

Updated situation of dengue fever in Hong Kong

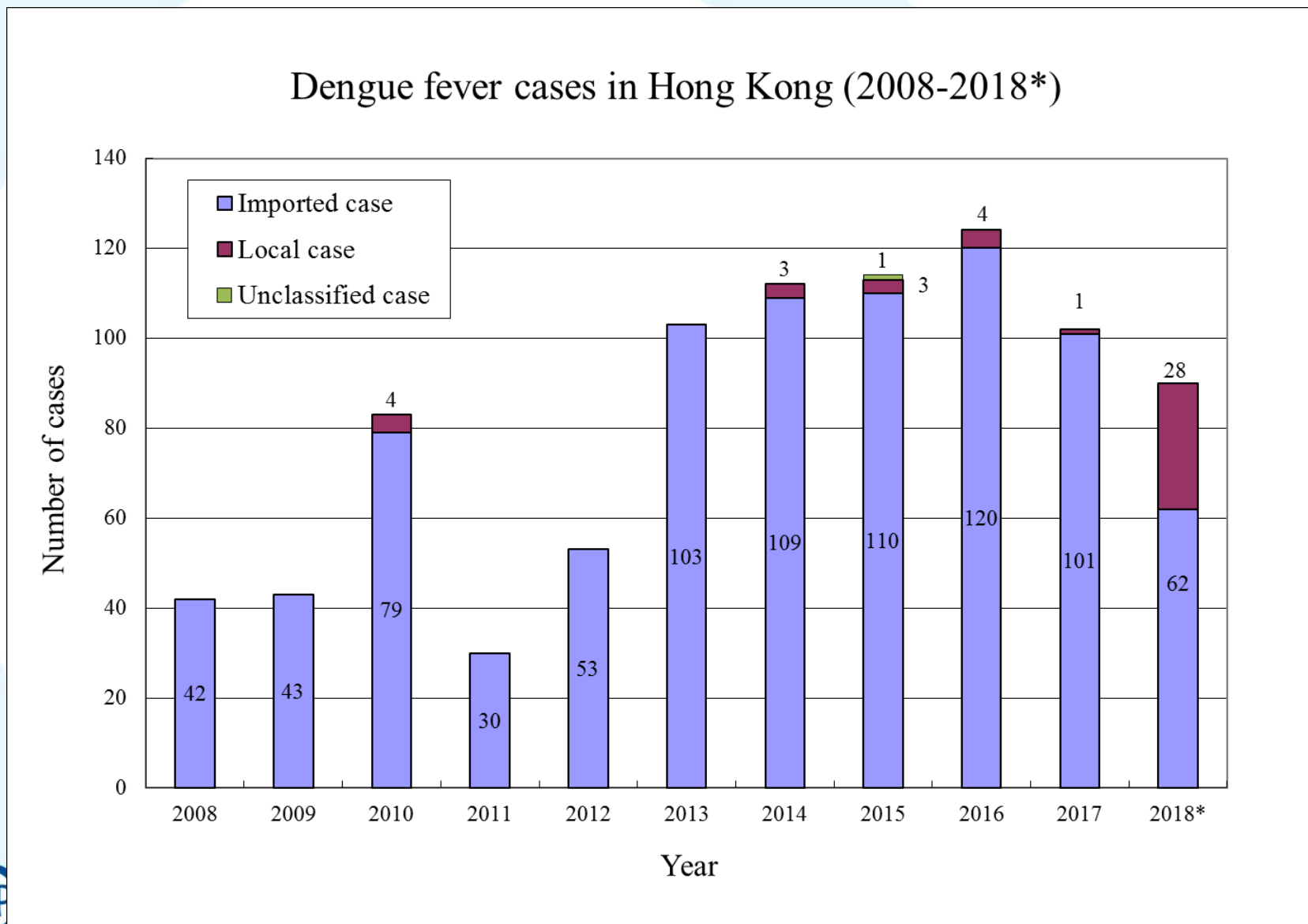
**Surveillance and Epidemiology Branch,
Centre for Health Protection**

31 August 2018

Background

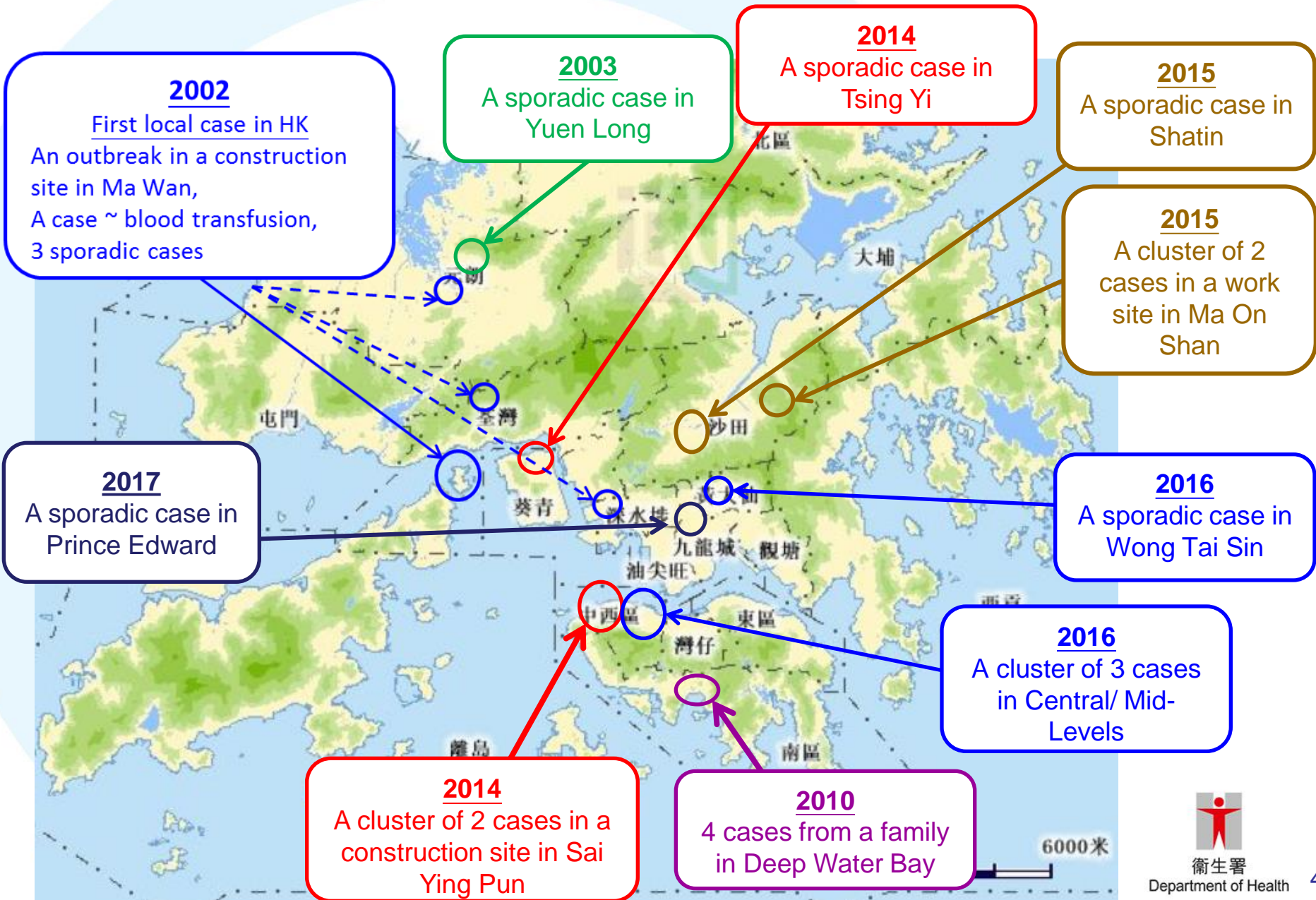
- In Hong Kong, dengue fever (DF) is a notifiable disease under the Prevention and Control of Disease Ordinance (Cap 599) since 1994
- Since receiving notification of the first confirmed local DF case this year on 14 August, the Centre for Health Protection (CHP) of the Department of Health has taken the following actions:
 - Epidemiological investigations
 - Prevention and control measures
 - Enhanced surveillance
 - Risk communication
 - Enhanced public education
 - Step-up of port health measures

Dengue fever in Hong Kong, 2008-2018



*Figures as of 30 August

Local cases of dengue fever in HK, 2002-2017



Local dengue cases in 2018

- As of 30 August, a total of 28 local dengue fever cases are reported
- Date of onset ranged from 31 July to 28 August
- 18 cases related to Lion Rock Park/ Wong Tai Sin and ten cases were related to Cheung Chau
- 16 males and 12 females
- Age ranged from 17 to 84 years (median: 57 years)

Clinical presentation

| Symptoms and signs | Percentage (n) |
|--------------------|----------------|
| Fever | 96.4% (27) |
| Myalgia | 82.1% (23) |
| Thrombocytopenia | 75.0% (21) |
| Headache | 71.4% (20) |
| Leucopenia | 67.9% (19) |
| Rash | 53.6% (15) |
| Arthralgia | 50.0% (14) |

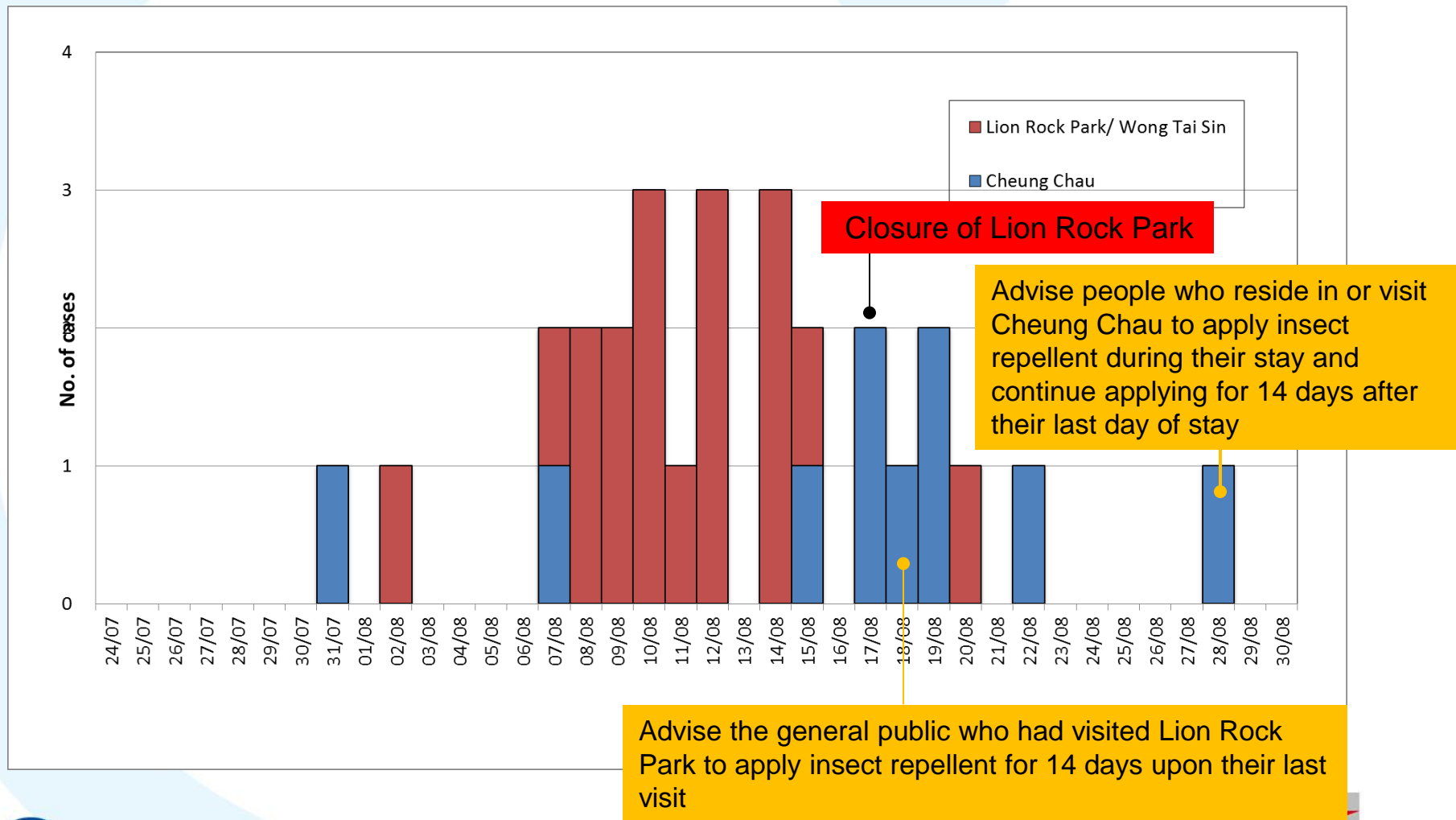
- 24 (85.7%) required hospitalisation
- All cases were stable and no severe dengue (also known as dengue haemorrhagic fever) has been reported

Laboratory investigations

| | LRP cluster | CC cluster |
|------------------|-------------|------------|
| Cases | 18 | 10 |
| PCR positive | 16 | 8 |
| DENV-1 | 16 | 8 |
| Sequencing a/v | 13 | 7 |
| Identical | 11 | 6 |
| Nearly identical | 1 | 0 |
| Highly similar | 1 | 1 |

Risk assessment of current situation

Epidemic curve of the local dengue fever cases in 2018 (N = 28)

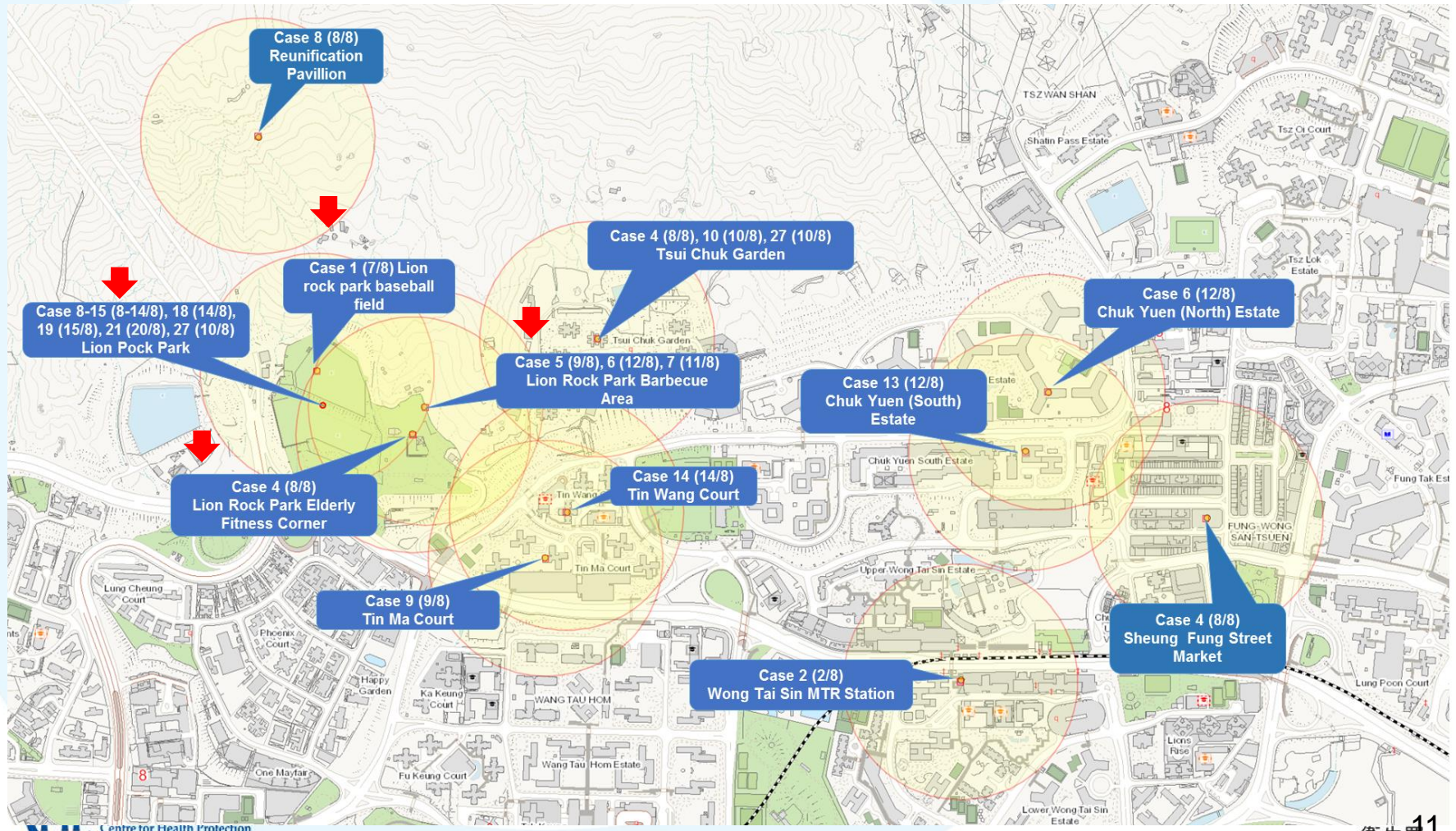


Sources of infection of local dengue cases in 2018

Two separated clusters were identified



Local dengue cases related to Lion Rock Park/ Wong Tai Sin in 2018 (N=18)





獅子山公園 LION ROCK PARK

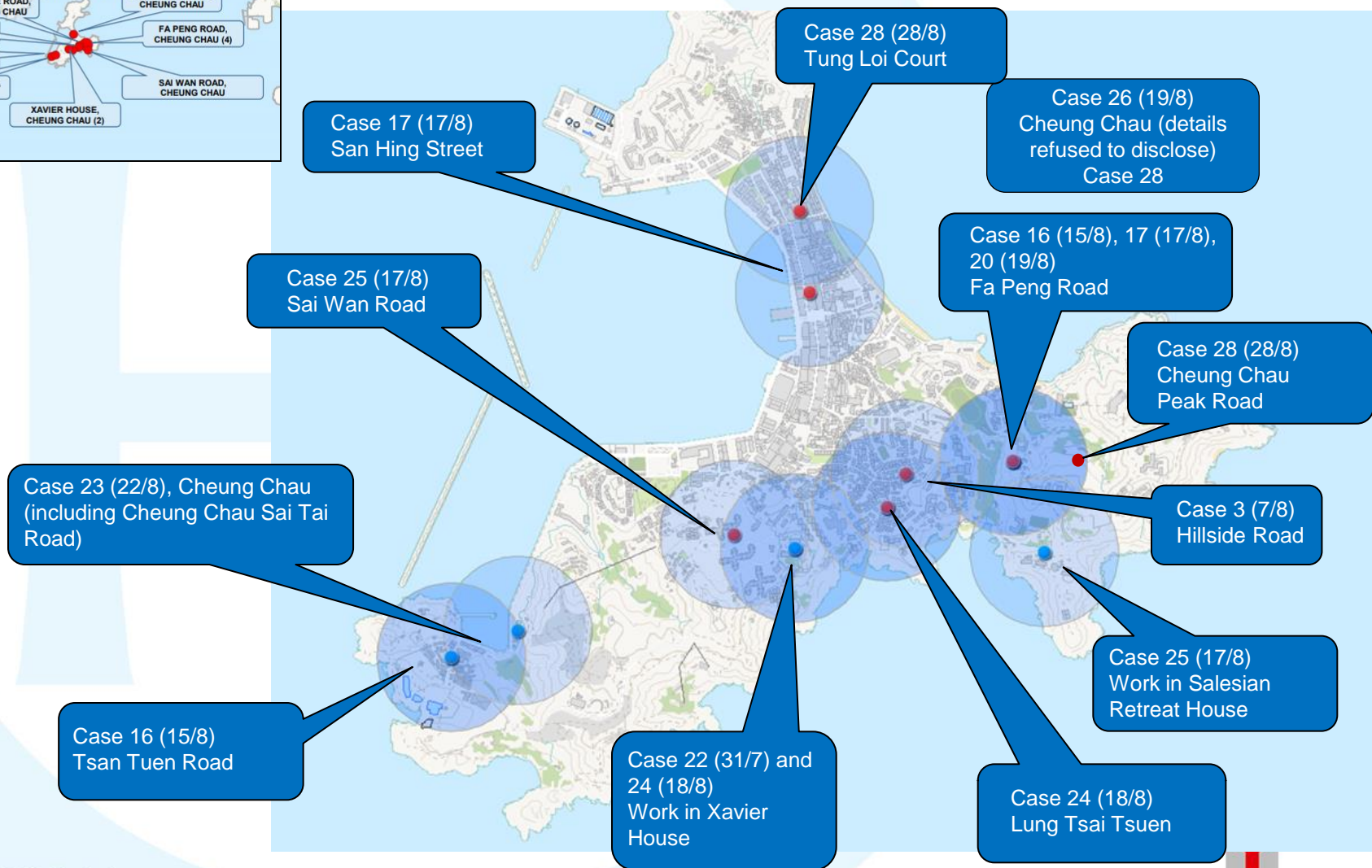
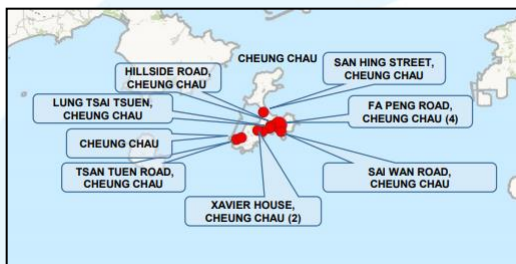


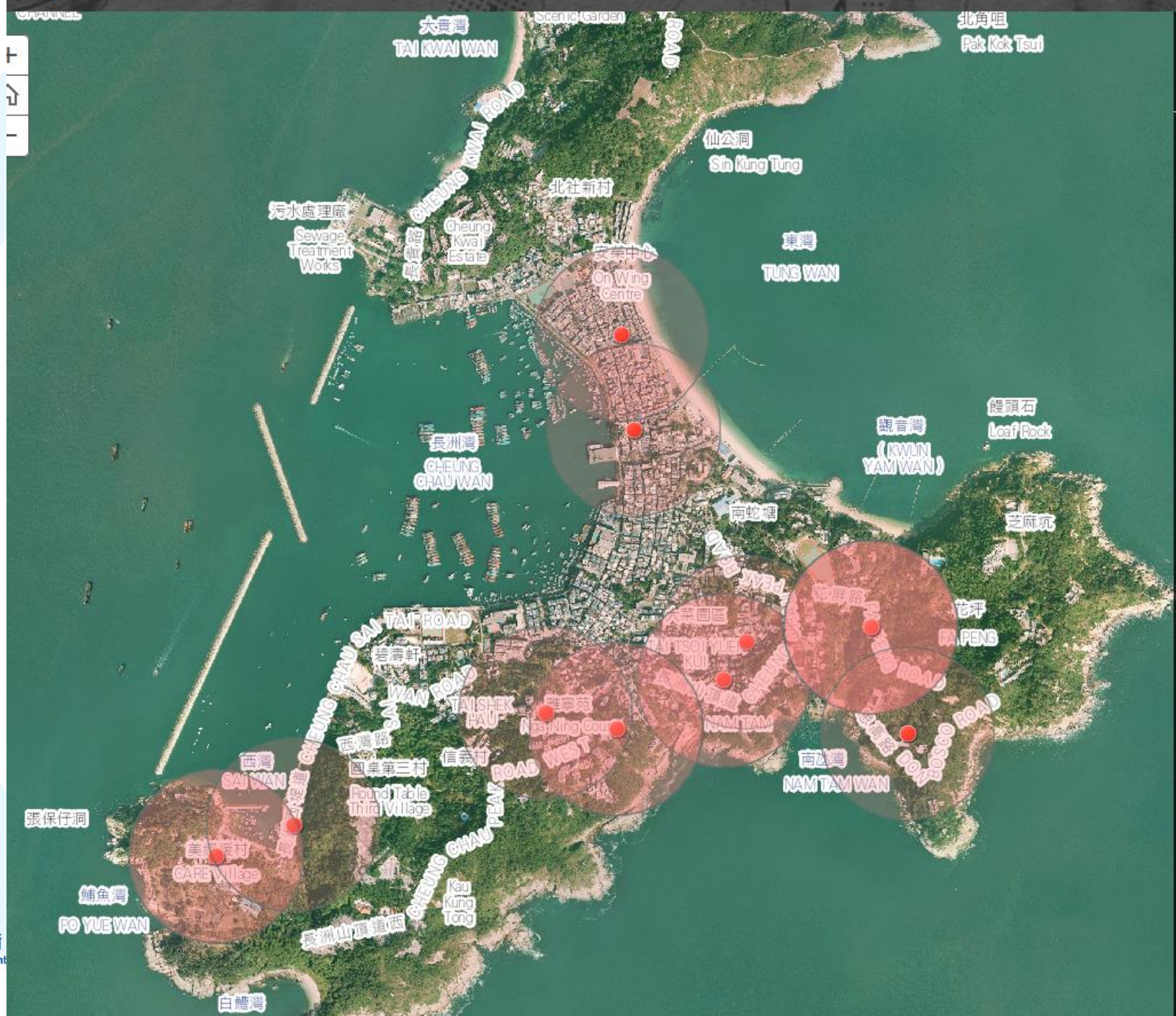
- 1 公園入口
ENTRANCE
- 2 公園辦事處
PARK OFFICE
- 3 洗手間
TOILET
- 4 社區園圃
COMMUNITY GARDEN
- 5 燒烤場
BARBECUE AREA
- 6 兒童遊樂場
CHILDREN'S PLAY AREA
- 7 長者健體園地
ELDERLY FITNESS CORNER
- 8 卵石路徑
PEBBLE WALKING PATH
- 9 有蓋行人道
COVERED WALKWAY
- 10 自然保育園地
CONSERVATION CORNER
- 11 涼亭
ARBOUR

比例: 不按比例
Scale: Not on scale



Local dengue cases related Cheung Chau in 2018 (N=10)





Laboratory Findings

- As of 30 August, 24 out of 28 cases were PCR positive and all (24) were dengue virus serotype 1 (16 from LRP and 8 from CC)
- Nucleotide sequences are available from 13 cases who have been to the Lion Rock Park/ Wong Tai Sin, while 11 were identical, one of them is highly similar and one is nearly identical.
- Nucleotide sequences are available from 7 cases in the Cheung Chau cluster, while 6 were identical and one was highly similar. All of them were different from that of the cluster in Lion Rock Park/ Wong Tai Sin.

Laboratory Findings

- So far the cases identified are linked to two separate clusters, one in Lion Rock Park/ Wong Tai Sin (18 cases) and the other one in Cheung Chau (10 cases)
- Source of infection in Cheung Chau is less well defined (scattered in Southern part)
- The genetic sequencing results are compatible with the epidemiological findings indicating 2 separate introductions of Dengue virus

Prevention and Control Measures

- Since receiving notification of the first confirmed local DF case this year on 14 August, the Centre for Health Protection (CHP) of the Department of Health has taken the following actions:
 - Epidemiological investigations
 - Prevention and control measures
 - Enhanced surveillance
 - Risk communication
 - Enhanced public education
 - Step-up of port health measures

Prevention and control measures

- Informed the following government departments for control measures:
 - Pest Control Advisory Section (PCAS) of the Food and Environmental Hygiene Department (FEHD)
 - Leisure and Cultural Services Department
 - Home Affairs Department
- Worked closely with Hospital Authority and private reporting clinicians
- Informed PCAS of the local movement of all cases for relevant vector survey and control measures
- Closure of Lion Rock Park since 7pm 17 August

Health talks and active case finding

| Date | Venue/ Target |
|-----------|---|
| 14 August | <ul style="list-style-type: none">Property Management Office of Highland Park |
| 15 August | <ul style="list-style-type: none">Kwai Shing Community HallCheung Chau Municipal Services BuildingChuk Yuen Estate Community Centre |
| 17 August | <ul style="list-style-type: none">Staff of Lion Rock ParkWong Tai Sin Community Centre |
| 20 August | <ul style="list-style-type: none">Henry G. Leong Yaumatei Community CentreKai Tak Community Hall |
| 23 August | <ul style="list-style-type: none">Cheung Chau Municipal Services Building |
| 24 August | <ul style="list-style-type: none">Chuk Yuen Estate Community Centre |
| 29 August | <ul style="list-style-type: none">Cheung Chau Municipal Services Building |

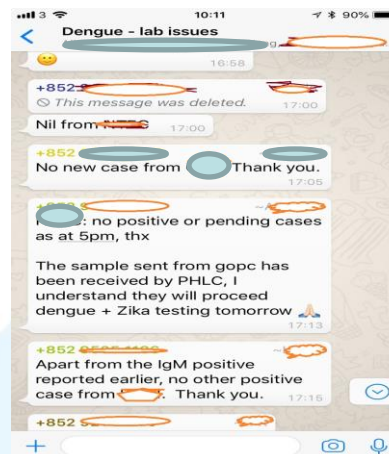


Enhanced surveillance

- Set up a telephone hotline (2125 1122) starting since 14 August
 - Persons who have been to places visited by the patients during their incubation period or after onset of symptoms are advised to call the hotline for laboratory investigation or referral as appropriate
 - More than 350 calls received, with identification of confirmed cases
- Activated e-Dengue on 16 August
 - To enhance the detection of suspected DF cases with the Hospital Authority (HA)
 - More than 650 notifications received

Enhanced laboratory support

- Laboratory testing
 - CHP's PHLSB has strengthened rapid testing of DF to facilitate clinical diagnosis
 - HA cluster laboratories extended the testing service for DF to 7 days a week and shortened turnaround time to 24 hours since 16 August
 - Increase frequencies of specimens transport
- Expedite exchange of information



Risk communication with the media and the public

- Media briefings to keep the public informed of
 - The latest situation
 - CHP's follow-up investigations and actions
- Press release
 - Issued when there were new local cases or updates
- Mini-web on the CHP website
 - Set up on 15 August
 - Updated with latest information
 - Provides locations of the residences and local movements of the local DF cases

- General Public
- Health Professionals
- Institutions & Schools
- Business & Workplace

Dengue Fever

24 August 2018
Dengue fever is an acute mosquito-borne infection caused by the dengue viruses. This is found in tropical and sub-tropical regions around the world. For instance, dengue fever is an endemic illness in many countries in South East Asia. The dengue viruses encompass 4 different serotypes, each of which can lead to dengue fever and severe dengue (also known as 'dengue haemorrhagic fever').

Dengue fever is clinically characterised by high fever, severe headache, pain behind the eyes, muscle and joint pain, nausea, vomiting, swollen lymph nodes and rash. Some infected people may not develop apparent symptoms, and some may only have mild symptoms like fever, e.g. young children may exhibit a milder non-specific febrile illness with rash.

The incubation period of dengue fever ranges from 3 – 14 days, commonly 4 – 7 days. Travellers who return from affected areas and feel unwell should seek medical advice promptly, and provide travel details to doctor.

For details, please refer to the factsheet of Dengue fever

Prevent vector-borne diseases, safeguard our health

Take indoor precaution, enjoy a vector-free environment

Take preventive measures against vectors, enjoy safe outing

Prevent bites and stings during travel, have a nice trip

Smart tips for driving vectors away

Information of local dengue fever cases in 2018
Locations of the residences and local movements of local dengue fever cases in 2018

Since 14 August 2018, the Centre for Health Protection (CHP) of the Department of Health has confirmed 26 local dengue fever (DF) cases, as of 25 August 2018, 5:00 p.m.

The dates of symptom onset of the 26 patients ranged between 31 July and 22 August 2018 (Figure 1). They live in Highland Park (Kwai Tsing), Kwai Shing West Estate (Kwai Tsing), Hillside Road (Cheung Chau), Tsui Chuk Garden (Wong Tai Sin), Wing Yiu Street (Kowloon City), Tak Long Estate (Kowloon City), Portland Street (Yau Tsim Mong), Tung Tau (II) Estate (Wong Tai Sin), Tin Ma Court (Wong Tai Sin), Shanghai Street (Yau Tsim Mong), Greenfield Garden, (Kwai Tsing), Chuk Yuen (South) Estate (Wong Tai Sin), Tin Wang Court (Wong Tai Sin), Chuk Yuen (North) Estate (Wong Tai Sin), Tsan Tuen Road (Cheung Chau), San Hing Street (Cheung Chau), Jade Villa (Sai Kung), Fa Peng Road (Cheung Chau), Ki Lun Tsuen (Yuen Long), Metro Town Phase II (Le Point) (Sai Kung), Lung Tsai Tsuen (Cheung Chau), Sai Wan Road (Cheung Chau) and Charming Garden (Yau Tsim Mong) respectively (Figure 2).

Figure 1. Date of symptoms onset and local movement of cases

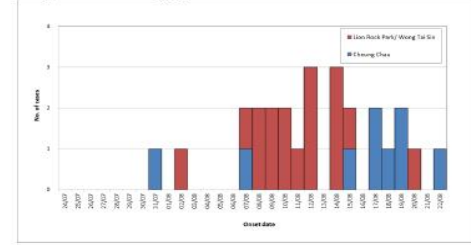


Figure 2. Locations of the residences and local movement of cases



Locations of the 26 local cases are listed below.

| Case No. | Workplace address | Local during incubation period | Local movement |
|----------|------------------------------------|--------------------------------|--|
| 1 | Highland Park, Kwai Tsing | NA | Sai To Wan Recreation Ground, Lam Tin; Lion Rock Park Baseball Field |
| 2 | Shing Tung West Estate, Kwai Tsing | NA | Clear Water Bay Second Beach; Wong Tai Sin MTR station |
| 3 | Cheung Chau | NA | Mainly stayed at home |
| 4 | Lion Rock Park, Kwai Tsing | NA | Lion Rock Park (Elderly Fitness Corner); Sheung Fung Street Market near Fung Wong San Tsuen |
| 5 | Portland Street, Kowloon City | NA | Lion Rock Park Barbecue Area |
| 6 | Wing Yiu Street, Kowloon City | Lion Rock Park | Lion Rock Park |
| 7 | Yau Tsim Mong | NA | Lion Rock Park Barbecue Area |
| 8 | M/70-year-old | 8 August 2018 | Fu Tung House, Tung Tau (II) Estate, Wong Tai Sin; NA; Lion Rock Park Reunification Pavilion |
| 9 | M/55-year-old | 9 August 2018 | Chun Sing House, Tin Ma Court, Wong Tai Sin; NA; Lion Rock Park |
| 10 | M/71-year-old | 10 August 2018 | Block 3, Tsui Chuk Garden, Wong Tai Sin; NA; Lion Rock Park |
| 11 | F/40-year-old | 14 August 2018 | 299 Shanghai Street, Yau Tsim Mong; NA; Lion Rock Park Barbecue Area |
| 12 | M/55-year-old | 10 August 2018 | Tower 4 Greenfield Garden, Kwai Tsing; Lion Rock Park; Lion Rock Park |
| 13 | F/65-year-old | 12 August 2018 | Chui Yuen House, Chuk Yuen (South) Estate, Wong Tai Sin; Lion Rock Park; Lion Rock Park |
| 14 | F/69-year-old | 14 August 2018 | Wang Mei House, Tin Wang Court, Wong Tai Sin; NA; Lion Rock Park |
| 15 | M/61-year-old | 12 August 2018 | Tung Yuen House, Chuk Yuen (North) Estate, Wong Tai Sin; NA; Lion Rock Park |
| 16 | M/52-year-old | 15 August 2018 | Tsan Tuen Road, Cheung Chau; NA; Fa Peng Road, Cheung Chau |
| 17 | M/59-year-old | 17 August 2018 | San Hing Street, Cheung Chau; NA; Fa Peng Road, Cheung Chau |
| 18 | F/43-year-old | 14 August 2018 | Wing Yuen House, Chuk Yuen (South) Estate, Yau Tsim Mong; NA; Lion Rock Park |

<https://www.chp.gov.hk/en/features/38847.html>

Risk communication with healthcare professionals and institutions

- Letters to doctors and hospitals issued on 15 and 20 August
 - To alert them to the latest situation
 - To remind them to enhance surveillance
- Letters to schools and institutions issued on 15 and 20 August
 - To remind them to step up mosquito control and prevention measures

Risk communication with relevant government B/ D, & at the district level

- Pest Control Steering Committee (PCSC)
 - Informed PCSC Members about the local DF cases
 - Attended special PCSC meetings on 17 and 21 August to report the details of the local DF cases and its risk assessment
- Ad hoc inter-departmental meetings
 - Attended ad hoc inter-departmental meetings on 20, 24, 27 and 29 August to report the latest situation and risk assessment
- Emails to District Councils, Healthy Cities Projects and non-governmental organisation to solicit their support in disseminating health messages to the public

Risk communication with other health authorities

- Informed Mainland, Guangdong and Macau health authorities about the local DF cases and updates
- Informed the World Health Organization Regional Office for the Western Pacific about the local DF cases and updates

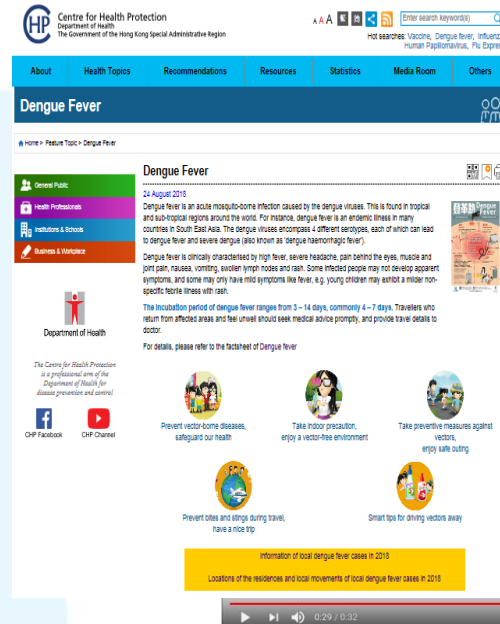
Port health measures

- Continue existing preventive measures
 - Monitoring hygiene conditions and control of mosquito breeding sites at the airport, all sea and land boundary control points (BCPs)
 - Regular inspection of cross-boundary conveyances
 - Meetings with FEHD to review the Ovitrap Index and enhance mosquito control measures
- Step-up measures
 - Wrote to the Travel Industry Council of Hong Kong and reminded the tourist industry of raising awareness on anti-mosquito measures among outbound travellers during travel
 - Stepped up on health promotion at all BCPs including the distribution of promotion leaflets to travellers

Public education

- CHP has enhanced public health education through:

- Designated website
- Television and radio stations
- CHP Facebook Fanpage
- CHP YouTube Channel
- 24-hr health education hotline
- GovHK notification app
- Media interviews



- Update relevant stakeholders of disease status

- Emails sent to all government bureaux/departments, transport operators, hotel industry, Housing Authority, Housing Society, property management associations, private clinics, Viu TV, the LINK and ethnic minority groups

Conclusions

- This is the first local outbreak of dengue fever of this scale since the major local outbreak in Ma Wan in 2002
- The situation is evolving and it is possible that further cases are occurring in the community

Thank you