For discussion
on 12 April 2016

LegCo Panel on Food Safety and Environmental Hygiene

Anti-Mosquito Campaign 2016

Purpose

Effective mosquito control requires sustained efforts on the part of all parties concerned, particularly at a time when we are facing the added threat posed by Zika Virus Infection ("ZVI"). This paper briefs Members on the Anti-mosquito Campaign 2016, including the concerted efforts that are being made by Bureaux / Departments to prevent and control mosquito breeding and the emphasis we place on encouraging cross-sector collaboration and community participation.

Background

2. Apart from causing nuisance to humans, some species of mosquitoes may pose threat to public health as vectors of diseases, such as dengue fever ("DF") and Japanese encephalitis ("JE"). In recent months, the rapid spreading of ZVI in other parts of the world has once again brought to the forefront the importance of effective anti-mosquito work.

3. In Hong Kong, the prevailing species *Aedes albopictus* can spread DF. The principal type of mosquito that transmits JE is *Culex tritaeniorhynchus*. *Aedes aegypti*, which is considered the most important vector for Zika virus transmission to humans, is currently not found in Hong Kong; however, *Aedes albopictus* is also a potential vector of Zika virus. Hence, we must stay vigilant and keep up the effectiveness of our anti-mosquito work.

4. For DF, subsequent infections with other serotypes of dengue virus are more likely to result in severe dengue, which is a potentially fatal complication of DF. For ZVI, the current major concern is the possible

association with adverse pregnancy outcome (microcephaly)[1] and neurological and autoimmune complications such as Guillain-Barré Syndrome[2] which could severely affect a child's brain development, respiratory functions and self-care ability. At present, there is no vaccine on the market against DF or ZVI. Hence, keeping the environment clean to eliminate mosquito breeding grounds and avoiding mosquito bites are the only ways to prevent infection.

5. In fact, in response to the high incidence of DF cases occurring in neighbouring areas, mosquito prevention and control measures have been stepped up in the 18 districts continuously in the past two years. With the added threat posed by ZVI, the Government has been making all-out efforts to step up its work. A paper presented to the LegCo Panel on Health Services on 15 February 2016 (at **Annex A**) sets out the background information on prevention and control measures against ZVI under the health regime. This paper sets out the concerted efforts that are being made by the Food and Environmental Hygiene Department ("FEHD") and other Bureaux / Departments to prevent and control mosquito breeding, and the territory-wide anti-mosquito campaign that has been set in train to enhance public awareness of the potential risk of mosquito-borne diseases and encourage cross-sector collaboration and community participation.

Dengue Vector Surveillance Programme

6. Since 2003, FEHD has put in place an enhanced dengue vector surveillance programme for monitoring the distribution of *Aedes albopictus* at selected areas, and for evaluating the effectiveness of mosquito prevention

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[1] Microcephaly is an uncommon condition whose causes can be genetic or environmental (related to toxicity, radiation or infection). It is defined as a condition at birth in which the newborn's head circumference is less than expected for age and sex. Microcephaly can present as an isolated condition or may be associated with other symptoms, such as convulsions, developmental delays or feeding difficulties.

[2] Guillain-Barré syndrome (GBS) is a disorder in which the body's immune system attacks part of the peripheral nervous system. GBS can be triggered by a variety of infections, including dengue and chikungunya viruses. The syndrome can affect the peripheral nerves that control muscle strength as well as those that transmit feelings of pain, temperature and touch. This can result in muscle weakness and loss of sensation in the legs and/or arms.

and control work carried out by various parties. The surveillance data collected also provide an informed basis for timely adjustment to our mosquito control strategies and measures.

7. Under the dengue vector surveillance programme, small plastic containers, known as ovitraps, are placed at selected locations for detecting the larval breeding rate of Aedine mosquitoes. The ovitrap index is the percentage of ovitraps that are found to have positive larval breeding result. Two different indices, namely the Area Ovitrap Index for *Aedes albopictus* ("AOI") and the Monthly Ovitrap Index for *Aedes albopictus* ("MOI"), are recorded. AOI indicates the extensiveness of the distribution of Aedine mosquitoes in the surveyed area while MOI reflects the extensiveness of *Aedes albopictus* throughout the territory. Starting from 2004, the surveillance programme has been extended to cover all major port areas. The Port Monthly Ovitrap Index for *Aedes albopictus* ("PMOI") is enumerated to reflect the overall monthly situation of mosquito breeding in the port areas. Since October 2015, FEHD has enhanced the dengue vector surveillance programme which covers eight more areas, namely Tin Hau, Tsim Sha Tsui East, Lok Fu West, Kai Tak North, Ngau Chi Wan, Kowloon Bay, Tseung Kwan O North and Tsing Yi North. The Tseung Kwan O area was renamed as "Tseung Kwan O South" and the Tsing Yi area was renamed as "Tsing Yi South". A total of 52 areas in the community are now covered under the surveillance programme. With effect from January 2016, two more ovitraps have been set up in the surveyed area "Ma On Shan" for covering Tai Shui Hang[3] and four more ovitraps have been added in the surveyed area "Kwun Tong" for covering Sau Mau Ping[4].

8. Apart from announcing all the indices each month on FEHD's website and through press release, a rapid alert system targeting the management offices of residential premises, social welfare facilities, schools, construction sites and utilities companies has been enhanced to cover each of the 52 surveillance areas to ensure that anti-mosquito measures are taken promptly when the AOI of a particular area reaches the alert level of 20%. Whenever the AOI reaches 20%, subscribers to the system whose premises

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[3] In 2015, there was one local DF case who worked in Tai Shui Hang.

[4] In 2015, there was one unclassified DF case (originally a suspected local DF case) who lived and worked in Sau Mau Ping.

are situated within the surveillance area concerned will be individually notified by the relevant Bureaux / Departments upon the publication of the AOI. Subscribers will be invited to post up specially designed notices in the common parts of their premises, alerting occupants and management staff of the need to take mosquito preventive and control actions promptly.

MOIs

9. The MOIs recorded in 2015 were in general lower than those in previous years. A chart showing the trend is at **Annex B**. The MOIs recorded in the first two months of 2015 were 0%. The MOIs rose from 0.2% in March to 11.7% in June, which was the peak of the year. From July onwards, the MOIs steadily declined. The MOI movements in 2015 were in general similar to the pattern in previous years.

10. The MOI stayed at 0% in January and February 2016.

AOIs

11. In 2015, the highest AOI of 33.3% was recorded in Lam Tin in May, followed by 26.9% in Tai Po in September. The monthly AOIs for all 52 areas of surveillance are provided at **Annex C**. In total, 11 areas had recorded AOIs reaching or exceeding the alert level of 20% on at least one occasion. In response, FEHD convened district task force meetings and activated the rapid alert system for a total of 13 times to step up the co-ordination of government efforts in mosquito control and to mobilise community participation in anti-mosquito efforts.

PMOIs

12. In 2015, the ovitrap indices for all six groups in the port areas were below 20%. The highest ovitrap index of 11.5% was recorded in the group of Private Cargo Working Areas in June (see **Annex D**). The PMOIs in 2015 ranged from the lowest of 0% (in January to March) to the highest of 2.4% (in June). The PMOI movements showed a similar pattern as in previous years. A chart showing the trend is at **Annex E**.

13. The PMOIs in the port areas from January to February 2016 were 0%.

14. The dengue vector surveillance in all the 29 land and sea ports have been stepped up from once every month to once every fortnight since November 2015. The port dengue vector surveillance programme has been launched in Tuen Mun Ferry Terminal on a biweekly basis in February 2016 after the terminal re-opened on 28 January 2016. Port dengue vector surveillance at Hong Kong International Airport is conducted on a weekly basis and has been extended to the newly opened Mid Field Concourse in March 2016. Tests on dengue virus would be conducted on dengue vectors collected from ovitraps set in all port areas. FEHD will continue to work closely with the relevant Bureaux / Departments and organisations, including the Airport Authority, the Mass Transit Railway Corporation and freight forwarding companies, in strengthening the anti-mosquito work in the port areas.

JE Vector Surveillance Programme

15. The JE vector surveillance carried out in Yuen Long from April to October each year has been further extended to cover strategic locations in Tuen Mun, Sai Kung, North, Sham Shui Po, Southern and Kwai Tsing districts throughout the year since October 2015. Trapping of adult mosquitoes would be conducted in all the selected locations monthly throughout the year for test on JE virus. A total of 1 600 samples of the principal vector (*Culex tritaeniorhynchus)* were collected during the period from April to December 2015. They were all found negative for JE virus.

Need for Concerted Actions against DF

16. In 2015, there were two local, 110 imported and two unclassified DF cases in Hong Kong[5]. In 2015, DF cases remain high in

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[5] Number of DF cases from 2012 to 2014 is given below:

Year	Local DF Cases	Imported DF Cases
2012	0	53
2013	0	103
2014	3	109

neighbouring places (see **Annex F**) that are frequently visited by Hong Kong residents, including Singapore, Taiwan, Malaysia, Thailand etc. Up to 31 March 2016, 22 cases have been confirmed in Hong Kong this year, all of which are imported cases. Concerted efforts are required to prevent outbreak of the disease since once it has taken root, the number of cases may go up significantly and the trend could be irreversible.

17. The incubation period of DF ranges from three to 14 days, commonly four to seven days. Although symptoms of first DF infection are usually mild, if the person is infected with other serotypes of dengue viruses in subsequent years, it is more likely to result in a serious complication, namely severe dengue (also known as dengue haemorrhagic fever). Failing proper treatment, the fatality rate could exceed 20 per cent.

18. At present, no vaccine for DF is registered in Hong Kong. The DH will continue to monitor and keep in view the development of vaccine with proven efficacy in preventing DF. The best preventive measures at present are to avoid mosquito bites and adopt measures to prevent mosquito breeding. The importance of upholding a full swing anti-mosquito campaign across the territory could not be over-emphasised.

Need for Concerted Actions against ZVI

19. Extensive international travel will increase the risk of imported ZVI cases in Hong Kong. Furthermore, since asymptomatic infection is very common and the potential vector, *Aedes albopictus* is widely present locally, there is a risk of local spread of imported infection in Hong Kong. To enhance surveillance of the ZVI, the Prevention and Control of Disease Ordinance (Amendment of Schedule 1) Notice 2016 was gazetted to add ZVI as a notifiable infectious disease with effect from 5 February 2016. The Scientific Committee on Vector-borne Diseases has reviewed and recommended the strategy for prevention and control of ZVI. The DH would regularly hold Inter-departmental Coordination Committee on Mosquito-borne Diseases meetings with relevant Bureaux / Departments to enhance the conduct of anti-mosquito measures, environmental hygiene, public health education and health advice on the prevention of ZVI and its complications. The DH is also maintaining close communication with the World Health Organization and health authorities of other places, including

Guangdong and Macau, on the surveillance of ZVI and monitoring the latest development elsewhere. The Alert Response Level under the Government's Preparedness and Response Plan for ZVI has also been activated. The DH will continue to furnish the public with advice on disease prevention, in the light of the latest prevailing circumstances and evolving scientific evidence.

Anti-mosquito Campaign 2016

20. Spearheaded by the Anti-Mosquito Steering Committee, Bureaux / Departments have reviewed the effectiveness of measures taken in tackling the mosquito problem, and discussed ways to enhance co-operation to intensify anti-mosquito work.

21. In addition to its own staff, FEHD's contractors provide a total of 266 teams of workers to do mosquito control and preventive work all over the territory. We have provided additional funding to FEHD for sustaining its anti-mosquito work throughout the winter of 2015. We will allocate additional resources to the Department in 2016 for its work in this aspect. In 2015, FEHD instigated 61 prosecutions against mosquito breeding in premises under the Public Health and Municipal Services Ordinance (Cap. 132), among which 29 involved construction sites and 32 involved other premises.

22. FEHD has launched a new Anti-mosquito Campaign in early 2016 ("the Campaign") in collaboration with relevant Bureaux / Departments to maintain the momentum. Bearing the theme "Prevent Japanese encephalitis and Dengue Fever - Act Now!", the Campaign is scheduled for implementation by phases as follows –

Phase I: 15 February 2016 – 18 March 2016
Phase II: 25 April 2016 – 1 July 2016
Phase III: 15 August 2016 – 21 October 2016

23. FEHD's pest control staff will step up inspection, preventive and control actions and publicity work during the Campaign. Mosquito breeding places will be eliminated or treated with larvicides. Potential breeding grounds and trouble spots identified by district pest control staff

will also be covered. Special attention will be paid to areas in close proximity to residential premises, schools, construction sites, illegal cultivation sites, hospitals, waterfront public and private cargo working areas, cross boundary check points, typhoon shelters and cross boundary ferry terminals. FEHD has been installing mosquito screens at the vent pipes of the septic tanks of private village houses since March 2016 as a proactive measure to prevent mosquito breeding in septic tanks. FEHD will also pay special attention to those areas which are prone to mosquito breeding, such as land filling sites in rural areas, and carry out inspections and take appropriate measures to prevent mosquito breeding. In addition, its professional staff will closely monitor the mosquito management approach adopted by other places, including advances in technology relating to the use of genetically modified mosquitoes to eliminate mosquitoes breeding.

24. Works sites, including sites for renovations and repairs, are risk areas for mosquito breeding. In recognition of this, the Home Affairs Department will provide assistance in drawing the attention of owners' corporations of those housing estates / buildings that are undergoing or will shortly undergo repairs / maintenance / renovation to the importance of implementing anti-mosquito measures for prevention and control purposes. In addition, the Development Bureau is encouraging, through contractors' association, sub-contractors of private projects to actively participate in anti-mosquito work. It will also consider strengthening the relevant penalty level under the existing regulatory mechanism. For owners' corporations serving estates under the Tenants' Purchase Scheme, the Housing Department will check whether anti-mosquito measures have already been included in the terms of management or cleansing contracts and if not, advise them to do so.

25. In gearing up for the upcoming rainy season, relevant Bureaux / Departments will deploy additional resources to anti-mosquito work and join hands to launch, from 18 April to 22 May, two rounds of intensive mosquito preventive and control exercises across the territory covering areas under their purview. Through the two exercises, actions will be taken to kill adult mosquitoes, clear stagnant water and conduct grass cutting to eliminate potential mosquito breeding grounds. With each of the two rounds of intensive mosquito prevention and control exercise lasting for two weeks, we hope that mosquitoes of a whole generation, including those

infected with DF, will be eliminated.

26. Community support is vital to the successful implementation of the Campaign. We will make use of a wide range of promotional channels, such as FEHD's website, posters, leaflets, Announcements in the Public Interest ("APIs"), VCDs and letters to target groups, for the purpose of encouraging community participation. We will review and revamp our APIs with a view to impressing the public about the risks of DF and ZVI. We will also organise a variety of events and activities, such as roving exhibitions at major shopping malls of housing estates, outreaching health talks, as well as games and theme exhibitions at the Health Education Exhibition and Resource Centre of FEHD. Available on FEHD's website is a "Guidebook on Control and Prevention of Mosquito Breeding" which gives illustrations on potential mosquito breeding places and advice on how best to eliminate them.

27. The District Councils will be invited to participate in the Campaign, including organising anti-mosquito activities at the district level. Relevant Bureaux / Departments will play an active role in the Campaign through the conduct of anti-mosquito activities in places under their charge and actions to enlist community support for the campaign through their networks. We will also strengthen public education and publicity programmes in concert with the District Councils as well as organizations such as the Hong Kong Construction Association, the Occupation Safety and Health Council, the Pest Control Personnel Association of Hong Kong, school heads associations, and the Federations of Parent-Teacher Associations, for the purpose of enhancing public understanding of mosquito-borne diseases and the importance of mosquito control work. For example, stakeholders including relevant Bureaux / Departments as well as their contractors had been briefed on the importance of mosquito prevention and control in the bi-monthly Kai Tak Site Coordination Meeting convened by the Civil Engineering and Development Department in March 2016.

28. The Anti-mosquito Plan for 2016 of all relevant Bueaux / Departments is at **Annex G**. The new measures introduced recently or will be introduced in the Plan for 2016 are listed at **Annex H**.

Support from the Community

29. We appeal to the community for enhanced efforts to inspect their homes and surroundings to remove potential breeding grounds. Members of the public and estate management bodies are well advised to keep drains free of blockage and fill up all holes to prevent puddles from forming. Should they come across mosquito-breeding spots that require attention, they may report to the relevant Bureaux / Departments via the 1823 hotline.

30. All local residents, be they in Hong Kong or travelling abroad, should take precautionary measures to prevent infection by vector-borne diseases as well as vector proliferation. They are advised to wear light-coloured, long-sleeved clothes and trousers, use insect repellents over exposed parts of the body when staying outdoors, and use mosquito screens or nets. Travellers returning to Hong Kong should seek medical advice if they have symptoms such as fever, severe headache or muscle and joint pain. They should also inform their doctor of their travel history.

Summary

31. Relevant Bureaux / Departments are acting in concert to fully implement mosquito prevention and control measures, and the relevant sectors and the community are also encouraged to chip in to help eliminate mosquito breeding. Members are invited to note the content of this paper.

Food and Health Bureau
Food and Environmental Hygiene Department
April 2016

LC Paper No. CB(2)836/15-16(03)

For information
on 15 February 2016

Legislative Council Panel on Health Services

Prevention and Control Measures against Zika Virus Infection

Purpose

This paper sets out the latest measures adopted by the Government to prevent and control Zika virus infection.

Background

2. Zika virus infection is a mosquito-borne disease caused by Zika virus. The virus was first isolated from a rhesus monkey in Zika forest of Uganda in 1947, and then from mosquitoes (i.e. Aedes africanus) in the same forest in 1948 and from humans in Nigeria in 1954.

3. Zika virus is primarily transmitted to humans through bites of Aedes mosquitoes. Symptoms typically begin 2-7 days after the bite of an infected mosquito. It can also be transmitted through sexual encounter. People infected with Zika virus will develop symptoms including mild fever, rash, muscle pain, joint pain, headache, retro-orbital pain and conjunctivitis, which last for a few days. There is no specific medication for the disease and symptomatic treatment is given to relieve discomfort. At present, around 70% to 80% per cent of infected people are asymptomatic and most infected people can recover fully.

4. Zika virus infection is endemic in some parts of Africa and Asia, and was first identified in the South Pacific after an outbreak on Yap Island in the Federated States of Micronesia in 2007. Prevalence of Zika virus infection has been detected in the Americas since 2014, with the outbreak of Zika virus infection in Brazil starting in mid-2015.

5. In Brazil, there were reports of microcephaly and other poor pregnancy outcomes in babies whose mothers had been infected with Zika while pregnant. On 28 November 2015, the Ministry of Health of Brazil established a relation between an increase in cases of microcephaly in newborns and Zika virus infection in the country's northeast area. According to a preliminary analysis of research carried out by the Brazilian authorities, the greatest risk of microcephaly and malformations appears to be associated with infection during the first trimester of pregnancy. With the support of the Pan American Health Organization / World Health Organization ("WHO") and other agencies, the health authorities are conducting research to clarify the cause, risk factors and consequences of microcephaly.

6. In response to the rapid spreading of the Zika epidemic, the WHO declared at the emergency meeting held on 1 February 2016 that the relationship between Zika virus infection and the recent cases of microcephaly in infants and other neurological disorders constituted a Public Health Emergency of International Concern and recommended the following preventive and control measures:

Transmission of Zika

- Enhancing surveillance of Zika virus infection and providing a standard definition of case notification and analysis of support areas at risk of transmission.

- Giving priority to the development of new diagnostic techniques for Zika virus to enhance surveillance, prevention and control.

- Enhancing risk communication with the countries at risk of Zita virus transmission to address public concern, encourage community engagement, improve case notification and ensure implementation of anti-mosquito and personal precautionary measures.

- Enhancing the publicity to remind the public to take anti-mosquito and personal precautionary measures to reduce the risk of Zika virus infection.

- Providing necessary advice for women of childbearing age, especially pregnant women, to reduce the risk of Zika virus infection.

- Providing counselling and follow-up service for vulnerable pregnant women based on the existing information and policies in the affected areas.

Long-term measures

- Research efforts should be intensified for Zika virus vaccine, treatment and diagnosis.

- In areas of known Zika virus transmission, the health care system should be prepared for the potential increase in cases of neurological syndrome and/or congenital malformations.

Travel measures

- There should be no restrictions on travel or trade with countries and areas with Zika virus transmission.

- Tourists should be provided with up-to-date information about the risk of Zika virus transmission in the areas concerned and appropriate precautionary measures so as to reduce the possibility of exposure to mosquito bites.

- Standard WHO recommendations should be followed to implement disinfection measures on aircrafts and at airports.

Sharing of information

- Health authorities of all places should ensure speedy and timely communication among each other. They should share important information about public health emergencies of international concern.

- Health authorities should quickly provide WHO with the epidemiological data on the increasing spread of Zika virus, including clinical data, data on virology and those related to microcephaly or Guillain-Barré Syndrome. This will help enhance international understanding of the situation so that international support for prevention and treatment of the disease will be better co-ordinated and priority can be accorded to further research and product development related to the disease.

Preventive and control measures

7. Zika virus is primarily transmitted to humans through bites of Aedes mosquitoes, and Aedes aegypti is considered the most important vector for Zika virus transmission to humans. Although Aedes aegypti is currently not found in Hong Kong, other Aedes mosquito species such as Aedes albopictus are also considered potential vectors. Since Aedes albopictus is widely present locally, there is a risk of secondary spread of imported infection in Hong Kong. Furthermore, extensive international travel will increase the risk of imported Zika virus cases in Hong Kong. Having said that, the Government has put in place a series of preventive measures to guard against the Zika virus:

Enhancing Surveillance

(a) With effect from 5 February 2016, Zika virus infection is a statutorily notifiable infectious disease in Hong Kong under the Prevention and Control of Disease Ordinance (Cap. 599). The Centre for Health Protection ("CHP") of the Department of Health ("DH") is to be notified of any confirmed case for investigation and follow-up actions.

(b) In its letters to doctors and hospitals on 18 January 2016, the DH appeals to doctors to stay alert to the possibility of Zika virus infection in travellers returning from affected areas who present a clinically compatible picture not attributable to dengue fever or chikungunya fever. Suspected cases should be reported to the CHP's Public Health Laboratory Services Branch for Zika virus testing.

Liaison with other Health Authorities

(c) The International Health Regulations (2005) is an international legal instrument binding on all WHO member states, including the People's Republic of China, and therefore extends to cover Hong Kong. The CHP has been closely communicating with WHO as well as overseas and neighbouring health authorities and monitoring the latest developments regarding Zika virus infection overseas.

(d) Moreover, the CHP has been maintaining close communication with the health authorities of Guangdong and Macao on the surveillance of Zika virus infection. A teleconference has been held among the three places to further enhance the notification and communication mechanism for exchanging information about preventive and control measures in the future. The three parties agreed to strengthen their co-operation on the prevention and control of the disease and notify each other in case of any confirmed cases.

Enhancing Port Health Measures

(e) The DH has implemented a series of port health measures. The Port Health Office will carry out regular inspections at boundary control points ("BCPs") to ensure that good environmental hygiene is maintained and proper mosquito control measures are in place. Port Health Inspectors will enhance the training for cleansing and pest control contractors who provide services at BPCs to ensure that vector control measures are effective.

(f) Health promotion at BCPs will be enhanced through pamphlet distribution and poster display to remind travellers of the preventive measures against Zika virus.

(g) Temperature checks will be conducted on an ongoing basis for all inbound travellers at all BCPs. Suspected cases will be referred to medical institutions for follow-up actions. The DH has encouraged tourists travelling from the affected countries and areas and Hong Kong residents returning from those places to apply mosquito repellent for 14 days after arrival in Hong Kong to reduce the risk of disease transmission.

Prompt Control and Transparency in Dissemination of Results

(h) At present, the CHP's Public Health Laboratory Services Branch is responsible for Zika virus testing. Application of the laboratory tests and experiment results is to be jointly assessed by clinicians and microbiologists. Their assessment will be based on the patient's epidemiological and clinical history and the time interval from exposure to the vector to onset of symptoms or seeking of medical attention. A report on preliminary positive/negative test result can be issued within one day upon receipt of the test sample, while a report to confirm diagnosis will take one more day.

Case Identification at Out-patient Clinics and Accident and Emergency Departments and Clinical and Medication Guidelines

(i) The Hospital Authority (HA) will take active measures in response to the DH's notification guidelines, including informing frontline staff that Zika virus infection has been made a statutorily notifiable infectious disease; and updating the electronic system so that doctors can make the relevant notifications. Travellers who develop clinical symptoms within two weeks after returning to Hong Kong from affected areas will be arranged for tests for Zika virus infection. At the same time, tests for dengue fever and chikungunya fever will also be conducted. The HA will work closely with the Public Health Laboratory Services Branch of the CHP and send specimens for virus testing for early identification of confirmed cases. The relevant information has been disseminated to the Accident and Emergency Departments and out-patient clinics.

(j) The HA and the Hong Kong College of Obstetricians are now formulating treatment option for pregnant women who have been to the affected areas for travelling and with the existence of clinical symptoms, and will release it to frontline medical colleagues as soon as possible.

(k) Although there is no medication or vaccine against Zika virus at present, the HA will keep a close watch on relevant guidelines of the CHP and WHO, and take appropriate actions accordingly.

Enhancing Risk Communication

(l) The CHP Controller chaired the meeting of the Interdepartmental Coordinating Committee on Mosquito-borne Diseases on 5 February to give various bureaux, government departments and relevant organisations follow-up updates on the risk of Zika virus infection as well as the necessary vector control measures in Hong Kong.

Travel Advice

(m) In view of the rapid spread of the Zika virus infection around the world, the DH issued the relevant travel advice on 18 January 2016, suggesting that, if not necessary, pregnant women and women preparing for pregnancy should consider deferring their trip to areas with past or current evidence of ongoing Zika virus transmission. Those who must travel to any of these areas should seek medical advice of their doctor before the trip, and adopt contraception during and for 28 days after return if appropriate and strictly follow steps to avoid mosquito bites during the trip. Travellers should apply mosquito repellent for 14 days after returning from the affected areas. If his female partner has the chance of getting pregnant or is already pregnant, condom use is advised for a male traveller. Travellers should consult their doctors and reveal their travel history if symptoms develop. The travel advice has been uploaded to the website of

the CHP, the DH's Travel Health Service homepage and the Security Bureau's Outbound Travel Alert website.

(n) In view of the latest developments in overseas areas, the DH has maintained close communication with the tourism sector and other stakeholders, especially travel agents organising tours to the affected areas and their tour leaders and tour guides, to provide them with up-to-date disease information and health advice regularly.

Vaccine against Zika virus

(o) According to WHO, there are neither vaccine to prevent Zika virus infection nor antiviral drugs targeted at treating the disease. As reported by overseas media, some vaccine companies are conducting research on vaccine against Zika virus. However, production of such vaccine on a commercial scale is unlikely in the short run. Some of the vaccine may undergo phase one clinical trials at the end of this year and can be used in case of emergency. The DH will take note of the vaccine development.

Contingency plans and drills for concerted interdepartmental actions

(p) The DH conducts public health exercises on a regular basis to test interdepartmental co-ordination and public health response measures. In November 2013 and March 2014, the DH conducted a table-top exercise and a ground exercise respectively in collaboration with 23 government departments for the prevention of dengue fever. The exercises mainly aimed at testing the cross-departmental response measures, including contact tracing, epidemiological investigations, vector investigation and control as well as surveillance of suspected cases. The table-top exercise was to test interdepartmental command and response capacity, while the ground exercise simulated field investigation, field intervention measures on mosquito control and health educational activities for the community involved. As the vector for transmission of Zika virus is similar to that of dengue fever, the relevant departments and bureaux have already prepared for cross-departmental exercises of similar nature.

(q) The HA has also put in place contingency plans and upload the information of affected areas to intranet for staff’s reference.

Mosquito Elimination

In response to the several local dengue fever cases which came to light in the past two years, the Food and Environmental Hygiene Department (“FEHD”) has stepped up its mosquito control work particularly during the winter period. In October 2015, the FEHD increased the number of surveillance areas with ovitraps for Aedes albopictus from 44 to 52. Surveillance operations for Aedes albopictus in all port areas (except the airport where surveillance is performed once a week) have also been stepped up

from once a month to twice a month since November 2015. Since Aedes albopictus may carry both dengue fever and Zika virus, the above efforts will help enhance the surveillance of dengue and Zika vectors. This year, the FEHD will keep up the momentum of its work in mosquito control and elimination. This includes:

(r) increasing the number of out-sourced pest control roving teams in winter (from December 2015 to March 2016) to 266 teams, i.e. maintaining the same number of teams as in summer 2015;

(s) stepping up mosquito control work during the year-end clean-up campaign launched on 15 January 2016;

(t) implementing the Anti-mosquito Campaign[1] this year in three phases. The first phase will start on 15 February and end on 18 March. To upkeep the effectiveness of the campaign, the FEHD will, immediately after each phase of the campaign, conduct thematic operations across the territory to enhance the mosquito control work in strategic areas; and

(u) targeting at mosquito control at works sites which are prone to the breeding of mosquitoes. In this regard, the FEHD will continue to liaise with the relevant departments (e.g. the Civil Engineering and Development Department), brief the relevant parties like works departments and their contractors on the importance of mosquito prevention, and enhance the efforts to eliminate mosquitoes within particular works sites where necessary.

Publicity and Public Education

(v) To increase the public awareness of Zika virus, the CHP will produce various health education materials, such as leaflets, booklets and posters, for distribution in the community. A dedicated webpage on Zika virus has also been launched on the CHP website to provide updates about the disease, give travel advice and answer frequently asked questions.

(w) The FEHD will broadcast radio and TV Announcements in the Public Interest ("APIs") between April and October every year on the prevention of mosquito breeding in housing estates, at home and during grave sweeping. Radio and TV APIs on anti-mosquito measures in winter will also be broadcasted between November and March.

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[1] The campaign aims at enhancing public awareness of the potential risks of mosquito-borne diseases, as well as encouraging the community and various government departments to make concerted efforts and actively participate in anti-mosquito work.

Way Forward

8. The Government will stay vigilant, strengthen the surveillance and keep itself abreast with the latest developments of the Zika disease. In addition to the ongoing risk assessments, the Government will monitor the effectiveness of the contingency plan and step up public health measures and mosquito control work as appropriate. We will also enhance publicity to keep the public informed and alert so that they can take suitable precautions and response measures where necessary.

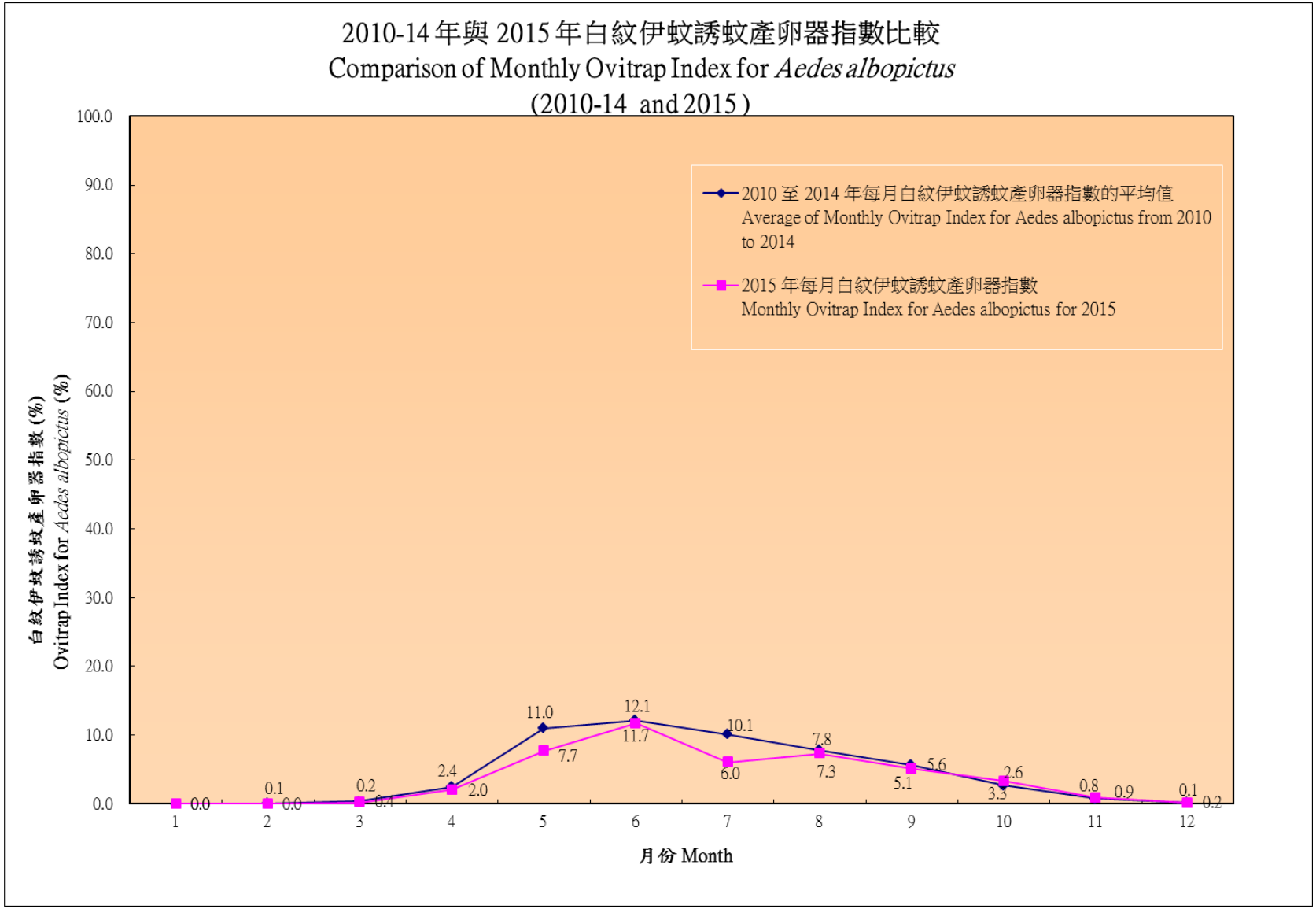
Advice Sought

9. Members are invited to note the content of this paper.

Food and Health Bureau
Department of Health
Food and Environmental Hygiene Department
Hospital Authority

February 2016

Annex B


2010-14 年與 2015 年白紋伊蚊誘蚊產卵器指數比較
Comparison of Monthly Ovitrap Index for Aedes albopictus
(2010-14 and 2015)
白紋伊蚊誘蚊產卵器指數 (%)
Ovitrap Index for Aedes albopictus (%)
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
2010 至 2014 年每月白紋伊蚊誘蚊產卵器指數的平均值
Average of Monthly Ovitrap Index for Aedes albopictus from 2010 to 2014
2015 年每月白紋伊蚊誘蚊產卵器指數
Monthly Ovitrap Index for Aedes albopictus for 2015
0.0
0.0
0.1
0.0
0.2
0.4
2.4
2.0
11.0
7.7
12.1
11.7
10.1
6.0
7.8
7.3
5.6
5.1
2.6
3.5
0.8
0.9
0.1
0.2
1
2
3
4
5
6
7
8
9
10
11
12
月份 Month

Annex C

2015 年分佈於 19 個地區的 52 個監察地點的誘蚊產卵器指數

Ovitrap Indices for 52 locations in 19 districts - 2015

	監察地點 Locations	1 月 Jan	2 月 Feb	3 月 Mar	4 月 Apr	5 月 May	6 月 Jun	7 月 Jul	8 月 Aug	9 月 Sep	10 月 Oct	11 月 Nov	12 月 Dec
港島及離島 (Hong Kong & Islands)	柴灣西 (Chai Wan West)	0.0%	0.0%	0.0%	3.5%	3.6%	19.6%	16.4%	5.6%	1.8%	3.6%	0.0%	0.0%
	天后 (Tin Hau)*										11.1%	9.1%	1.9%
	筲箕灣和西灣河 (Shau Kei Wan & Sai Wan Ho)	0.0%	0.0%	0.0%	0.0%	1.8%	15.5%	8.5%	1.8%	1.7%	3.4%	0.0%	0.0%
	北角 (North Point)	0.0%	0.0%	0.0%	0.0%	1.9%	15.4%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%
	灣仔北 (Wan Chai North)	0.0%	0.0%	0.0%	0.0%	4.2%	1.9%	3.8%	9.6%	1.9%	0.0%	0.0%	0.0%
	跑馬地 Happy Valley)	0.0%	0.0%	0.0%	1.8%	1.8%	22.8%	8.8%	12.5%	5.3%	0.0%	0.0%	0.0%
	中環、上環和西營盤 (Central, Sheung Wan & Sai Ying Pun)	0.0%	0.0%	0.0%	3.6%	7.4%	7.3%	5.5%	7.1%	3.6%	0.0%	1.6%	0.0%
	西環 (Sheung Wan)	0.0%	0.0%	0.0%	0.0%	18.2%	3.9%	5.5%	12.7%	7.3%	1.8%	0.0%	0.0%
	香港仔和鴨脷洲 (Aberdeen & Ap Lei Chau)	0.0%	0.0%	0.0%	3.8%	7.4%	11.3%	5.6%	1.9%	5.6%	3.7%	0.0%	0.0%
	薄扶林 (Pokfulam)	0.0%	0.0%	0.0%	2.1%	6.3%	15.2%	8.3%	10.4%	8.9%	2.2%	2.2%	0.0%
	深水灣和淺水灣 (Deep Water Bay & Repulse Bay)	0.0%	0.0%	0.0%	3.7%	0.0%	24.1%	0.0%	3.6%	9.1%	0.0%	0.0%	0.0%
	長洲 (Cheung Chau)	0.0%	0.0%	0.0%	5.6%	5.6%	11.1%	5.6%	0.0%	2.8%	2.8%	0.0%	0.0%
	東涌 (Tung Chung)	0.0%	0.0%	0.0%	13.5%	18.4%	7.9%	0.0%	2.6%	0.0%	0.0%	0.0%	0.0%
九龍 (Kowloon)	尖沙咀 (Tsim Sha Tsui)	0.0%	0.0%	0.0%	0.0%	1.8%	23.2%	8.8%	9.8%	3.7%	3.6%	0.0%	1.8%
	尖沙咀東 (Tsim Sha Tsui East)*										3.9%	1.9%	0.0%
	旺角 (Mong Kok)	0.0%	0.0%	0.0%	0.0%	1.8%	7.1%	0.0%	1.8%	3.6%	3.6%	0.0%	0.0%
	荔枝角 (Lai Chi Kok)	0.0%	0.0%	0.0%	8.0%	13.7%	3.9%	2.0%	5.9%	1.9%	3.9%	0.0%	0.0%
	深水埗東 (Sham Shui Po East)	0.0%	0.0%	0.0%	3.6%	9.1%	7.5%	5.6%	5.5%	1.9%	0.0%	0.0%	0.0%

	監察地點 Locations	1 月 Jan	2 月 Feb	3 月 Mar	4 月 Apr	5 月 May	6 月 Jun	7 月 Jul	8 月 Aug	9 月 Sep	10 月 Oct	11 月 Nov	12 月 Dec
	長沙灣 (Cheung Sha Wan)	0.0%	0.0%	0.0%	0.0%	22.6%	10.0%	6.1%	5.6%	0.0%	0.0%	0.0%	0.0%
	九龍城北 (Kowloon City North)	0.0%	0.0%	0.0%	0.0%	3.6%	5.6%	1.8%	6.0%	7.3%	3.6%	0.0%	0.0%
	紅磡 (Hung Hom)	0.0%	0.0%	0.0%	0.0%	1.9%	7.5%	5.7%	11.8%	2.0%	0.0%	0.0%	0.0%
	何文田 (Ho Man Tin)	0.0%	0.0%	0.0%	0.0%	3.8%	17.6%	5.6%	17.3%	5.7%	0.0%	0.0%	0.0%
	樂富西 (Lok Fu West)*										13.2%	1.9%	0.0%
	啟德北 (Kai Tak North)*										14.3%	0.0%	0.0%
	黃大仙中 (Wong Tai Sin Central)	0.0%	0.0%	0.0%	0.0%	0.0%	8.2%	4.9%	7.9%	6.3%	0.0%	1.6%	0.0%
	鑽石山 (Diamond Hill)	0.0%	0.0%	0.0%	0.0%	5.7%	13.7%	7.8%	6.0%	3.8%	2.0%	0.0%	0.0%
	牛池灣 (Ngau Chi Wan)*										5.5%	5.7%	0.0%
	觀塘中 (Kwun Tong Central)	0.0%	0.0%	0.0%	6.7%	25.4%	12.1%	6.7%	16.9%	3.4%	1.7%	1.7%	0.0%
	藍田 (Lam Tin)	0.0%	0.0%	3.6%	1.8%	33.3%	9.1%	3.6%	3.6%	0.0%	1.8%	0.0%	0.0%
	九龍灣 (Kowloon Bay)*										18.5%	1.9%	0.0%
新界東 (New Territories East)	將軍澳南 (Tseung Kwan O South) (前稱: 將軍澳) (Formerly :Tseung Kwan O)	0.0%	0.0%	0.0%	3.4%	8.6%	8.3%	0.0%	8.8%	8.6%	1.8%	1.8%	0.0%
	將軍澳北 (Tseung Kwan O North)*										7.0%	5.0%	0.0%
	西貢市 (Sai Kung Town)	0.0%	0.0%	2.0%	2.0%	18.0%	2.0%	0.0%	2.0%	0.0%	0.0%	0.0%	0.0%
	馬鞍山 (Ma On Shan)	0.0%	0.0%	0.0%	1.7%	5.2%	22.4%	19.0%	17.2%	1.7%	3.4%	0.0%	1.8%
	圓洲角 (Yuen Chau Kok)	0.0%	0.0%	0.0%	0.0%	5.2%	21.1%	26.8%	17.9%	3.7%	12.5%	1.7%	0.0%
	大圍 (Tai Wai)	0.0%	0.0%	0.0%	1.8%	8.9%	12.5%	17.9%	3.6%	1.8%	1.8%	0.0%	0.0%
	大埔 (Tai Po)	0.0%	0.0%	0.0%	5.7%	3.7%	22.6%	7.8%	1.9%	26.9%	1.9%	0.0%	0.0%

	監察地點 Locations	1 月 Jan	2 月 Feb	3 月 Mar	4 月 Apr	5 月 May	6 月 Jun	7 月 Jul	8 月 Aug	9 月 Sep	10 月 Oct	11 月 Nov	12 月 Dec
	粉嶺 (Fanling)	0.0%	0.0%	0.0%	0.0%	5.7%	20.4%	3.7%	5.6%	13.0%	3.7%	0.0%	0.0%
	上水 (Sheung Shui)	0.0%	0.0%	0.0%	0.0%	7.3%	22.2%	5.5%	16.4%	10.9%	0.0%	0.0%	0.0%
新界西 (New Territories West)	天水圍 (Tin Shui Wai)	0.0%	0.0%	0.0%	0.0%	17.9%	14.3%	5.4%	5.3%	3.7%	1.8%	0.0%	0.0%
	元崗 (Yuen Kong)	0.0%	0.0%	0.0%	0.0%	0.0%	16.0%	0.0%	8.0%	16.0%	8.0%	0.0%	0.0%
	元朗市 (Yuen Long Twon)	0.0%	0.0%	0.0%	3.9%	9.6%	0.0%	1.9%	1.8%	3.6%	0.0%	0.0%	0.0%
	屯門南 (Tuen Mun South)	0.0%	0.0%	1.9%	1.9%	0.0%	7.7%	0.0%	1.9%	9.8%	0.0%	0.0%	0.0%
	屯門北 (Tuen Mun North)	0.0%	0.0%	0.0%	1.8%	6.8%	13.8%	7.0%	8.6%	11.9%	0.0%	0.0%	0.0%
	掃管笏 (So Kwun Wat)	0.0%	0.0%	0.0%	1.9%	1.9%	7.4%	5.6%	0.0%	3.6%	0.0%	0.0%	0.0%
	荃灣市 (Tsuen Wan Town)	0.0%	0.0%	0.0%	0.0%	5.4%	1.8%	3.6%	9.3%	3.8%	3.5%	0.0%	0.0%
	馬灣 (Ma Wan)	0.0%	0.0%	0.0%	4.0%	4.2%	8.3%	8.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	上葵涌 (Sheung Kwai Chung)	0.0%	0.0%	0.0%	2.0%	5.6%	7.7%	0.0%	1.9%	1.9%	3.8%	0.0%	0.0%
	葵涌 (Kwai Chung)	0.0%	0.0%	0.0%	0.0%	3.8%	7.4%	3.7%	13.0%	5.8%	0.0%	0.0%	0.0%
	荔景 (Lai King)	0.0%	0.0%	0.0%	0.0%	10.9%	1.8%	7.3%	5.5%	5.5%	0.0%	0.0%	0.0%
	青衣南 (Tsing Yi South) (前稱: 青衣) (Formerly : Tsing Yi)	0.0%	0.0%	0.0%	3.5%	7.1%	12.5%	7.0%	14.0%	7.4%	7.0%	3.4%	0.0%
	青衣北 (Tsing Yi North)*										13.0%	5.5%	0.0%
每月白紋伊蚊誘蚊產卵器指數 ***Monthly Ovitrap Index for Aedes albopictus***		0.0%	0.0%	0.2%	2.0%	7.7%	11.7%	6.0%	7.3%	5.1%	3.3%	0.9%	0.1%

* Eight new areas have been covered by the dengue vector surveillance programme since October 2015.

Annex D

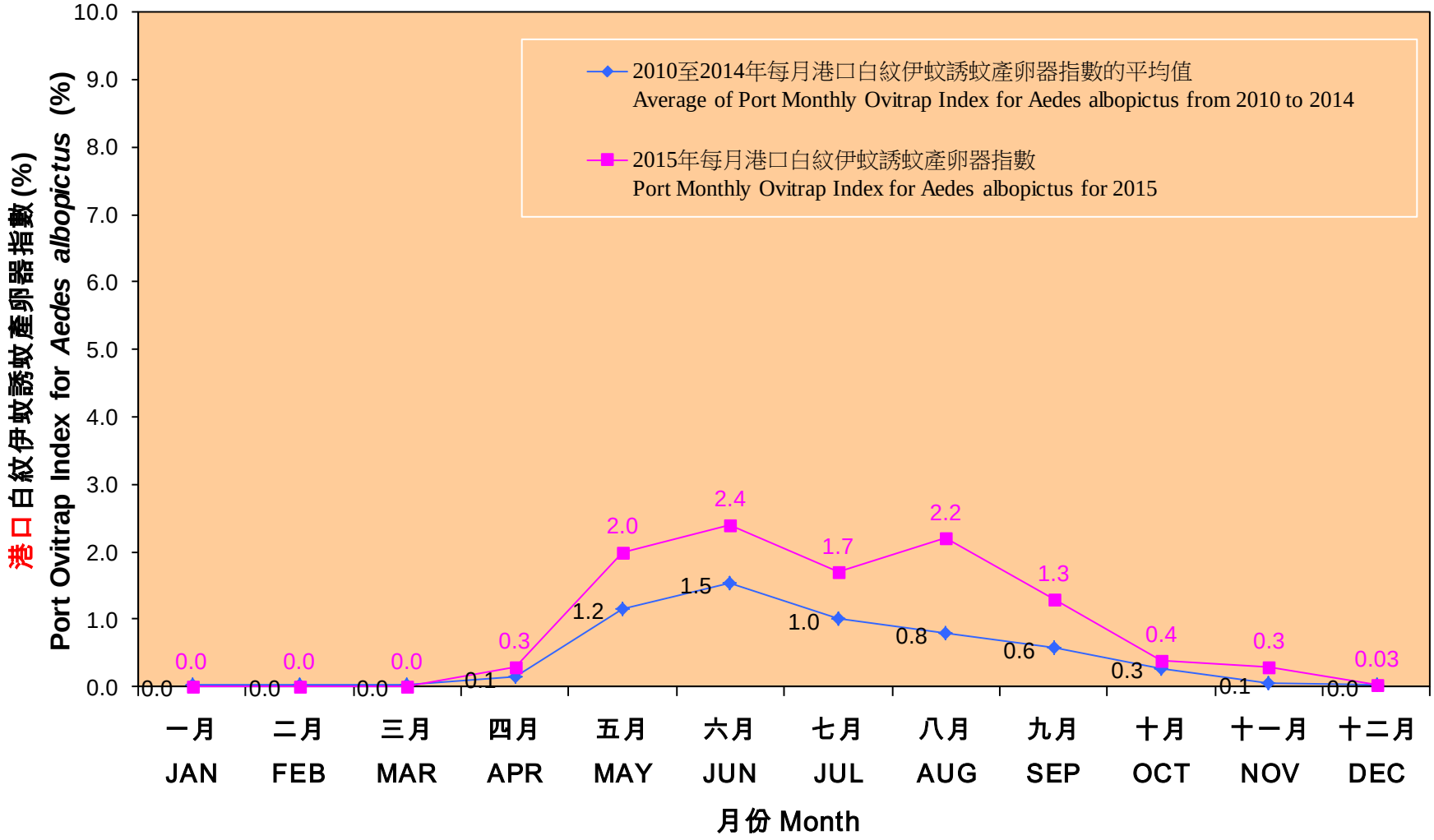
2015 年港口地區誘蚊產卵器的監察結果
Result of Ovitrap Surveillance in Port Areas in 2015

監察地點 Location	1 月 Jan	2 月 Feb	3 月 Mar	4 月 Apr	5 月 May	6 月 Jun	7 月 Jul	8 月 Aug	9 月 Sep	10 月 Oct	11 月 Nov	12 月 Dec
香港國際機場 Hong Kong International Airport	0.0%	0.0%	0.0%	0.4%	1.8%	1.9%	1.5%	1.9%	1.0%	0.3%	0.3%	0.04%
陸路邊境口岸 Cross Boundary Check Points on Land	0.0%	0.0%	0.0%	0.0%	5.1%	7.7%	2.7%	3.9%	2.1%	1.2%	0.3%	0.0%
私人貨物裝卸區 Private Cargoes Working Areas	0.0%	0.0%	0.0%	0.0%	3.8%	5.1%	7.5%	11.5%	5.0%	0.0%	1.3%	0.0%
出入境碼頭 Cross Boundary Ferry Piers	0.0%	0.0%	0.0%	0.0%	1.3%	1.3%	0.0%	0.0%	0.0%	1.3%	0.0%	0.0%
貨櫃碼頭 Container Terminals	0.0%	0.0%	0.0%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
公共貨物裝卸區 Public Cargoes Working Areas	0.0%	0.0%	0.0%	0.0%	1.7%	5.1%	6.8%	4.4%	4.3%	0.9%	0.0%	0.0%
每月港口白紋伊蚊誘蚊產卵器指數 Port Monthly Ovitrap Index for *Aedes albopictus*	0.0%	0.0%	0.0%	0.3%	2.0%	2.4%	1.7%	2.2%	1.3%	0.4%	0.3%	0.03%

Annex E

2010至2014年與2015年每月港口白紋伊蚊誘蚊產卵器指數比較

Comparison of Port Monthly Ovitrap Index for *Aedes albopictus*: 2010 - 2014 and 2015



衞生防護中心
Centre for Health Protection

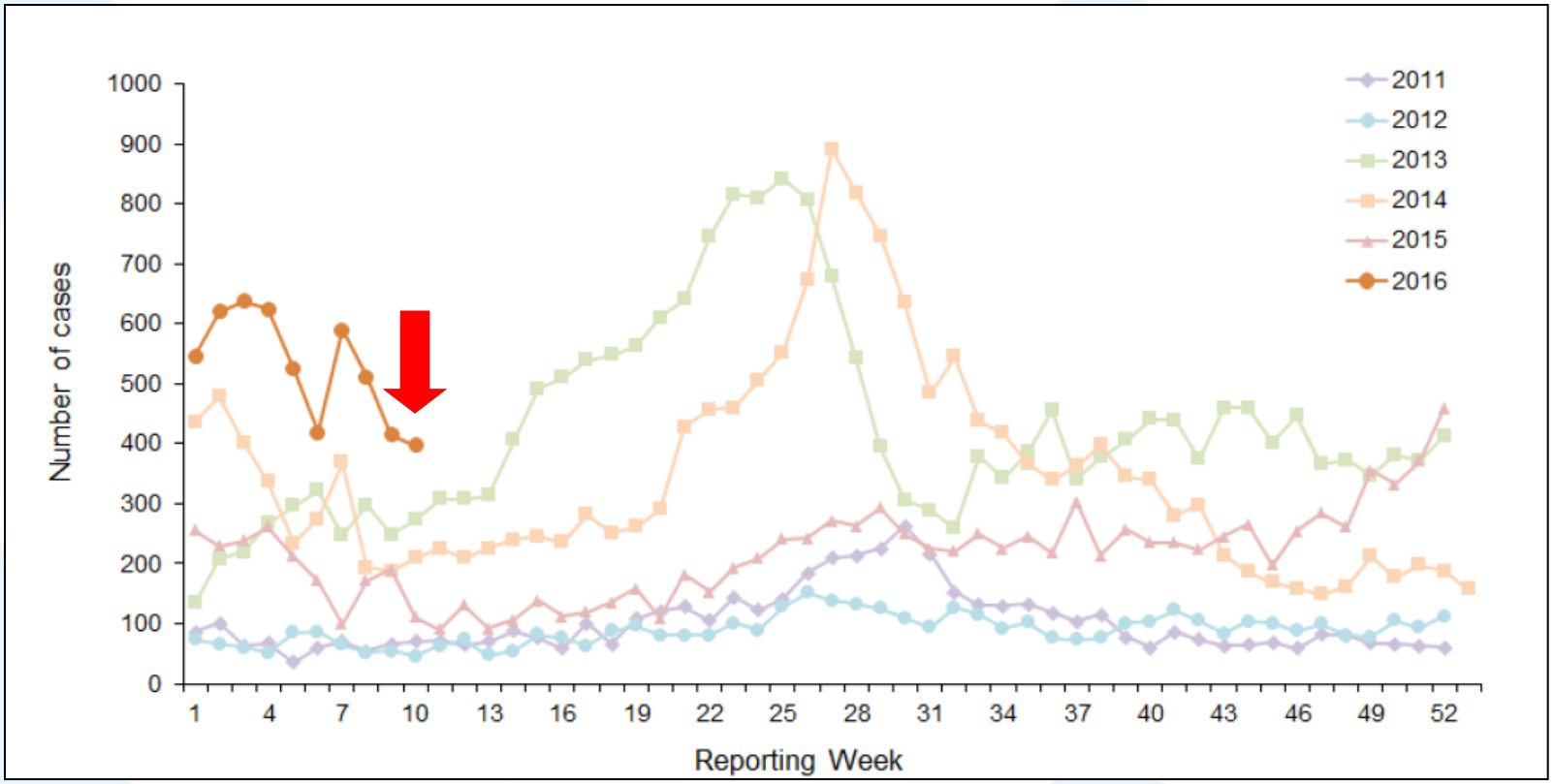
Annex F

Situation of Dengue Fever in Nearby Places

Updated on 5 April 2016

衞生署
Department of Health

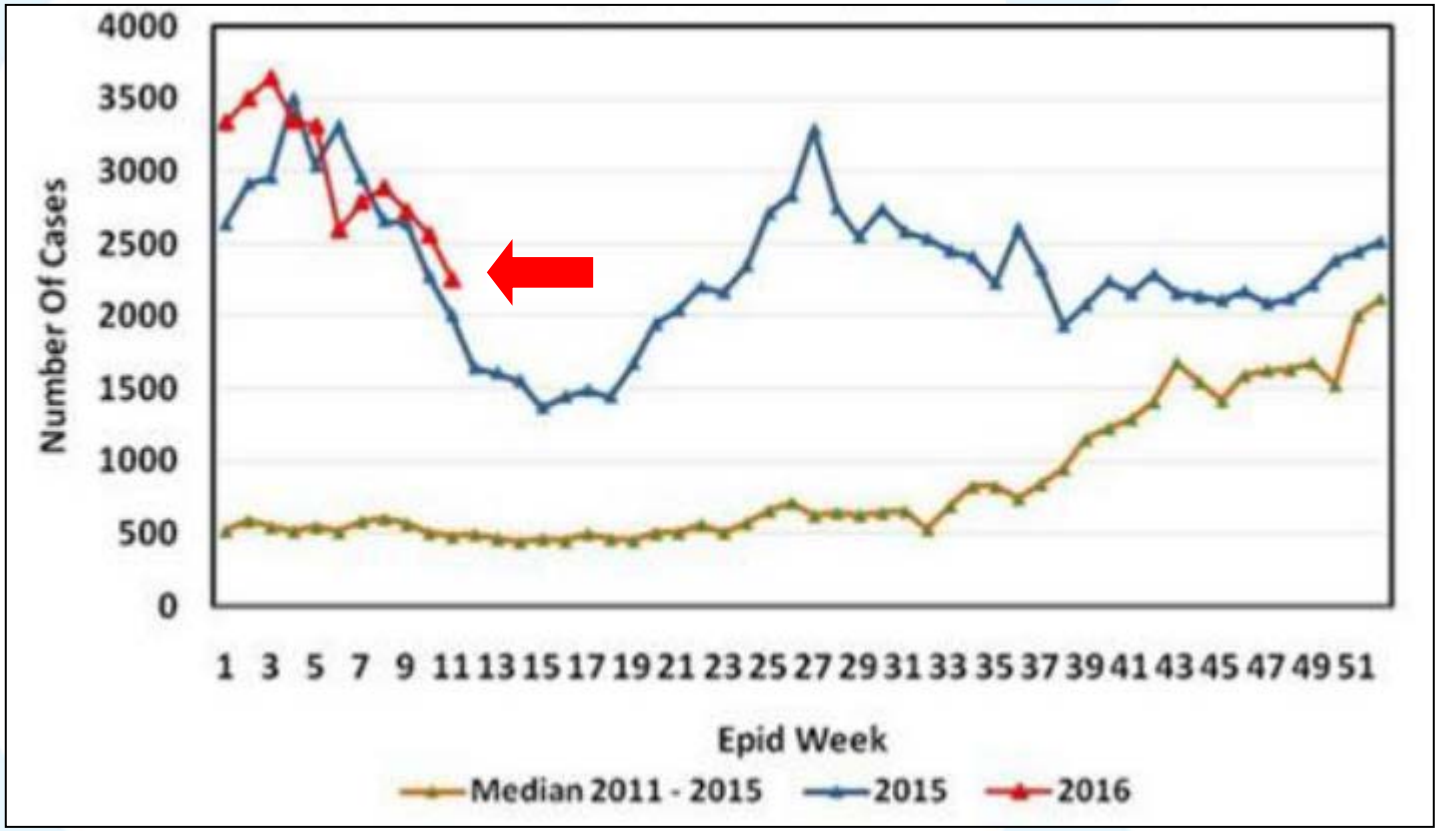
Dengue Fever in Singapore



**As of 22 March 2016*

Source: WPRO http://www.wpro.who.int/emerging_diseases/DengueSituationUpdates/en/index.html

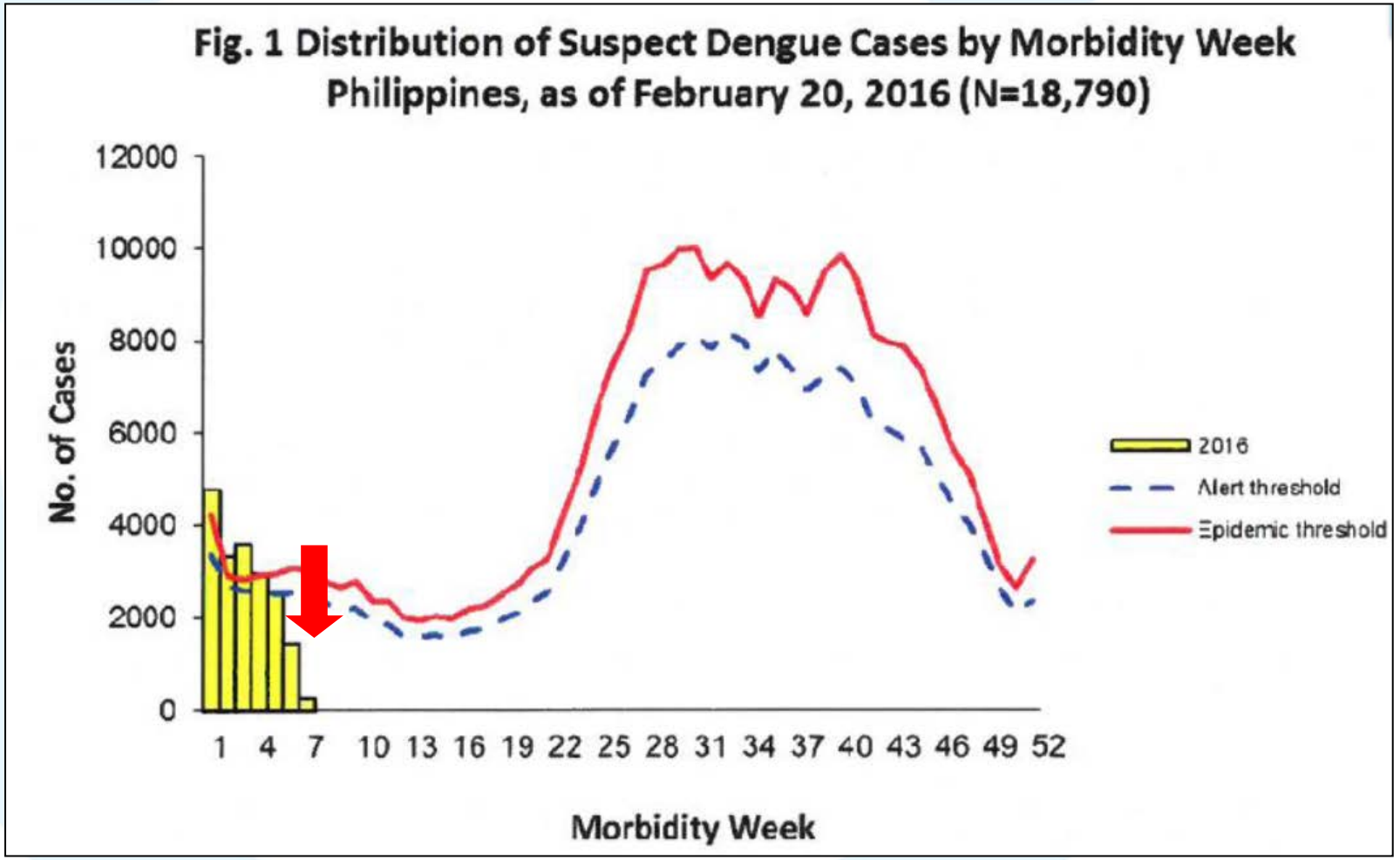
Dengue Fever in Malaysia



**As of 22 March 2016*

Source: WPRO http://www.wpro.who.int/emerging_diseases/DengueSituationUpdates/en/index.html

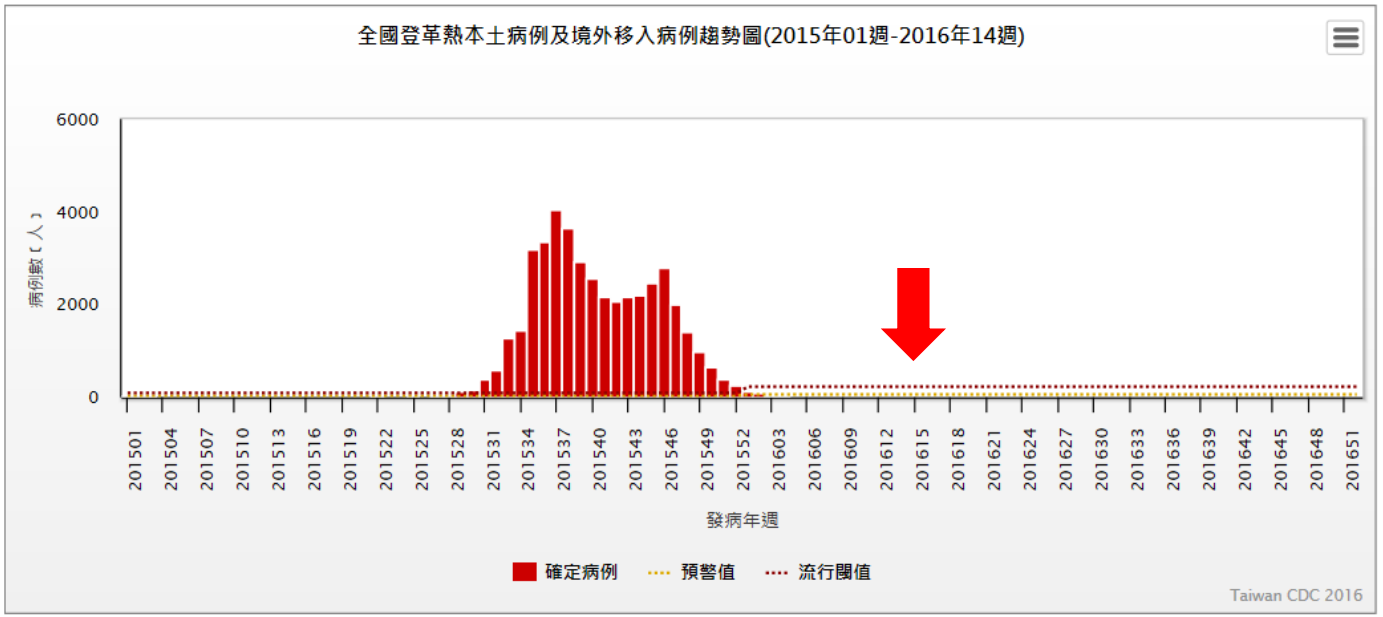
Dengue Fever in the Philippines



**As of 22 March 2016*

Source: WPRO http://www.wpro.who.int/emerging_diseases/DengueSituationUpdates/en/index.html

Dengue Fever in Taiwan



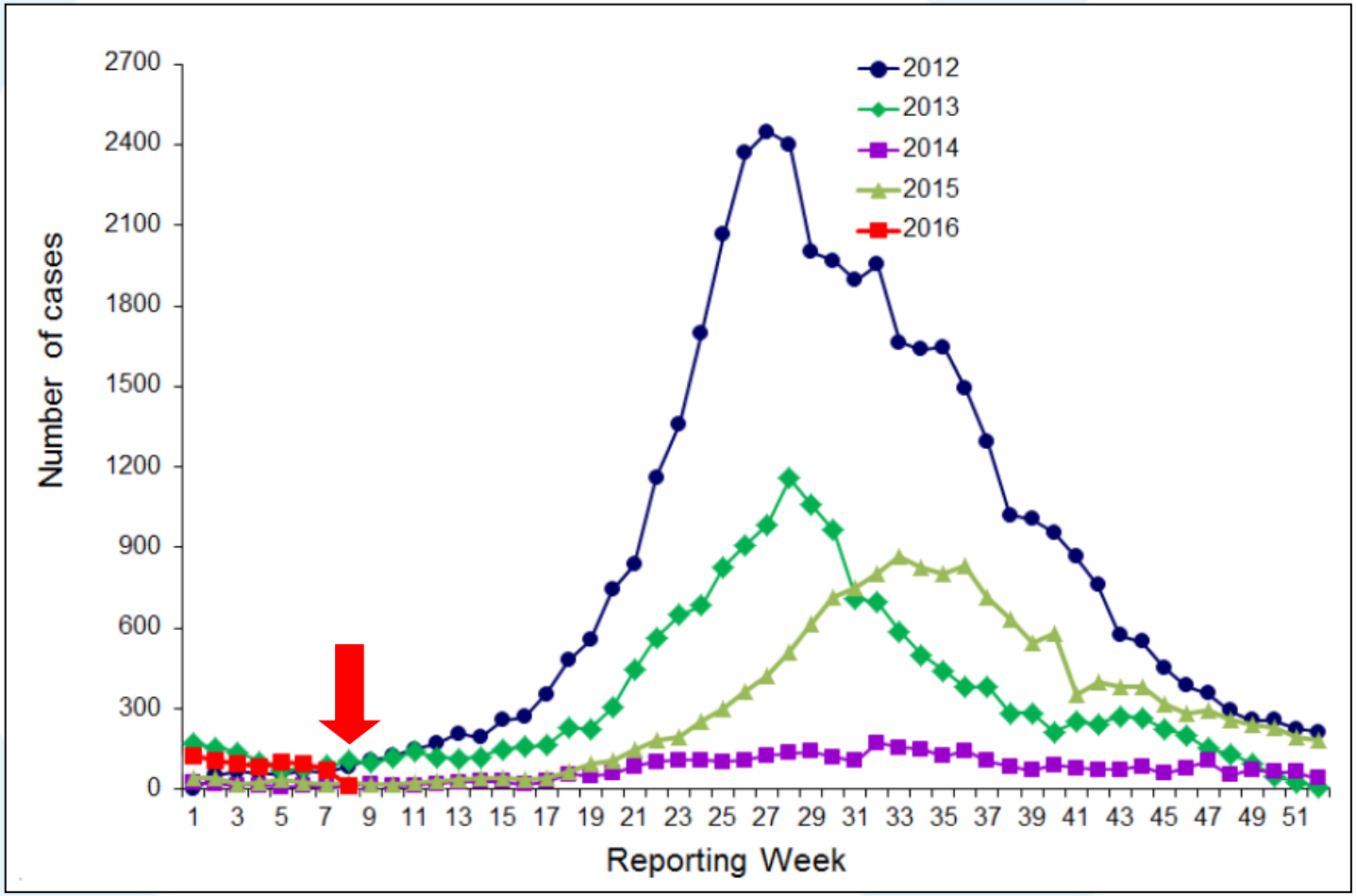
全國登革熱本土病例及境外移入病例統計表-依發病日

最近一例發病日	2016/4/1
上週累計數	4
本週累計數	0
本月累計數	1
本年累計數	444
去年總數	43784
上週與前三週平均數比較	▵0.67
上週與過去三年同期平均數比較	▿0.67
今年累計死亡數	4

** As of 5 April 2016*

Source: http://nidss.cdc.gov.tw/SingleDisease.aspx?Pt=s&dc=1&dt=2&disease=061

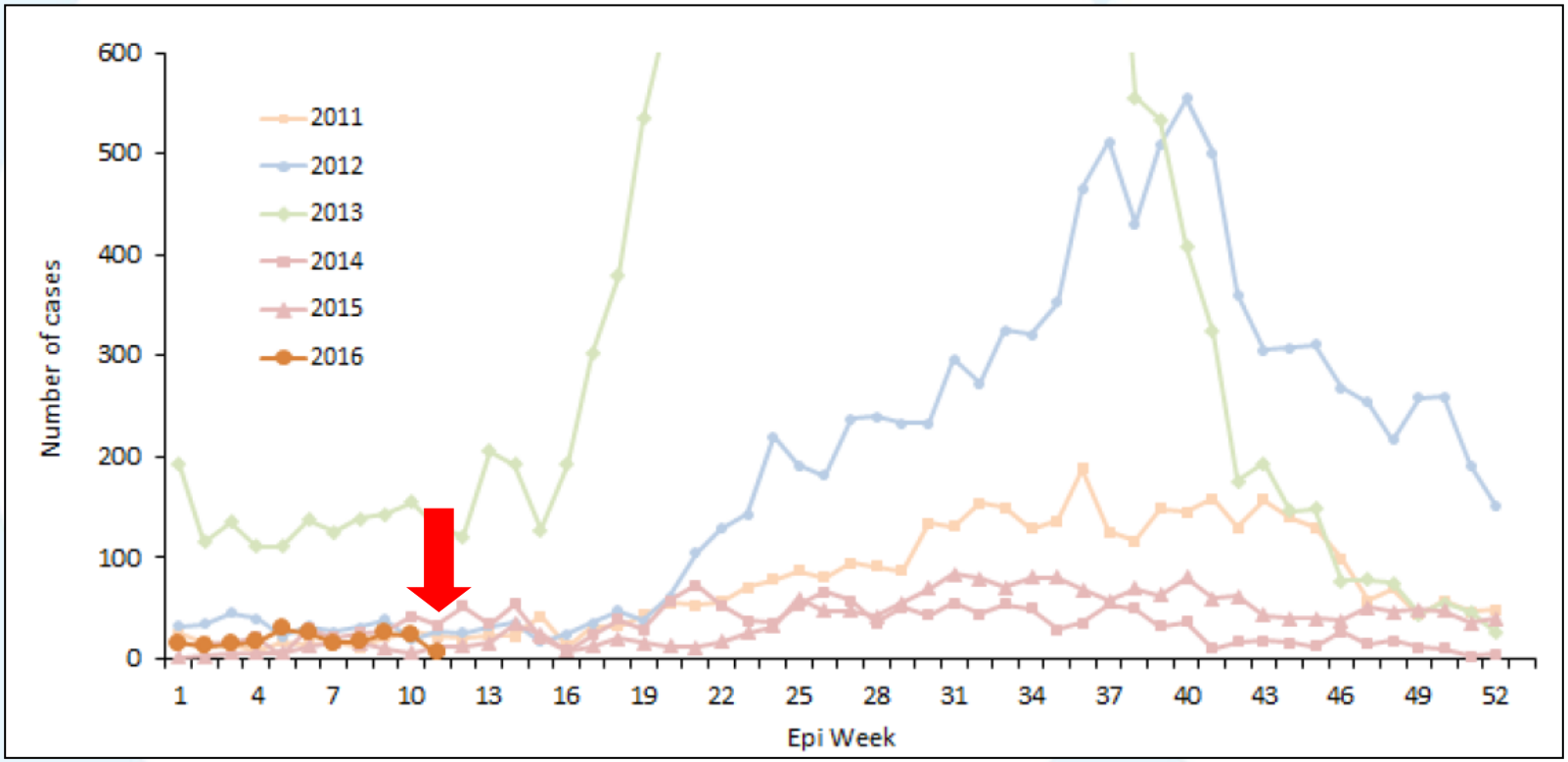
Dengue Fever in Cambodia



**As of 22 March 2016*

Source: WPRO http://www.wpro.who.int/emerging_diseases/DengueSituationUpdates/en/index.html

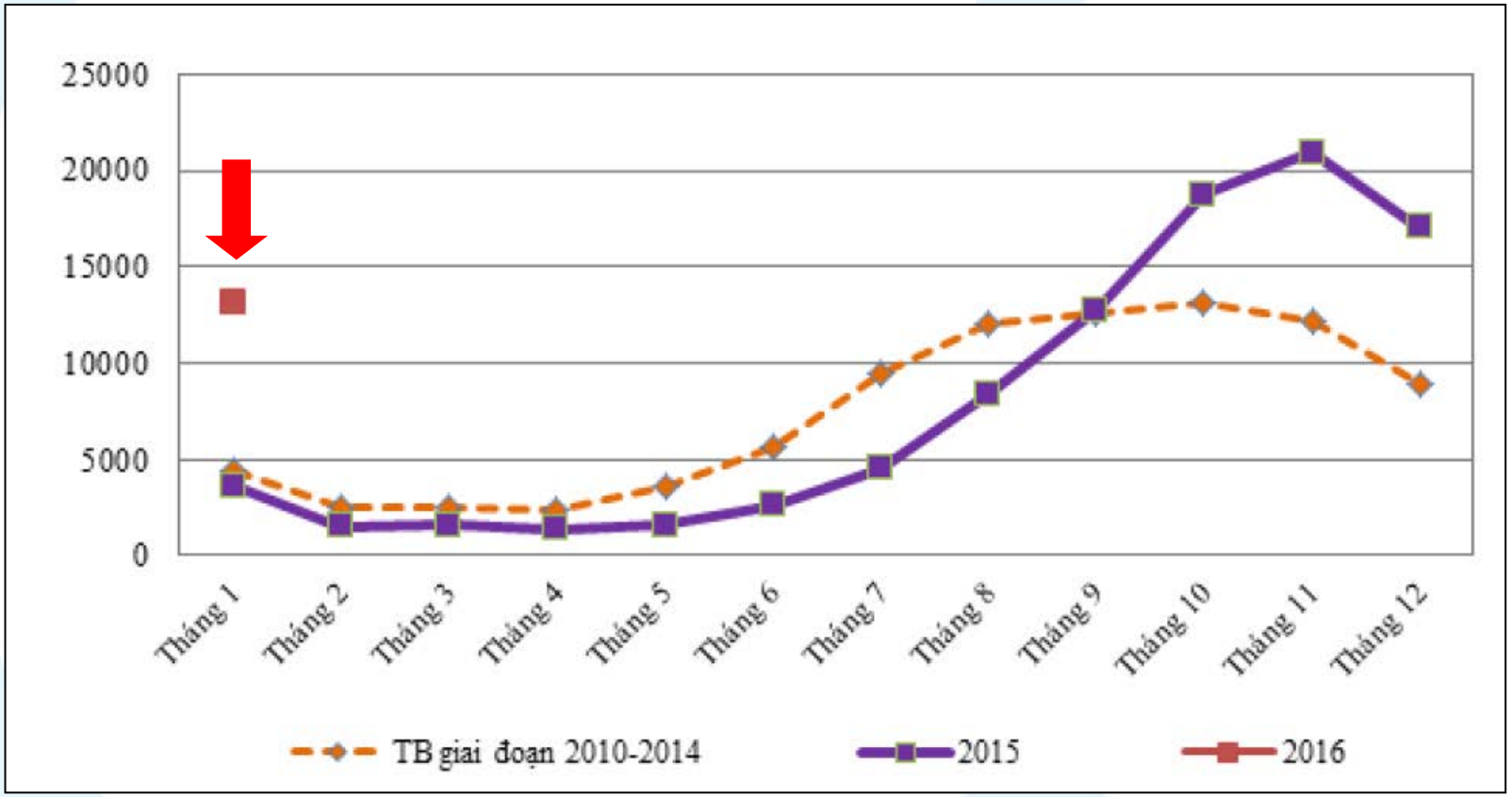
Dengue Fever in Lao PDR



**As of 22 March 2016*

Source: WPRO http://www.wpro.who.int/emerging_diseases/DengueSituationUpdates/en/index.html

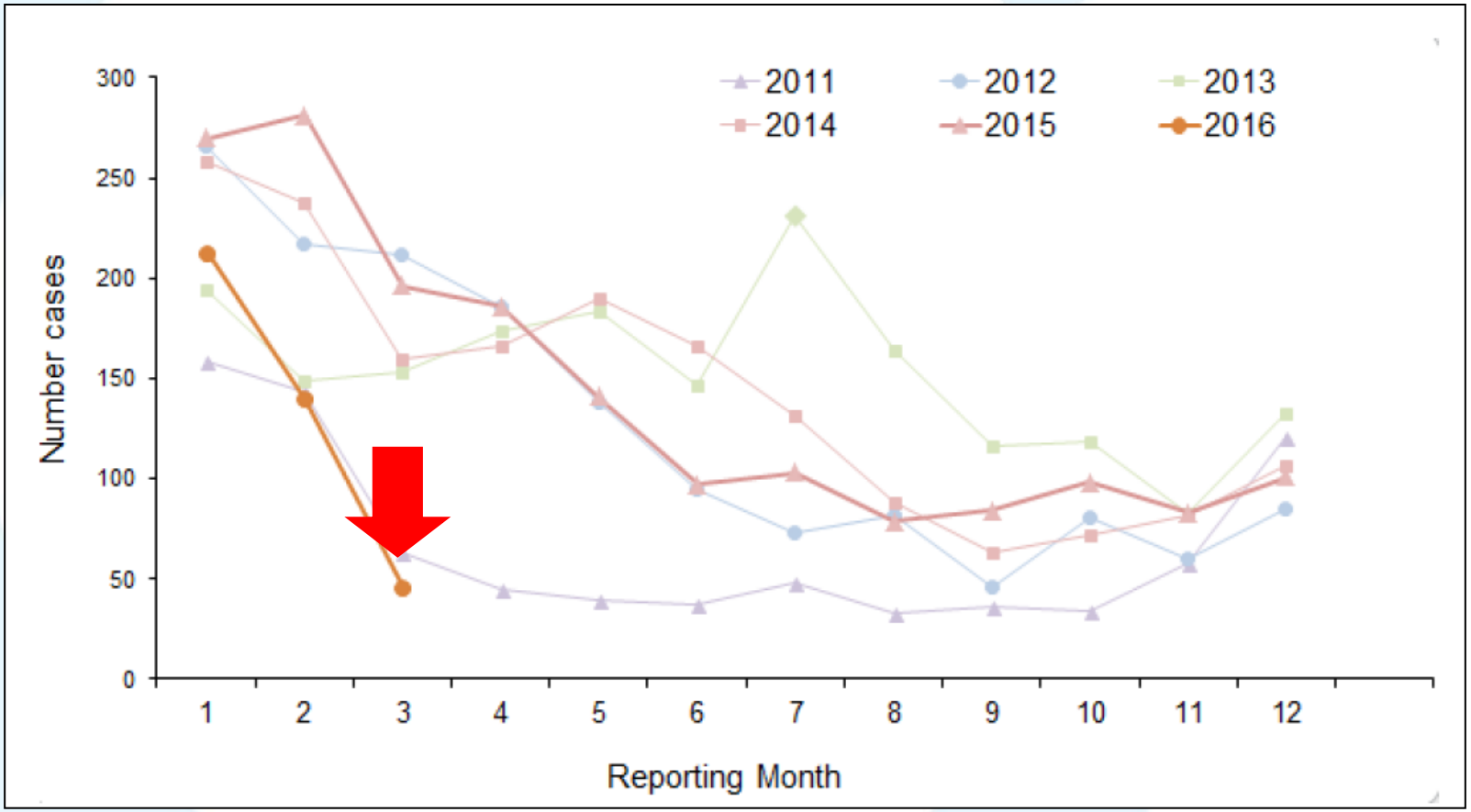
Dengue Fever in Vietnam



**As of 22 March 2016*

Source: WPRO http://www.wpro.who.int/emerging_diseases/DengueSituationUpdates/en/index.html

Dengue Fever in Australia



**As of 22 March 2016*

Source: WPRO http://www.wpro.who.int/emerging_diseases/DengueSituationUpdates/en/index.html

衞生防護中心
Centre for Health Protection

Ends

衞生署
Department of Health

Annex G

Anti-mosquito Plan for 2016

Bureau/ Department	Anti-mosquito Plan for 2016
AFCD	**Fish Farms and Fishermen** ● To distribute anti-mosquito advisory leaflets to mariculturists at AFCD's licence renewal service counters, during our regular farm inspections, and through the representatives in the Mariculturists Liaison and Support Group of the Red Tide Reporting Network. ● To issue advisory letters together with anti-mosquito leaflets to fishermen associations. **Local Livestock Farms** ● To issue advisory letters and publicity leaflets to livestock farmers and livestock associations to raise their awareness of anti-mosquito measures. ● To inspect livestock farms for any potential mosquito breeding sites and remind farmers to take proper anti-mosquito measures during routine farm inspections. **Government Wholesale Food Markets** ● To issue advisory letters and notices at regular intervals to market traders and cleansing contractors to remind them to keep the market clean and to raise their awareness of anti-mosquito measures. ● To closely monitor the performance of the cleansing contractors and ensure that they will apply larvicide regularly to market drains to prevent breeding of mosquitoes. ● To carry out special operations to keep market clean and to eliminate potential mosquito breeding grounds.

Bureau/ Department	Anti-mosquito Plan for 2016
	<u>Cheung Sha Wan Wholesale Vegetable Market under Vegetable Marketing Organization (VMO)</u> ● To continue conducting regular inspections, surprise checks and cleansing of the wholesale vegetable market and issuing advisory notices to market users advising them of the importance of maintaining the cleanliness of the market and removal of stagnant water. ● To maintain close contact with FEHD to eliminate potential mosquito breeding sites directly adjacent to the VMO market premises. ● To conduct "Market Clean-up Days" as promotional activities of market cleanliness and anti-mosquito measures on bi-weekly basis. **<u>Wholesale Fish Markets under Fish Marketing Organization (FMO)</u>** ● To continue conducting regular inspections, surprise checks and cleansing of all FMO markets and issuing advisory notices to market users advising them of the importance of maintaining the cleanliness of the market and removal of stagnant water. ● To organise "Market Clean-up Days" as promotional activities of market cleanliness and anti-mosquito measures on bi-weekly basis. **<u>Country Parks</u>** ● To regularly inspect and cleanse recreation sites, hiking trails and construction sites and carry out clearance of overgrown vegetation in these areas. ● To continue effort in advising visitors to protect themselves against mosquitoes and other insect bites through oral advice, leaflets, posters and warning signs.

Bureau/ Department	Anti-mosquito Plan for 2016
	● To level depressions which can hold water and remove water storage devices found in country parks to prevent mosquito breeding. ● To advise morning walkers not to keep containers in their gardens and hillsides and remove any unauthorised planting sites and water storage devices found in country parks. **<u>Mai Po Nature Reserve and Hong Kong Wetland Park</u>** ● To display posters at suitable locations in the Mai Po Nature Reserve (MPNR) and Hong Kong Wetland Park (HKWP) to alert staff of the AFCD and World Wide Fund Hong Kong (WWFHK) to take measures to eliminate mosquito breeding grounds and to advise them and visitors to take preventive measures to avoid mosquito bites. ● To distribute anti-mosquito leaflets to visitors. ● Staff of WWFHK and contractor of HKWP will continue to carry out inspection, cleansing and removal of discarded containers in all their buildings, structures, boats, visitor facilities and gei wai bund areas in the MPNR and HKWP to eliminate potential mosquito breeding grounds.
DEVB	● The high-level Interdepartmental Working Group on Mosquito Prevention at Works Sites will continue to closely monitor the situation at public works sites. ● To continue to liaise with the FEHD to ensure effective anti-mosquito measures are undertaken by contractors at public works sites. ● To encourage, through contractors' association, sub-contractors of private projects to actively participate in anti-mosquito work. ● The Occupational Safety and Health Council organises

Bureau/ Department	Anti-mosquito Plan for 2016
	an open seminar each on 31 March 2016 on prevention of Zika virus infection and other mosquito-related communicable diseases and on 19 April 2016 on mosquito control and prevention of mosquito-borne diseases at workplaces. It will also be invited to consider incorporating such wherever possible in its educational and promotional work. ● To consider strengthening the relevant penalty level under the existing regulatory mechanism. Note: According to the existing regulatory mechanism, the qualification of the contractors on the List of Approved Contractors for Public Works to bid public works will be affected if they repeatedly breach legislation related to mosquito control.
DH	**<u>Publicity activities on mosquito-borne diseases</u>** ● Publicity and health education activities on prevention of mosquito-borne diseases will continue in 2016 : (a) to liaise with the ISD to coordinate the broadcast of relevant television & radio APIs and video clips; (b) to enhance broadcast of APIs and videos via various channels including the CHP Facebook FanPage and Youtube Channel; (c) to arrange media interviews and publication of feature articles in magazines and newspapers on mosquito-borne diseases; (d) to update and upload relevant information on the CHP website and 24-Hour Health Education Hotline; to send email alerts to relevant stakeholders informing them of the latest development and the preventive measures, and solicit their coordination and support to strengthen

Bureau/ Department	Anti-mosquito Plan for 2016
	publicity activities; (e) to establish hyperlinks in the DH and other relevant website; (f) to enhance publicity in spring and summer time through the Summer Programme 2016 by distributing related printed health education materials to various places including health sectors, schools, public and private housing estates, public facilities of the LCSD and NGOs; and (g) to enhance publicity at community level including the display of giant wall banners on government buildings; roving exhibition via HP van; rolling text in public housing estates. • Preventive measures at boundary control points (BCPs) and health advice for travellers: (a) to continue monitoring and control of mosquito breeding site at the airport, all sea & land BCPs, cargo handling facilities and cross-boundary conveyances by regular inspection and close liaison with relevant stakeholders including operators of the BCPs and conveyances, District Pest Control Teams and Pest Control Advisory Section of FEHD; (b) to continue distribution of leaflets and display of posters on anti-mosquito measures at all BCPs; (c) to continue uploading updated health messages and outbreak news onto Travel Health Service website; (d) to continue health talk/ advice for travel agents/ tour guides at Travel Industry Council of Hong Kong; and (e) to include mosquito-borne diseases including Zika Virus Infection, dengue fever, Japanese encephalitis, malaria and yellow fever as topics in the travel health

Bureau/ Department	Anti-mosquito Plan for 2016
	bulletins. ● Other measures: (a) to disseminate information on mosquito-borne diseases and health education messages through letter-to-doctors, letter-to-institutions, press releases and via the articles published in Communicable Diseases Watch as appropriate; and (b) to enhance surveillance of the Zika virus infection (ZVI), the Prevention and Control of Disease Ordinance (Amendment of Schedule 1) Notice 2016 was gazetted to add ZVI as a notifiable infectious disease with effect from 5 February 2016. The DH would regularly hold Interdepartmental Coordination Committee on Mosquito-borne Diseases (ICC) meetings with relevant Bureaux / Departments to enhance the conduct of anti-mosquito measures, environmental hygiene, public health education and health advice on the prevention of Zika virus infection and its complications. The DH has also maintained close communication with the World Health Organization and health authorities of other places, including Guangdong and Macau, on the surveillance of ZVI; and (c) to update the "Global Malaria Risk Summary" in 2015 by Scientific Committee on Vector-borne Diseases of the CHP.
EDB	● EDB will jointly organise with FEHD a seminar on the dengue fever and other mosquito-transmitted diseases for school personnel on 6 May 2016 and alert schools within 100 m of any positive traps identified in FEHD's Monthly Ovitrap Surveys or identified in FEHD's investigation reports of dengue fever to strengthen preventive measures against mosquitoes.

Bureau/ Department	Anti-mosquito Plan for 2016
	● Regarding the promotion of the message of mosquito prevention and control to parents, EDB will provide assistance for FEHD and DH representatives to speak to the 18 district-based Federations of Parent-Teacher Associations on this subject at the district level, especially in districts with relatively high ovitrap indices. ● Circular Memoranda regarding strengthening of preventive measures against mosquitoes have been uploaded on EDB's webpage for schools' reference. ● Schools would also be reminded to continuously strengthen anti-mosquito measures and alerted to the fact that a few schools were fined last year for failing to make adequate anti-mosquito efforts through emails.
FEHD	● In 2015, the FEHD instigated 61 prosecutions against mosquito breeding in premises under the Public Health and Municipal Services Ordinance (Cap. 132), among which 29 involved construction sites and 32 involved other premises. FEHD will continue to take enforcement actions against persons in breach of this legislation. ● FEHD will continue to assist the HD in taking enforcement action against households found with mosquito breeding grounds. ● FEHD will continue to convene district anti-mosquito task force meetings with the concerned departments/parties and provide necessary advice and assistance to them in formulating mosquito prevention strategies whenever situation warrants, such as when Area Ovitrap Index for *Aedes albopictus* (AOI) reaches 20% or above. ● All FEHD District Environmental Hygiene Offices convened a special anti-mosquito task force meeting in March 2016 before the start of the rainy season to enhance relevant departments' awareness of the importance of mosquito control in venues under their management.

Bureau/ Department	Anti-mosquito Plan for 2016
	Their active participation in the mosquito control work at the district level within areas under their purview would be appealed for. ● FEHD has been installing mosquito screens at the vent pipes of the septic tanks of private village houses since March 2016 as a proactive measure to prevent mosquito breeding in septic tanks. ● FEHD has enhanced the dengue vector surveillance programme which covers 8 more areas, namely Tin Hau, Tsim Sha Tsui East, Lok Fu West, Kai Tak North, Ngau Chi Wan, Kowloon Bay, Tseung Kwan O North and Tsing Yi North. The Tseung Kwan O area was renamed as "Tseung Kwan O South" and the Tsing Yi area was renamed as "Tsing Yi South". A total of 52 areas in the community are covered by the surveillance programme commencing from October 2015. ● FEHD has maintained the ovitrap rapid alert system targeting at the management offices of residential premises, social welfare facilities, schools and utilities companies and construction companies with work sites that fall within the 52 areas of surveillance. Subscribers to the system will be notified immediately when the AOI of the area where their premises are located has reached the alert level of 20%. They will also be requested to post up specially designed alert notices in the common parts of their premises. ● With effect from January 2016, two more ovitraps have been set up in the surveyed area "Ma On Shan" for covering Tai Shui Hang and four more ovitraps have been added in the surveyed area "Kwun Tong" for covering Sau Mau Ping. Tai Shui Hang and Sau Mau Ping were visited by the patients of local dengue cases in 2015. ● Tests on dengue virus would be conducted on dengue vectors collected in areas where AOIs have

Bureau/ Department	Anti-mosquito Plan for 2016
	reached/exceeded 10%. ● The JE vector surveillance programme had been extended to cover strategic locations in Tuen Mun, Sai Kung, North, Sham Shui Po, Southern and Kwai Tsing districts in addition to Yuen Long district. Trapping of adult mosquitoes would be conducted in all the selected locations monthly throughout the year for test on JE virus. ● The dengue vector surveillance in all the 29 land and sea ports have been stepped up from once every month to once every fortnight since November 2015. ● The port dengue vector surveillance programme has been launched in Tuen Mun Ferry Terminal on a biweekly basis in February 2016 after the terminal re-opened on 28 January 2016. ● Port dengue vector surveillance at Hong Kong International Airport is conducted on a weekly basis and has been extended to the newly opened Mid Field Concourse in March 2016. ● Tests on dengue virus would be conducted on dengue vectors collected from ovitraps set in all port areas. **<u>Publicity and Education Activities in 2016</u>** ● Radio and TV APIs would be broadcast throughout the year. ● Stakeholders including Housing Department, Lands Department, Leisure and Cultural Services Department and the works departments as well as their contractors had been briefed on the importance of mosquito prevention and control in the bi-monthly Kai Tak Site Coordination Meeting convened by the Civil Engineering and Development Department in March 2016. They would be reminded of the need to prevent mosquito breeding in Kai Tak area in the coming meetings in 2016.

Bureau/ Department	Anti-mosquito Plan for 2016
	● The 2016 diary on anti-mosquito measures was uploaded to FEHD's website. ● AOI, Monthly Ovitrap Index for *Aedes albopictus* (MOI) and Port Ovitrap Index for *Aedes albopictus* (POI) have been released to the press on a monthly basis. ● Anti-mosquito exhibitions have been staged at Health Education Exhibition and Resource Centre. ● The slogan "Prevent Japanese Encephalitis and Dengue Fever Act Now" (齊來把蚊滅 預防日本腦炎登革熱) of the Anti-mosquito Campaign 2016 and other anti-mosquito messages are promulgated through the following channels- (a) television and radio APIs; (b) publicity materials e.g. posters, pamphlets, banners and diaries; (c) FEHD's homepage and hotline; (d) talks on anti-mosquito measures; (e) roving exhibitions; and (f) a broadcasting van. ● The same slogan will be printed on electricity bills of Hong Kong Electric in September 2016. **<u>Territory-wide Anti-mosquito Campaign 2016</u>** ● The territory-wide Anti-mosquito Campaign has been / would be implemented in three phases as follows: Phase I: 15 February 2016 – 18 March 2016 Phase II: 25 April 2016 – 1 July 2016 Phase III: 15 August 2016 – 21 October 2016

Bureau/ Department	Anti-mosquito Plan for 2016
	● The Campaign aims at – (a) heightening public awareness of the potential risk of dengue fever, Chikungunya fever, Japanese encephalitis and other mosquito-borne diseases; (b) encouraging community participation and forging close partnership among government departments concerned in anti-mosquito work; and (c) eliminating potential mosquito breeding sites. **<u>Territory-wide Thematic Mosquito Prevention and Control Special Operations in 2016</u>** ● A total of 266 teams in existence during the summer months in 2015 would be upkept during the winter months. ● **March - April 2016.** A three-week Thematic Mosquito Prevention and Control Special Operation targeting at cross boundary ferry piers and check points on land, areas with local dengue fever and Japanese encephalitis cases in 2014 and 2015, areas with AOI reaching 10% or above in April or May of 2014 and 2015 and areas with AOI reaching 20% in 2015, village houses, cargo and container terminals, construction sites, problematic spots, open space in vicinities of pig farms would be launched between 29 March and 15 April 2016 to sustain the momentum after completion of Phase I of the Anti-mosquito Campaign 2016. Member departments/bureaux and the Hospital Authority of the Interdepartmental Working Group on Pest Prevention and Control and utility companies have been invited to participate in the Special Operation. ● **18 April – 22 May 2016**. Through concerted efforts of Bureaux and Departments for the same period of time, two rounds of intensive mosquito prevention and control exercise would be conducted, with a view to eliminating a

Bureau/ Department	Anti-mosquito Plan for 2016
	whole generation of mosquitoes. ● **July – August 2016.** A four-week Thematic Mosquito Prevention and Control Special Operation will be launched between 11 July and 5 August 2016. ● **October – December 2016.** A nine-week Thematic Mosquito Prevention and Control Special Operation will be launched between 31 October 2016 and 30 December 2016. We will keep in view the development in the coming months to decide the emphases/themes of Phase II and Phase III of the above Thematic Operations.
GPA	● For properties under GPA's purview, the relevant Property Management Agents (PMA) are required to take the following anti-mosquito measures: (a) to put up relevant posters/notices to arouse awareness of occupants/residents and solicit their support to guard against mosquito-transmitted diseases; (b) to conduct daily inspection of areas where water may accumulate, e.g. drain holes, sand traps and gully traps, etc.; (c) to apply larvicide to all drains once a week; (d) to conduct fogging in high risk areas as and when required; (e) to conduct Pest Control at all common areas 1-2 times a month; (f) to remind nearby construction sites to take anti-mosquitoes measures; (g) to closely contact with FEHD to apply larvicide to nearby areas;

Bureau/ Department	Anti-mosquito Plan for 2016
	(h) to remind officers in joint-user office buildings to prevent accumulation of water in relation to office plants; (i) To seal up keyholes of manhole covers with adhesive tape to prevent breeding of mosquitoes; (j) To put up special posters/notices to arouse awareness of occupants/residents about Japanese Encephalitis and Dengue Fever; and (k) To implement appropriate measures to prevent Japanese Encephalitis and Dengue Fever. ● When the AOIs recorded by FEHD have risen above the alert level, respective PMA will step up the anti-mosquito measures as follows: (a) to brief their cleaning staff about anti-mosquito measure; (b) to increase the frequency of inspection to potential mosquito breeding grounds, e.g. roof; (c) to remove water from roof and open area after rain; (d) to clear drains and surface channels to prevent blockage; (e) to remove stagnant water; and (f) to fill up any defective ground surface.
HAD	● To assist with the dissemination of anti-mosquito message, for example, by distributing anti-mosquito leaflets and posters and facilitating community talks, exhibitions and/or briefing sessions by other departments where necessary. ● To carry out ad hoc maintenance, such as grass cutting,

Bureau/ Department	Anti-mosquito Plan for 2016
	along village footpaths and access roads maintained by HAD. ● To provide assistance in drawing the attention of owners' corporations of those housing estates/buildings that are undergoing or will shortly undergo repairs / maintenance / renovation to the importance of implementing anti-mosquito measures for prevention and control purposes.
HD	**Promotional / Publicity and Educational Programmes** ● To enrich and update the general knowledge in environmental hygiene and prevention of mosquito breeding in estates for staff members of HD, Property Service Agents and cleansing operatives, a seminar on "Prevention of Mosquito Breeding and Termite in Estate 2016" will be held on 19 May 2016 with the support from FEHD. ● Tenants will continuously be encouraged to report mosquito breeding black spots through the Housing Authority Hotline. ● Inspection guidelines and checklist have been provided to frontline management staff for guidance. ● Community education against mosquito breeding will be stepped up through promotional posters, notices and leaflets, estate newsletters, Estate Management Advisory Committee meetings and video segments/messages posted onto the Housing Channel through the LCD monitor installed at the G/F lift lobbies of public rental housing (PRH) blocks. ● Easy-pull banners will be displayed at PRH estates to promote messages on public hygiene and epidemic prevention such as anti-mosquito and rodent measures etc. **Enhanced Anti-mosquito Actions** ● Estate management offices have been instructed to mobilise necessary resources and work closely with FEHD for the

Bureau/ Department	Anti-mosquito Plan for 2016
	implementation of the territory-wide Anti-mosquito Campaign 2016. ● Anti-mosquito Special Cleansing Squads will be set up in PRH estates to carry out daily inspection of gullies, surface channels, hill slopes, flower beds etc. to eliminate accumulation of stagnant water at potential mosquito breeding black spots when the Area Ovitrap Index (AOI) of the areas concerned reach 20% or above. ● Mosquito catching apparatuses have been placed at strategic points of PRH estates located in areas with relatively high Area Ovitrap Index . ● Estates within districts with AOI over 10% will be alerted to step up anti-mosquito measures. Those estates within districts with AOI at alert level of 20% or above will be required to put up eye-catching notices at the G/F lift lobby of each estate block to alert tenants and solicit their cooperation and support to step up anti-mosquito measures in the estates. ● Regular inspections in PRH estates will continue to be conducted by HD, in conjunction with FEHD, to monitor the effectiveness of the anti-mosquito measures. ● Overgrown vegetations on flower beds and slopes will be pruned from time to time. Larvicide will be applied to manholes and surface channels. Maintenance work such as clearing of blocked drains and paving of uneven ground will be sped up. ● All building contractors of HD will be demanded to clear up any stagnant water in construction sites and keep the sites clean. Cleansing contractors will also be required to strengthen their efforts in keeping PRH estates and work sites clean. ● HD will check with the Owners' Corporations serving

Bureau/ Department	Anti-mosquito Plan for 2016
	estates under the Tenants' Purchase Scheme on whether anti-mosquito measures have already been included in the terms of management or cleansing contracts. If not, HD will advise them to do so. **Enforcement Action** ● HD will strengthen enforcement actions under the 'Marking Scheme for Estate Management Enforcement in public housing estates' and call for tenants' cooperation. Five penalty points will be allotted to households for committing the offence of "causing mosquito breeding by accumulating stagnant water" under the Scheme.
LandsD	● To enhance the regular programme of inspection and, if necessary, carry out cleaning of the fenced off Government sites. ● To conduct grass cutting and tidy up government land site black spots. To apply larvicidal oil or pesticide as and when necessary and take action to level the uneven ground where stagnant water is easily accumulated. ● To clear identified hillside illegal cultivation black spots to eliminate mosquito breeding grounds. ● To prosecute offender of illegal cultivation when sufficient evidence is collected. ● To strengthen grass cutting and tidy up the fenced off government land sites within 100m radius of the locations having high ovitrap index. ● To conduct joint operation with other departments in fighting against mosquito-borne disease. ● To distribute government posters and pamphlets through District Lands Offices to educate the general public.

Bureau/ Department	Anti-mosquito Plan for 2016
	● To remind government departments that allocated sites should be kept in a clean and tidy condition and that grass cutting should be performed regularly. ● To issue letters to tenants (Short Term Tenancies) and licensees (Government Land Licences) in assisting the Government in mosquito prevention. ● To enhance the supervision on contractors' performance on anti-mosquito measures. Any insufficient mosquito preventive measures or mosquito breeding places found would be accurately reflected in the contractor's quarterly performance report.
LCSD	● To step up inspection and strengthen vector prevention and control measures at LCSD venues. ● To carry out special anti-mosquito operations and cleansing operations at LCSD venues. ● To tighten up supervision over contractor staff in anti-mosquito work. ● To continue installation of mosquito trapping devices at LCSD venues. ● To conduct roving exhibitions on mosquito control and prevention of dengue fever at LCSD venues. ● To display and distribute anti-mosquito publicity materials such as banners, posters and leaflets. ● To step up enforcement action against littering offenders at LCSD venues.

Food and Health Bureau
April 2016

Annex H

New Measures introduced Recently and in The Anti-mosquito Campaign 2016

1. Since October 2015, FEHD has enhanced the dengue vector surveillance programme which covers eight more areas.

2. With effect from January 2016, two more ovitraps have been set up in the surveyed area "Ma On Shan" for covering Tai Shui Hang and four more ovitraps have been added in the surveyed area "Kwun Tong" for covering Sau Mau Ping which are in the vicinity of local dengue fever cases.

3. A rapid alert system targeting the management offices of residential premises, social welfare facilities, schools, construction sites and utilities companies has been enhanced to cover each of the 52 surveillance areas to ensure that anti-mosquito measures are taken promptly when the AOI of a particular area reaches the alert level of 20%.

4. The dengue vector surveillance in all the 29 land and sea ports have been stepped up from once every month to once every fortnight since November 2015.

5. The port dengue vector surveillance programme has been launched in Tuen Mun Ferry Terminal on a biweekly basis in February 2016 after the terminal re-opened on 28 January 2016. Port dengue vector surveillance at Hong Kong International Airport is conducted on a weekly basis and has been extended to the newly opened Mid Field Concourse in March 2016.

6. Zika Virus Infection has been added to the list of notifiable infectious disease with effect from 5 February 2016.

7. Installing mosquito screens at the vent pipes of the septic tanks of private village houses since March 2016 as a proactive measure to

prevent mosquito breeding in septic tanks.

8. Drawing to the attention of owners' corporations of those housing estates/buildings that are undergoing or will shortly undergo repairs / maintenance / renovation to the importance of implementing anti-mosquito measures for prevention and control purposes.

9. Encouraging, through contractors' association, sub-contractors of private projects to actively participate in anti-mosquito work.

10. Ascertaining if anti-mosquito measures have already been included in the terms of management or cleansing contracts commissioned by owners' corporations serving estates under the Tenants' Purchase Scheme; and if the answer is negative, the Housing Department will check them to do so.

11. Enhancing communication and broadening the community engagement networks as noted in paragraphs and 26 and 27 of the paper.