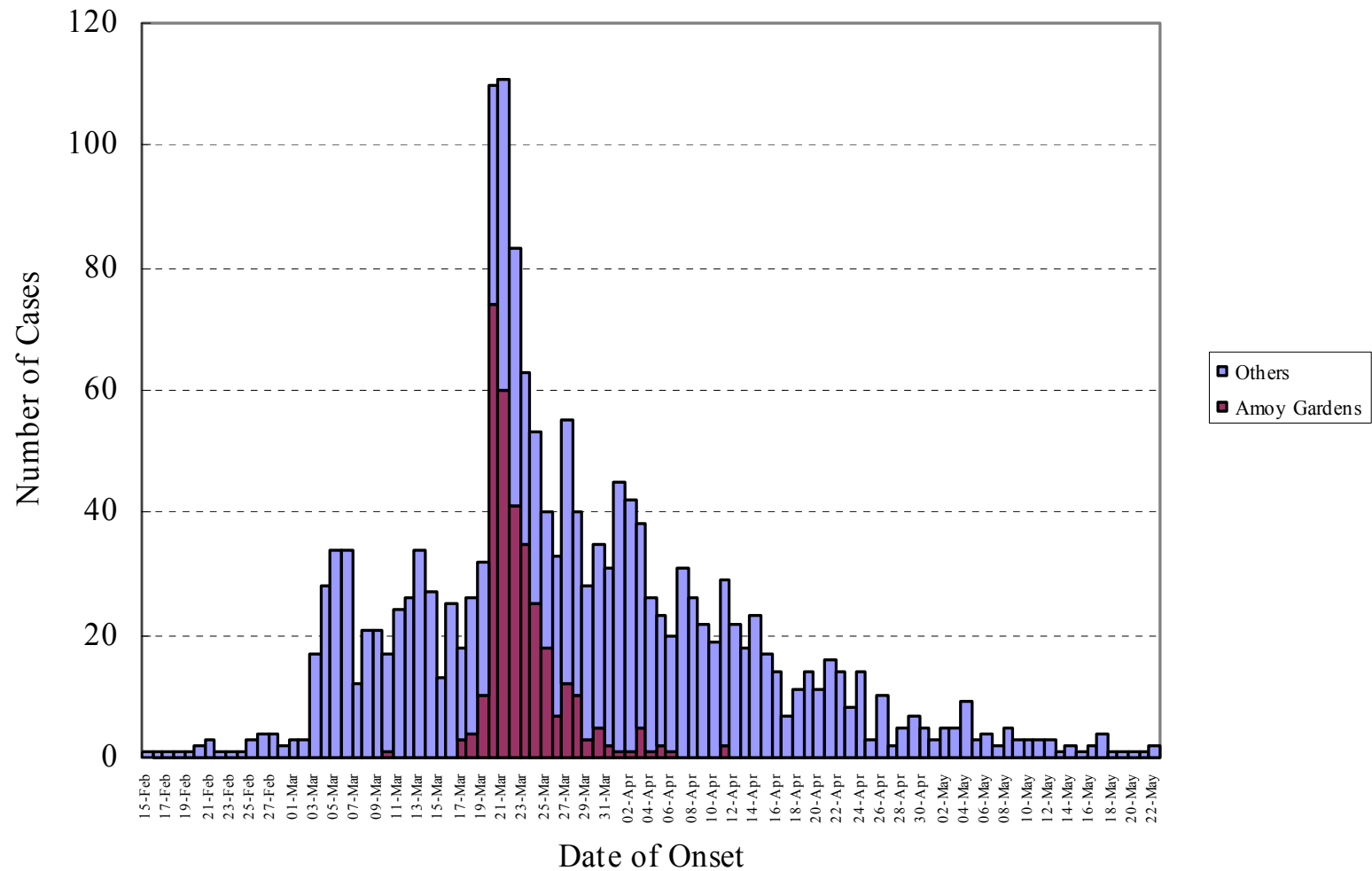
Community Outbreak in Amoy Gardens



Typical Floor Plan of Block E
at Amoy Gardens



Epidemic Curve - Amoy Gardens



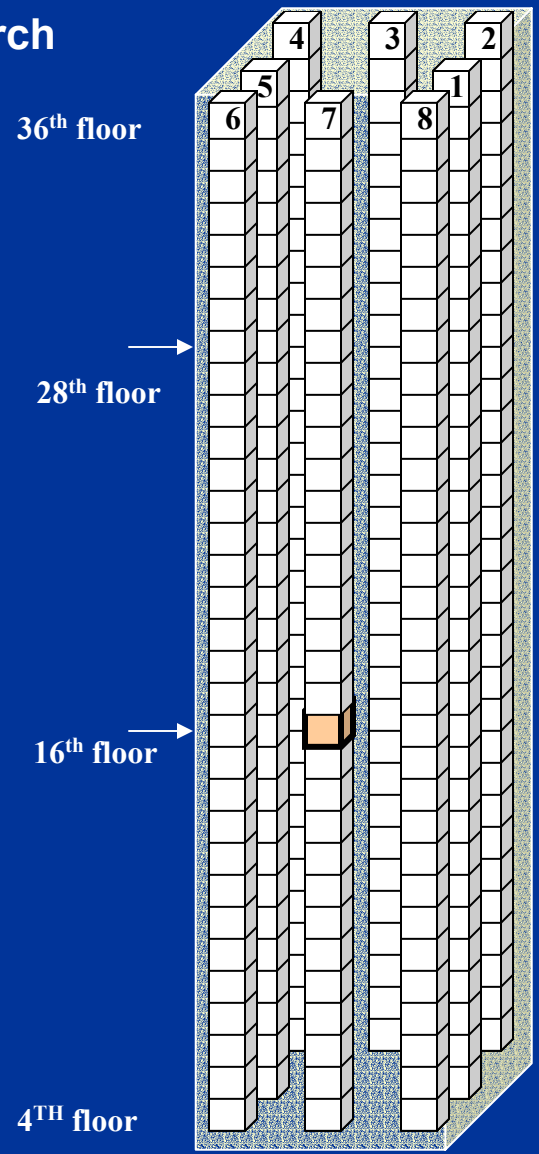
Amoy Gardens SARS Outbreak Block E

3-D Animation 14-27th March

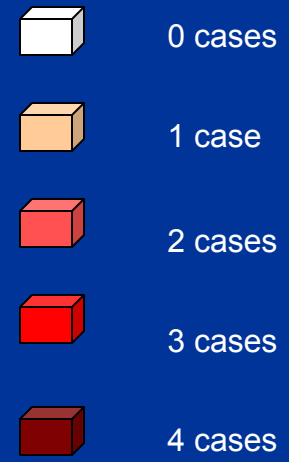
Cumulative Cases per Apartment By Day of Disease Onset

14th March

 Index case/apartment



Apartment Number
(Same on each floor)



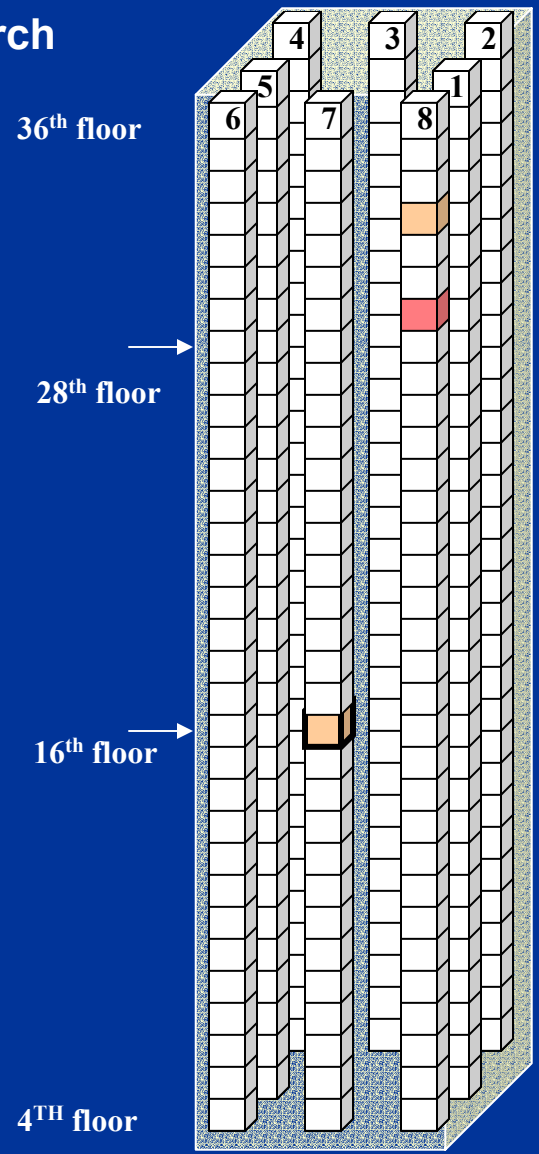
Amoy Gardens SARS Outbreak Block E

3-D Animation 14-27th March

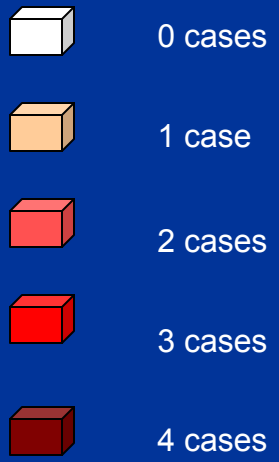
Cumulative Cases per Apartment By Day of Disease Onset

21st March

 Index case/apartment



Apartment Number
(Same on each floor)



Amoy Gardens SARS Outbreak Block E

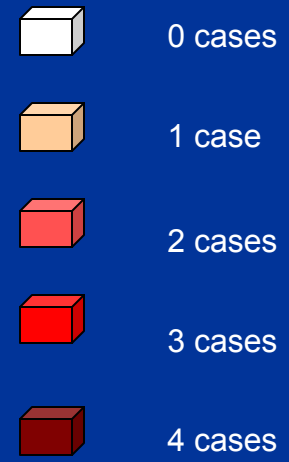
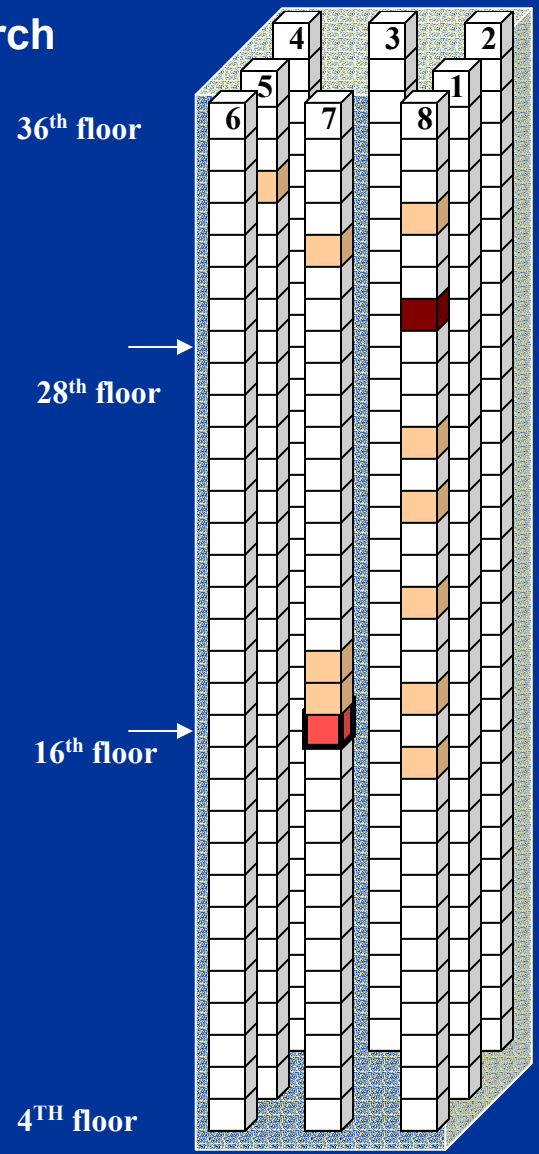
3-D Animation 14-27th March

Cumulative Cases per Apartment By Day of Disease Onset

23rd March

 Index case/apartment

Apartment Number
(Same on each floor)



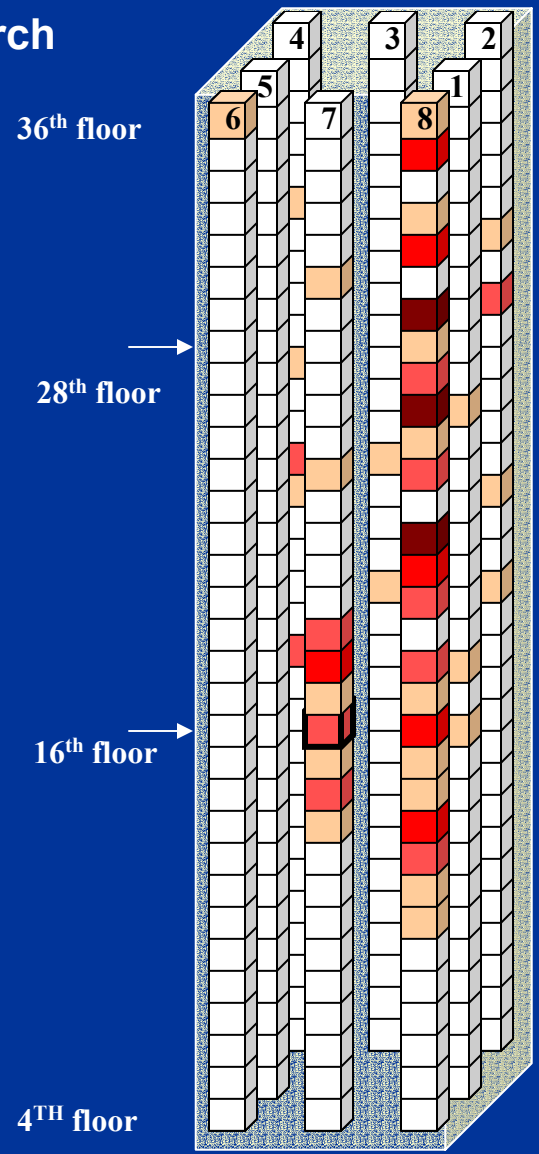
Amoy Gardens SARS Outbreak Block E

3-D Animation 14-27th March

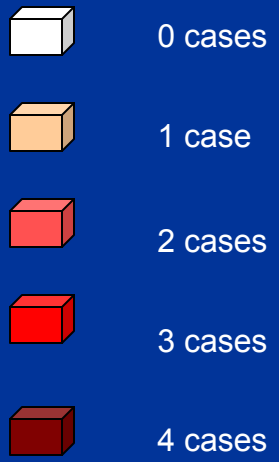
Cumulative Cases per Apartment By Day of Disease Onset

25th March

 Index case/apartment



Apartment Number
(Same on each floor)



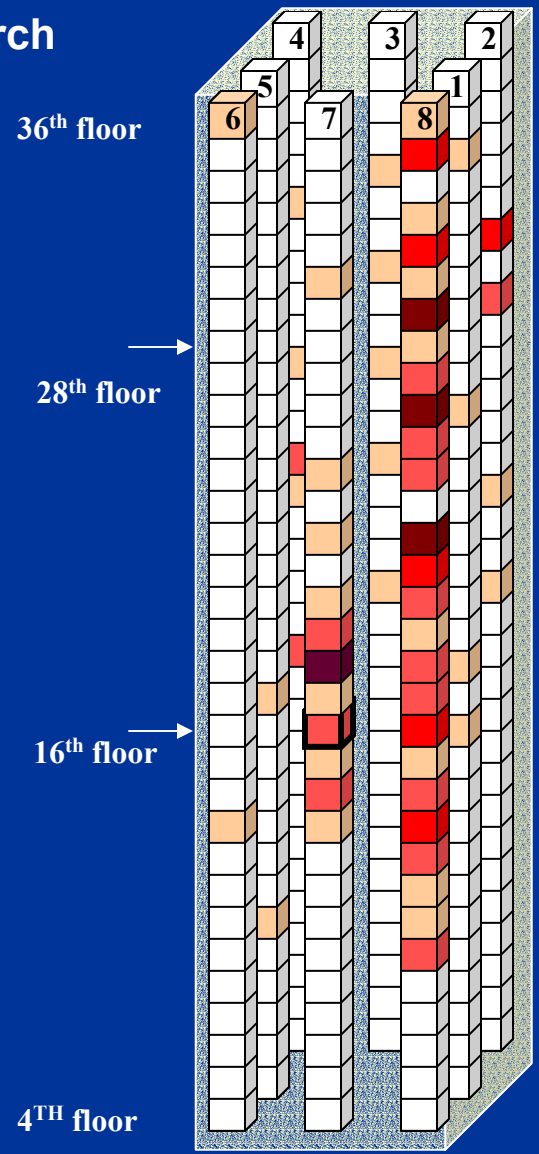
Amoy Gardens SARS Outbreak Block E

3-D Animation 14-27th March

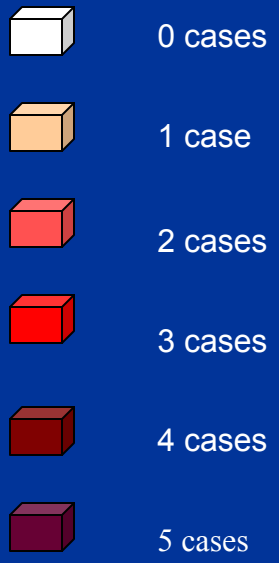
Cumulative Cases per Apartment By Day of Disease Onset

27th March

 Index case/apartment



Apartment Number
(Same on each floor)



Government's Strategies

- 4 prolonged strategy centred on:-
 - Early detection
 - Swift contact tracing
 - Prompt isolation & quarantine
 - Effective containment

- Strategies result in:-
 - Shortening the interval between onset of symptoms & admission to hospital
 - Limiting the infectious period of the SARS cases
 - Preventing further spread of the disease



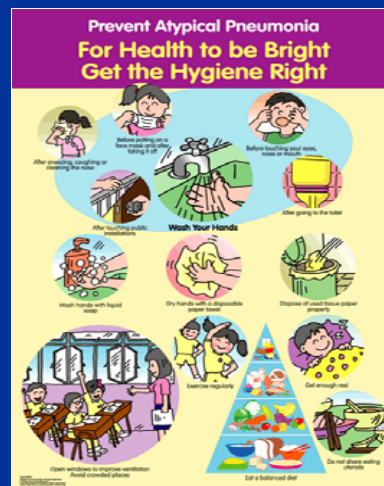
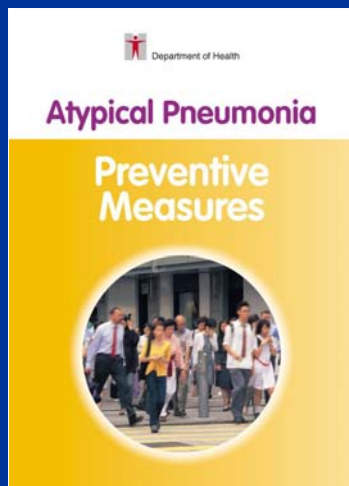
Public Health Control Measures

- Comprehensive public education programme
- Enhanced surveillance system for case detection
- Application of modern technology for contact tracing
- Updated legislation for isolation of patients & quarantine of contacts
- Intensive control efforts target at areas needing greater attention:
 - Hospital settings
 - Residential care home for the elderly
 - Border control
- Environmental hygiene improvement programme



Comprehensive Public Education Programme

- Heighten awareness of SARS symptoms
- Emphasize message of
 - Prevention, and
 - Prompt action of seeking medical advice early



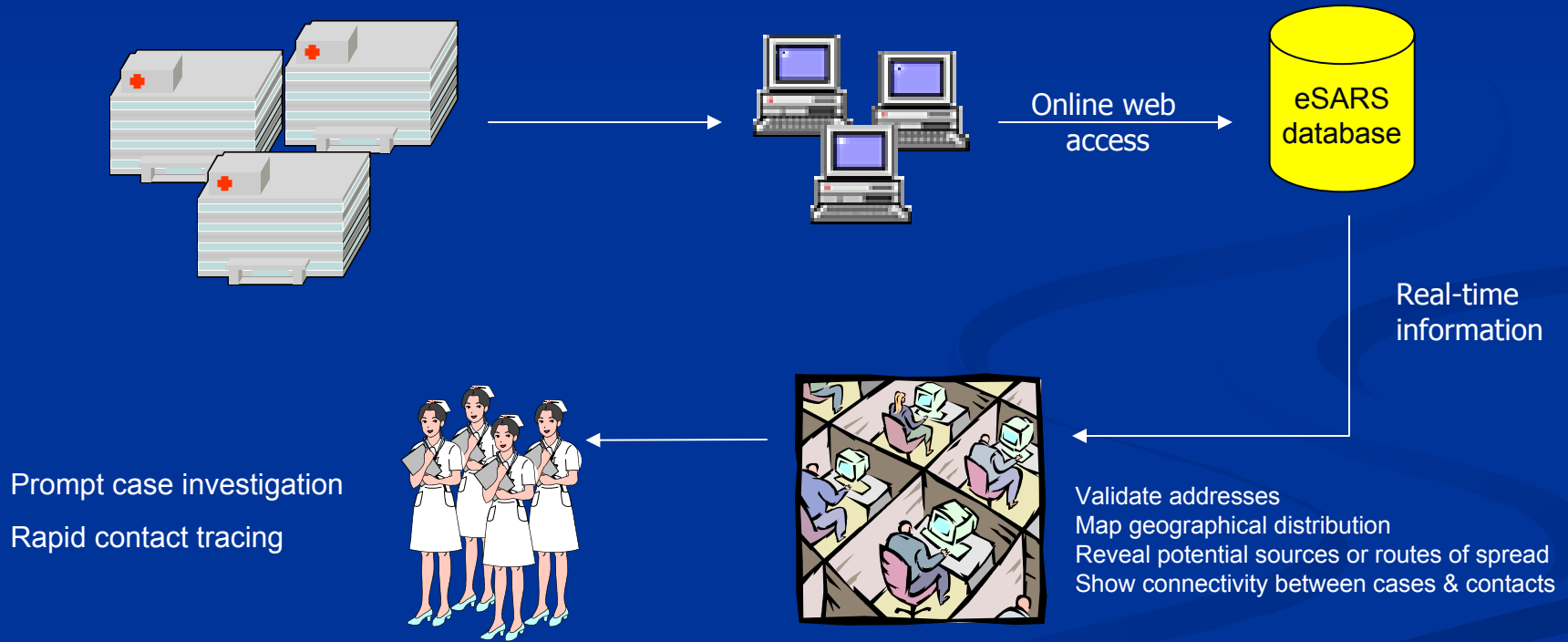
Enhanced Surveillance System

- Early Detection of cases
 - SARS was made statutory notifiable
 - Promulgate clear and well-defined case definition to all practitioners
 - Active case finding through medical surveillance of contacts
 - Comprehensive support from laboratory for investigation and detection of the virus
- Leads to prompt medical treatment & swift contact tracing



Swift Contact Tracing

- Extensive use of modern technology



Major Incident Investigation and Disaster Support System (MIIDSS)



Major Incident Investigation and Disaster Support System (MIIDSS)

- Link analysis of:
 - Who contact person
 - Where location
 - When event
- Investigation workflow
 - eSARS online (patient data)
 - Investigator team (level I)
 - "Hot Spot" alert
 - Investigator team (level II)
 - Linkage of analyses with charts



Prompt Isolation and Quarantine

- Close contacts of SARS patients
 - Placed under home quarantine & medical surveillance
 - Barred from leaving the territory during the 10-day incubation period
 - Where appropriate, contacts are isolated in designated isolation camps located away from the city
 - Ensure compliance of home quarantine by interdepartmental teams – police, immigration, social welfare, home affairs & health dep'ts
- Home quarantine statistics as at 15.06.2003
 - No. of persons served home quarantine notice 1262
 - No. of persons develop SARS 25



Monitoring of Contacts

- Established 4 designated medical centres
 - staffed with chest physicians & nurses to conduct medical checks for social contacts and hospital contacts
- Public health nurses monitor the health conditions of contacts by telephone or through surprise home visits to ensure early presentation



Identification of Exposure Source

- Experienced interviewers collect detail history 10 days before symptom onset:
 - on local movement (bus routes, shops, restaurants, etc)
 - on travel abroad
 - on contact with SARS patients
- Data entered into MIIDSS to identify probable exposure source by time, place & person
- Activate multidisciplinary response teams for actions



Effective Containment Measures

- Multi-disciplinary response teams
 - Comprise experts in public health, building management and environmental hygiene
 - Undertake dual functions:-
 - Investigation
building, drainage & other piping systems, lifts & sewage systems
 - Remedial actions
environmental disinfection, disinfestation



Multi-disciplinary response teams

eSARS

MIIDSS

Investigate

Patient contacts

Environment

Building services structures

Control actions

Disinfection, cleasing & pest control

Structural rectification

Contact Isolation



Enhanced Hospital Infection Control

- Protection of hospital staff
 - All health care workers given advice on precautionary measure in caring for patients
 - Provide special training in infection control before deployment to high risk areas
 - Provided with appropriate set of protective gear

- Inpatient contacts
 - Contacts are recalled and cohorted in hospitals where indicated
 - Others are required to attend designated medical centres to ensure early detection of cases

- Visitors
 - Not allowed in SARS wards
 - Limited and controlled to non SARS wards



Special Attention for the Elderly

- High risk of infection - vulnerable and require frequent hospitalisation
- Difficulty in early detection – may not have fever at presentation
- Potential of spread in residential care homes for the elderly (RCHE) when discharged
- High case fatality rate – frail and co-morbidity



Prevention & Control Measures in Residential Care Homes

- Education on preventive measures
 - Issue written guidelines on infection control
 - Training for carers on the implementation of the guidelines and step up inspections to ensure compliance
 - Advise on precautionary measures in caring for all residents
- Reduce the risk of infection – special support
 - Outreach medical care to reduce the requirement for hospitalisation
- Reduce the risk of spread - discharge policy
 - Strict isolation of all hospital discharged patients for 10 days



Health Checks at Border Points

- Mid March
 - Set up medical posts at all border points
 - All incoming passengers required to complete a health declaration



健康申報表
Health Declaration

根據香港特別行政區<<檢疫及防疫條例>>(第 141 章)
每位入境旅客的健康狀況必須被確定，請填寫此表，交回收表人員
如懷疑自己染上非典型肺炎者，應即向衛生監測站報告


Under the Quarantine and Prevention of Disease Ordinance (Cap.141) of the HKSAR,
all arrivals' health status should be ascertained. Please complete this form and return
it to a receiving officer. If you suspect having
atypical pneumonia, report to the surveillance medical post at once.

姓名 _____ 身份證/旅遊證件號碼 _____
Name in full _____ I.D./Travel Document no. _____

現如有以下症狀，請在症狀前劃
Please mark before the symptom if any now.

(i) 發燒 氣喘 呼吸困難
Fever Shortness of breath Breathing difficulty

(ii) 咳嗽 氣喘 呼吸困難
Cough Shortness of breath Breathing difficulty

 香港特別行政區衛生署港口衛生處
Port Health Office, Department of Health, Hong Kong SAR



Health Checks at Border Points

- Mid April
 - Temperature checks for all departing, arriving & transiting passengers at airport
 - Temperature measures extended to all border points by land, rail and sea
 - 80 infra-red devices have been installed at border points
- To-date, 320 infrared devices have been installed



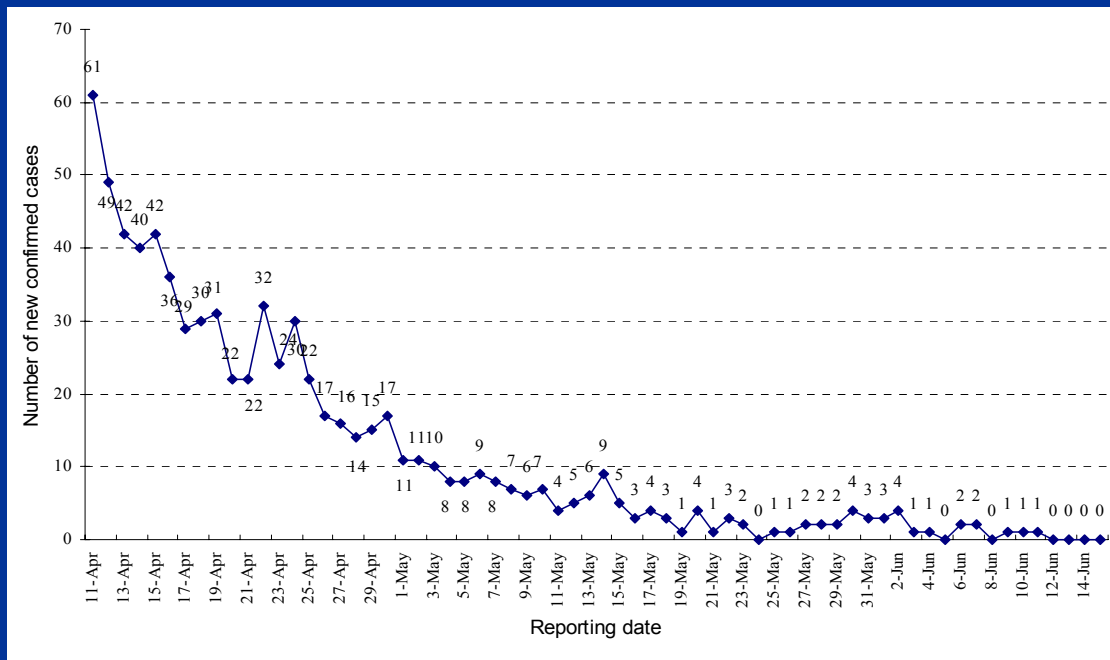
Environmental Hygiene Improvement Programme

- Step up environmental hygiene and pest control measures all over the city
 - A high level Gov't task force established to steer implementation
- Intensive publicity to enhance public education on personal and environmental hygiene
- Impose strict penalties on people who do not observe these measures



Concluding Remarks (1)

- SARS outbreak in Hong Kong effectively controlled
 - Last SARS case admitted to hospital 02.06.2003



Concluding Remarks (2)

- There remains a need to continue to maintain high vigilance
 - Continue publicity to keep up public awareness
 - Sustained efforts in hygienic measures
 - Further enhanced IT support for better surveillance
 - Timely analysis of data for early public health actions



Concluding Remarks (3)

- There is a further need to apply lessons learnt to better prepare for future outbreaks
 - Establish SARS Expert Committee to undertake review of outbreak management to identify lessons to be learnt
 - Highlight areas for system improvement
 - Apply lessons learnt



Concluding Remarks (4)

- Commitment of the Government
 - Allocation of HK\$200mn for works of infectious disease prevention, public health education and treatment of disease
 - Allocation of HK\$200mn for training and welfare health care workers
 - Allocation of HK\$1.3bn to strengthen public health work and a range of research activities on infectious diseases including SARS
 - Allocation of HK\$500mn (donated by HKJCC) for establishment of a CDC like structure



Concluding Remarks (5)

- Effective control of infectious diseases requires strong international collaborative partnership
 - Mainland authorities
 - Nearby countries
 - World Health Organization
 - Other international bodies



Thank You

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