

# Communicable Diseases

## WATCH



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### FEATURE IN FOCUS

## Latest situation of dengue fever in Hong Kong

*Reported by Dr Jess YIM, Medical and Health Officer, Enteric and Vector-borne Disease Office, Surveillance and Epidemiology Branch, CHP.*

In Hong Kong, dengue fever (DF) has been a notifiable disease since March 1994. From 2008 to 2017, the Centre for Health Protection (CHP) of the Department of Health recorded a total of 806 DF cases, with the annual number of cases ranging between 30 and 124. Local cases had been recorded in 2010 (four cases) and each year from 2014 to 2017 (one to four cases per year). In 2018 (as of August 29), CHP recorded 89 DF cases, including 27 local and 62 imported cases.

### The local outbreak of DF in 2018

The first four local DF cases in 2018 were notified to CHP on August 14. Epidemiological investigations and control measures were carried out immediately. Subsequently, more local cases were recorded. From August 14 to 29, a total of 27 cases were confirmed. The 27 cases involved 16 males and 11 females, with ages ranging from 17 to 84 years (median: 55 years). Their dates of symptom onset ranged between July 31 and August 22 (Figure 1). Fever was the commonest presenting symptom (26 cases, 96.3%), followed by myalgia (22 cases, 81.5%), headache (19 cases, 70.4%), rash (15 cases, 55.6%) and arthralgia (13 cases, 48.1%). Twenty-three patients (85.2%) required hospitalisation. All patients have remained in stable condition and there were no severe cases so far.

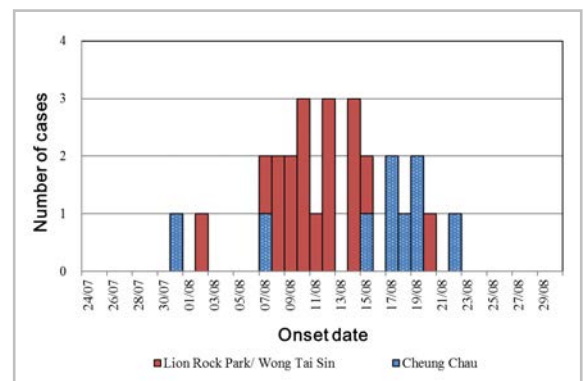


Figure 1 - Epidemic curve by date of onset of symptom (N=27).

While the 27 cases lived in various districts in Hong Kong, epidemiological investigations found that they were linked to two separate clusters, one in Lion Rock Park/ Wong Tai Sin (18 cases) and the other in Cheung Chau (nine cases). Among the 27 cases, 17 had been to the Lion Rock Park during the incubation period, including four patients who worked at the park and another 13 patients visiting the park. One patient reported that he had not visited Lion Rock Park but had visited the vicinity of Wong Tai Sin MTR Station during the incubation period. Among the remaining nine cases, seven live in Cheung Chau while the other two had visited Cheung Chau during the incubation period (Figure 2). The genetic sequencing results were compatible with the epidemiological findings.



Figure 2 - Locations of the residences and local movements of the 27 cases.

### Actions taken to control the outbreak

Upon notification and laboratory confirmation of the local DF cases, CHP immediately commenced epidemiological investigations. CHP interviewed patients for their local movements both during the incubation period and after symptoms onset so as to inform promptly the Food and Environmental Hygiene Department for vector investigation and mosquito control. CHP also conducted site visits and field investigations by questionnaire surveys at the patients' residences for active case finding and arranging blood tests. Health talks were organised to educate the public on mosquito control and preventive measures. A telephone hotline (2125 1122) has been set up by CHP since August 14, 2018 to facilitate surveillance and answer public enquiry. Persons who have been to places visited by the patients during their incubation period or after onset of symptoms were advised to call the CHP's hotline for laboratory investigation or referral as appropriate.

As Lion Rock Park was identified to be a place with active transmission in this outbreak, it has been closed since the evening on August 17. Members of the public were advised not to visit Lion Rock Park during the closure period in order to prevent contracting DF. Moreover, scientific studies have shown that infected persons can transmit the virus to mosquitoes through mosquito bites even if they remain asymptomatic or before their onset of symptoms, leading to further spread of the disease<sup>1,2</sup>. Hence, people who had visited Lion Rock Park were advised to apply insect repellent for 14 days upon their last visit. Those with DF symptoms were advised to seek medical advice as early as possible. Meanwhile, people who reside in or visit Cheung Chau should also be advised to apply insect repellent during their stay and continue applying for 14 days after their last day of stay to prevent infection and secondary spread.

CHP has enhanced the detection of suspected DF cases with the Hospital Authority (HA) through the activation of an electronic reporting platform "e-Dengue" on August 16, 2018 to allow prompt monitoring and review of suspected cases for early public health investigation. Doctors are requested to notify CHP and HA when a laboratory test request for dengue fever is made.

Press stand-ups and media interviews were conducted to keep the public informed of the latest situation. CHP has issued letters to local doctors and hospitals to alert them to the latest situation of local DF and remind them to enhance surveillance. CHP has also issued letters to schools and institutions to remind them to step up mosquito control and prevention measures. A mini-web on the CHP website was set up to provide the latest information, locations of the residences and local movements of the local DF cases. CHP has enhanced public health education through a designated website, television and radio stations. A variety of health education materials were produced to raise public awareness.

### Risk assessment of the current situation and health advice to the public

This is the first local outbreak of DF of this scale since the major local outbreak in Ma Wan in 2002. Two sources have been identified and the situation is evolving. It is possible that further cases are occurring in the community. Prompt, continuous, intensive and effective anti-mosquito operation must be carried out at this stage to prevent DF from further spread and becoming an endemic disease.

Members of the public can help in the prevention of DF by taking part in mosquito control actions and adopting personal protective measures against mosquito bites. The following preventive measures should be taken to prevent accumulation of stagnant water and eliminate mosquito breeding sites:-

- ◆ Thoroughly check all gully traps, roof gutters, surface channels and drains to prevent blockage;
- ◆ Scrub and clean drains and surface channels with an alkaline detergent compound at least once a week to remove any deposited mosquito eggs;
- ◆ Properly dispose of refuse, such as soft drink cans, empty bottles and boxes, in covered litter containers;
- ◆ Completely change the water of flowers and plants at least once a week. The use of saucers should be avoided if possible;
- ◆ Level irregular ground surfaces before the rainy season; and
- ◆ Avoid staying in shrubby areas.

Members of the general public are also advised to protect themselves from mosquito bite by taking the following measures:-

- ◆ Wear loose, light-coloured, long-sleeved tops and trousers, and apply effective mosquito repellent containing DEET to exposed parts of the body and clothing;
- ◆ Use mosquito screens or bed nets when the room is not air-conditioned; and
- ◆ Place anti-mosquito devices near entrances such as windows and doors to prevent mosquitoes from entering indoor.

More information on preventive measures could be found in the website of CHP at <http://www.chp.gov.hk/en/content/9/24/19.html>. For the latest situation of the DF outbreak, please visit the designated DF website at <https://www.chp.gov.hk/en/features/38847.html>.

### References

- <sup>1</sup>Duong V, Lambrechts L, Paul RE, et al. Asymptomatic humans transmit dengue virus to mosquitoes. *Proc Natl Acad Sci U S A*. 2015 Nov 24;112(47):14688-93.
- <sup>2</sup>Ten Bosch QA, Clapham HE, Lambrechts L, et al. Contributions from the silent majority dominate dengue virus transmission. *PLoS Pathog*. 2018 May 3;14(5):e1006965.

## Stay Vigilant Against Communicable Diseases in the New School Year

*Reported by the Surveillance Section, Communicable Disease Division, Surveillance and Epidemiology Branch, CHP.*

Child care centres, kindergartens and schools are vulnerable places for transmission of infectious diseases among students. Moreover, young children may not be able to observe proper personal hygiene and this facilitates the spread of communicable diseases through the close person-to-person contact. Seasonal influenza, hand-foot-mouth disease (HFMD), chickenpox and scarlet fever (SF) are common infections that cause outbreaks in school settings.

It is important for staff and students to observe good personal and environmental hygiene to prevent spread of infectious diseases. In addition, they should also take anti-mosquito measures for prevention of dengue fever.

### Seasonal influenza

Influenza viruses mainly spread through droplets when infected people cough, sneeze or talk. The infection may also spread by direct contact with the secretions of infected persons. Symptoms may include fever, cough, sore throat, runny nose, muscle pain, fatigue and headache; some may also have vomiting and diarrhoea. The surveillance data of the Centre for Health Protection (CHP) of the Department of Health showed that the overall local influenza activity is currently at a low level, but outbreaks of influenza-like illness in schools may increase after the start of the new school year.

Schools and parents should continue to stay vigilant against influenza as it can cause serious illness even in healthy children. All persons aged six months or above except those with known contraindications are recommended to receive influenza vaccine to protect themselves against seasonal influenza and its complications, as well as related hospitalisations and deaths.

In 2018/19, the Government will continue to provide free and subsidised seasonal influenza vaccination to children aged between six months and under 12 years through the Government Vaccination Programme (GVP) and the Vaccination Subsidy Scheme (VSS) respectively. In addition, CHP will launch the “School Outreach Vaccination Pilot Programme” at primary schools and the “Enhanced VSS Outreach Vaccination” at primary schools, kindergartens and child care centres to further encourage schools to arrange outreach vaccination activities for students.

### Hand-foot-mouth disease (HFMD)

HFMD is a common disease in children caused by enteroviruses such as coxsackie viruses and enterovirus 71 (EV71). In Hong Kong, the usual peak season for HFMD and EV71 infection is from May to July and a smaller peak may also occur from October to December. In the 2018 summer peak, the HFMD activity started to increase in May, peaked in June and returned to baseline level in mid-August. As of mid-August this year, the number of cases of EV71 infection recorded was lower but that of severe enterovirus infections other than EV71 and poliovirus was higher than that in the same period of last year. It is expected that some sporadic institutional outbreaks of HFMD may occur after the start of the new school year.

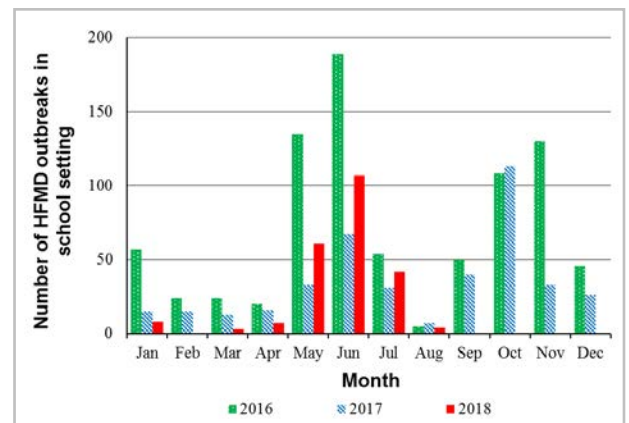


Figure 1 – Number of HFMD outbreaks in school settings, 2016-2018 (as of August 27, 2018).

### Chickenpox

Chickenpox is one of the commonest childhood viral infections and is highly contagious. In Hong Kong, it is also the most commonly reported notifiable infectious disease. There are two seasonal peaks: the number of chickenpox cases usually starts to rise in October and peaks in December and January; while a smaller peak is also observed in June and July. Institutional outbreaks of chickenpox occur commonly in the community with the majority in pre-primary institutions (including kindergartens, child care centres, etc.) as well as primary and secondary schools. Chickenpox outbreaks in school settings showed substantial increase from September onwards following the seasonal trend in the past few years.

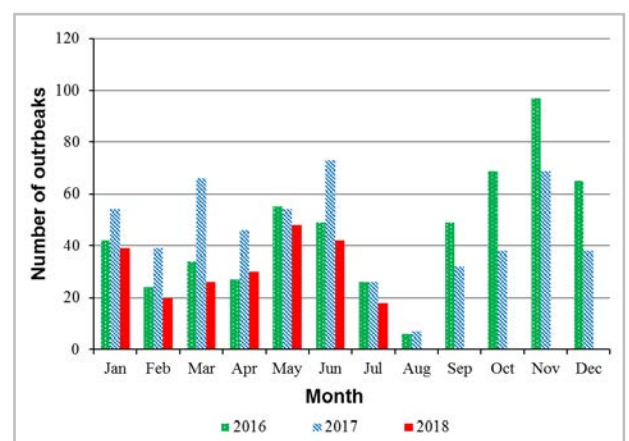


Figure 2 – Number of chickenpox outbreaks in school settings, January 2016 to July 2018 (as of August 17, 2018).

### Scarlet fever (SF)

SF is a bacterial infection caused by Group A Streptococcus. It mostly affects children. SF is transmitted through either respiratory droplets or direct contact with infected respiratory secretions. The local SF activity is usually higher from November to March and from May to June. It is currently at a low level but is expected to increase after the start of the new school year.

### Dengue fever (DF)

DF is an acute febrile viral illness with symptoms such as high fever, severe headache, pain behind the eyes, rash, muscle and joint pain. The disease is transmitted by mosquitoes. The symptoms of first infection are usually mild, but subsequent infections from other serotypes of dengue virus may result in severe dengue and progress to circulatory failure, shock and even death. Since August 14, 2018, 27 local cases of DF have been recorded in Hong Kong this year (as of August 28).

Schools are advised to take stringent preventive measures in order to prevent accumulation of stagnant water and eliminate mosquito breeding sites. Staff and students are also advised to protect themselves from mosquito bite by taking measures including:

- ◆ Wearing loose, light-coloured, long-sleeved tops and trousers, and apply effective mosquito repellent containing DEET to exposed parts of the body and clothing;
- ◆ Using mosquito screens or bed nets when the room is not air-conditioned; and
- ◆ Placing anti-mosquito devices near entrances such as windows and doors to prevent mosquitoes from entering indoor.

To prevent outbreaks of communicable diseases, students/ children who develop skin rash, fever, acute respiratory symptoms, diarrhoea or vomiting are strongly advised not to attend school and should seek medical advice. Besides, child care centres, kindergartens and schools should take measures to prevent the spread of communicable diseases, e.g. remind students/ children and staff members to observe good personal, food and environmental hygiene, avoid sharing clothing and slippers among students/ children, etc.

Early detection of the occurrence of communicable disease in schools helps to prevent the diseases' spread. Child care centres, kindergartens and schools should:

- ◆ Report suspected/ confirmed cases or outbreaks of communicable diseases among children/staff to the CHP\* timely for epidemiological investigation and outbreak control;
- ◆ Keep personal health record and body temperature for every child properly;
- ◆ Keep sick leave records of staff properly;
- ◆ Ensure adequate hand washing facilities and personal protective gear in the schools/ centres; and
- ◆ Communicate closely with the parents/ guardians to get their support to implement infection control measures.

Children, students or staff members with symptoms of infectious disease (such as fever, influenza-like illness, diarrhoea, vomiting, skin rash, etc.) should not attend school. With the collaborative support from child care centres, kindergartens and schools in the prevention of communicable disease outbreaks in school settings, we can together safeguard a healthy and supportive learning environment for our children.

For the latest information on communicable diseases, please visit the CHP's webpages below:

- ❖ Influenza (<https://www.chp.gov.hk/en/features/14843.html>);
- ❖ Chickenpox (<https://www.chp.gov.hk/en/healthtopics/content/24/15.html>);
- ❖ HFMD (<https://www.chp.gov.hk/en/features/16354.html>);
- ❖ Scarlet fever (<https://www.chp.gov.hk/en/healthtopics/content/24/41.html>);
- ❖ Dengue fever (<https://www.chp.gov.hk/en/features/38847.html> and [https://www.fehd.gov.hk/english/pestcontrol/library/pdf\\_pest\\_control/mosquito\\_school.pdf](https://www.fehd.gov.hk/english/pestcontrol/library/pdf_pest_control/mosquito_school.pdf)); and
- ❖ Guidelines on Prevention of Communicable Diseases in Schools/ Kindergartens/ Kindergartens-cum-Child Care Centres/ Child Care Centres ([http://www.chp.gov.hk/files/pdf/guidelines\\_on\\_prevention\\_of\\_communicable\\_diseases\\_in\\_schools\\_kindergartens\\_kindergartens\\_cum\\_child\\_care-centres\\_child\\_are\\_centres.pdf](http://www.chp.gov.hk/files/pdf/guidelines_on_prevention_of_communicable_diseases_in_schools_kindergartens_kindergartens_cum_child_care-centres_child_are_centres.pdf)).

\*Fax: 2477 2770/ Telephone: 2477 2772

## NEWS IN BRIEF

**A sporadic case of psittacosis**

On August 9, 2018, the Centre for Health Protection (CHP) recorded a sporadic case of psittacosis affecting a 35-year-old man with good past health. He presented with fever, cough with sputum, running nose, sore throat, headache and myalgia since August 2. He attended the Accident and Emergency Department of a public hospital on August 5 and August 6 and was admitted for management. His chest X-ray showed left lower zone haziness and the diagnosis was pneumonia. His nasopharyngeal aspirate collected on August 7 was tested positive for *Chlamydophila psittaci* DNA by polymerase chain reaction (PCR). He was treated with (a course of) antibiotics and his condition improved. He was discharged on August 10. Epidemiological investigation revealed that the patient kept a newly bought parrot at home since mid-July which died in late July. The patient did not know the cause of its death and reported that the bird was well all along. Home visit was conducted and found that the patient kept another five birds at home which were clinically well. Clinical and environmental specimens were taken for investigation. His home contacts remained asymptomatic. Separately, the patient had travelled to Shenzhen for a day trip on July 28 with two friends who remained asymptomatic.

**A domestic cluster of pertussis**

On August 16, 2018, CHP recorded a domestic cluster of pertussis affecting an one-month-old boy and his mother. The boy had presented with cough, runny nose, post-tussive vomiting and reduced appetite since August 5 and was admitted to a public hospital on August 12. His pernasal swab was tested positive for *Bordetella pertussis*. He was treated with antibiotic. His mother was a 27-year-old female who was found to have cough since July 16 upon contact tracing. She was referred to the Accident and Emergency Department of a public hospital and was admitted on August 16. Her pernasal swab was tested positive for *Bordetella pertussis*. She was treated with antibiotic.

Both cases had no travel history during incubation period. They remained stable all along and were discharged on August 22 and August 18 respectively. The boy was not yet due for his first dose of diphtheria, tetanus, acellular pertussis and inactivated poliovirus (DTaP-IPV) vaccine while his mother had completed DTaP-IPV vaccine according to the Immunisation Programme.

**A sporadic case of necrotising fasciitis caused by *Vibrio vulnificus***

On August 16, 2018, CHP recorded a sporadic case of necrotising fasciitis caused by *Vibrio vulnificus* affecting a 71-year-old man with underlying illnesses. He presented with fever, left forearm pain, swelling and erythema on August 12, and was admitted to a public hospital on August 13. The clinical diagnosis was necrotising fasciitis. Multiple surgical debridement operations were performed and he required intensive care after the operation. His blood and left forearm deep fascia tissue specimens collected on August 13 grew *Vibrio vulnificus*. He was treated with antibiotics and his condition was critical. Epidemiological investigation revealed that the patient swam and fished at Tai Po Waterfront Park on August 12. There was no history of wound or injury. He had no recent travel history. He lives with his wife, son, daughter-in-law and two grandsons who remained asymptomatic.

**A possible sporadic case of Creutzfeldt-Jakob disease**

On August 17, 2018, CHP recorded a possible case of sporadic Creutzfeldt-Jakob disease (CJD) affecting a 68-year-old woman with underlying illnesses. She had presented with limb numbness and slow mental response since September 2017 and was admitted to a public hospital on April 27, 2018. She was readmitted to the hospital on July 13, 2018 for neck pain. Upon admission, she was found to have progressive dementia, visual disturbance, pyramidal and extrapyramidal signs, dysarthria, dysphasia and dysphagia. She had no known family history of CJD and no reported risk factors for iatrogenic or variant CJD were identified. She was classified as a possible case of sporadic CJD.

**A sporadic case of listeriosis**

On August 23, 2018, CHP recorded a sporadic case of listeriosis affecting a 35-year-old woman with underlying illnesses. She was admitted to a public hospital for management of her underlying illnesses on August 14. She had developed seizure, fever and diarrhoea after admission on August 14. Her condition deteriorated and was subsequently transferred to Intensive Care Unit on August 20 for further management. Her blood culture collected on August 20 and cerebrospinal fluid collected on August 22 grew *Listeria monocytogenes*. She was treated with antibiotics. Her condition was critical (as of August 28). She had history of sushi consumption during the incubation period. She had no recent travel history and her household contacts remained asymptomatic.

**A sporadic confirmed case of acute Q fever**

On August 23, 2018, CHP recorded a confirmed case of acute Q fever affecting a 49-year-old male with underlying illness. He has presented with on and off fever and dizziness since July 14, and was admitted to a public hospital on July 19. His blood test showed elevated liver transaminase and he was managed as pyrexia of unknown origin with empirical antibiotics given. His condition was stable and he was discharged on Jul 24. Paired sera collected on July 25 and August 16 showed a four-fold rise in *Coxiella burnetii* (phase II) polyvalent antibody titre. His clinical diagnosis was acute Q fever and he was put on long term antibiotics. The patient worked in marble engineering industry in Guangdong who reported dusty environment in his workplace while his colleagues there were asymptomatic. He had no history of other high risk exposure. He mainly stayed in Guangdong and only stayed in Hong Kong about two days per week and his home contact in Hong Kong was asymptomatic.