

PREPAREDNESS AND RESPONSE PLAN FOR DENGUE FEVER THE GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION

I. INTRODUCTION

Dengue fever (“DF”) is an important mosquito-borne disease with public health concern worldwide, especially in the tropics and sub-tropics. The dengue viruses encompass four different serotypes. Dengue infection has a wide spectrum of clinical manifestations and outcomes. The disease is usually mild and self-limiting, but subsequent infections with other serotypes of dengue virus are more likely to result in severe dengue, which can be fatal. DF is not directly transmitted from person to person. It is transmitted to humans through the bites of infective female *Aedes* mosquitoes. Patients with DF are infective to mosquitoes during the febrile period. When a patient suffering from DF is bitten by a vector mosquito, the mosquito is infected and it may spread the disease by biting other people. DF can spread rapidly in densely populated areas that are infested with the vectors *Aedes aegypti* or *Aedes albopictus*. Besides, transmission through blood transfusion has also been reported.

2. DF has been a statutory notifiable disease in Hong Kong since 1994. In view of the high incidence of DF in our neighbouring countries/areas and some popular travel destinations, and the presence of dengue vector (i.e. *A. albopictus*) in Hong Kong, there is a substantial risk of local transmission and explosive outbreaks. The dengue vector *A. albopictus* is widely distributed in Hong Kong. This, coupled with the high volume of international travel and close vicinity to DF endemic areas, make Hong Kong vulnerable to the threat of DF outbreaks.

3. With the possibility of trans-ovarian transmission in mosquitoes, it is very difficult to eliminate dengue virus once it is established in a community or an area. It is therefore of utmost importance that any sign of local outbreak of DF in Hong Kong should be responded to promptly

and that every effort should be made to prevent local transmission of the disease in the first instance.

4. In the past, imported cases of DF occurred frequently in Hong Kong while sporadic local cases have also occurred occasionally. Hong Kong had experienced a local outbreak in Ma Wan in 2002 which affected 17 persons. During 2003-2017, the annual number of cases ranged between 30 and 124. Local DF cases had been recorded in 2003 (one case), 2010 (four cases) and every year from 2014 to 2017 (one to four cases per year). The large outbreak of local DF in August 2018 which affected a total of 29 cases was unprecedented.

5. To ensure that the Government of the Hong Kong Special Administrative Region (“HKSARG”) is equipped with the core capacities to prevent, detect, control and respond quickly, efficiently and in a coordinated manner to a DF outbreak, and to prevent disastrous complications and unnecessary burden to the society, this document sets out the preparedness and response plan of the HKSARG (the “Plan”) when DF may have significant public health impact to Hong Kong. According to the generic framework of preparedness and response measures to combat emerging communicable diseases, the following factors will be considered in activating various response levels –

- (a) clinical severity of the disease such as its clinical course and any serious consequences leading to hospitalisations and deaths;
- (b) transmissibility of the infection, and the capability of sustaining community level outbreaks;
- (c) geographical spread of the disease in humans locally;
- (d) vulnerability of the population;
- (e) risk of serious consequences;
- (f) availability of preventive measures, such as medication and vaccination;
- (g) impact on healthcare infrastructure in Hong Kong; and
- (h) recommendations by international health authorities, such as the World Health Organization (“WHO”).

6. The presence of *A. albopictus* in Hong Kong makes our population vulnerable and there are risks of explosive outbreaks if mosquito control is inadequate. Hence, mosquito control is most important. These considerations would be taken into account on top of the epidemiological situation when activating and deactivating the preparedness and response levels.

7. The Plan defines the response levels and the corresponding command structures to be set up at each response level. A three-tier response level is used. The Plan aims to provide a framework of response system for agreed and coordinated efforts amongst different government departments and organisations with a view to reducing the public health impact on Hong Kong population due to DF. It also serves as a tool for clear communication of the level of risk with the public. Relevant bureaux and departments (“B/Ds”), agencies, companies and organisations should take note of this plan in devising their contingency plans and response measures. The Plan includes the following key features –

- (a) three-tier response level system with each level representing a graded risk of DF affecting Hong Kong and its health impact on the community;
- (b) key factors to be considered in the risk assessment;
- (c) activation and standing down mechanism;
- (d) public health actions to be taken at each response level; and
- (e) key B/Ds to be involved.

II. GOVERNMENT’S RESPONSE LEVELS

8. The Plan includes three response levels – **Alert, Serious and Emergency**. These response levels are based on risk assessment of DF that may affect Hong Kong and its health impact on the community.

9. The public health objectives of the three response levels are –

Alert Response Level	(a) To contain the outbreak as soon as possible. (b) To minimise the number of locally acquired cases.
Serious Response Level	(a) To contain the outbreak as soon as possible. (b) To minimise the number of foci of infection.
Emergency Response Level	(a) To minimise morbidity and mortality. (b) To prevent DF from becoming endemic in Hong Kong.

Alert Response Level

10. Alert Response Level corresponds to a situation where the immediate health impact caused by DF on local population is **low**. **Generally, it depicts a situation when there are THREE or more locally acquired cases with onset dates within a period of TWO weeks.**

11. Secretary for Health (“S for Health”) may activate or stand down this response level upon the advice of Director of Health (“DoH”). DoH will consider the key factors mentioned in paragraph 5 in conducting the risk assessment for formulation of the advice.

Serious Response Level

12. Serious Response Level corresponds to a situation where the risk of health impact caused by DF on local population in Hong Kong is **moderate**. Generally, it depicts a situation when there are more than TEN locally acquired cases with onset dates within a period of TWO weeks and epidemiological linkage can be identified among the cases in geographical clusters.

13. S for Health may activate or stand down this response level upon the advice of DoH. DoH will consider the key factors mentioned in paragraph 5 in conducting the risk assessment for formulation of the advice.

Emergency Response Level

14. Emergency Response Level corresponds to a situation where the risk of health impact caused by DF on local population in Hong Kong is **high and imminent**. Generally, it depicts a situation when clear geographical clusters of transmission cannot be identified suggesting there is territory-wide local transmission.

15. Chief Executive (“CE”) or a delegate may activate or direct standing down from this response level upon the advice of S for Health. DoH will consider the key factors mentioned in paragraph 5 in conducting the risk assessment to support S for Health in the formulation of advice.

Adjustment of Response Levels

16. When the situation scales down, DoH will advise S for Health and / or S for Health will advise the CE on the **standing down** of response level or a complete stand-down.

III. COMMAND STRUCTURE

Alert Response Level

17. At the Alert Response Level, a simplified response command structure will be put in place. The Health Bureau (“HHB”) will coordinate and steer government response with main parties assessing the nature and level of risks. These parties include but not limited to the following –

- (a) Department of Health (“DH”);
- (b) Food and Environmental Hygiene Department (“FEHD”); and
- (c) Hospital Authority (“HA”).

Serious Response Level

18. At the Serious Response Level, a **Steering Committee chaired by S for Health** will be set up to coordinate and steer government response with HHB providing secretariat support.

19. The Steering Committee will have the following as its core members –

- (a) Permanent Secretary for Housing / Director of Housing;
- (b) Permanent Secretary for Security;
- (c) Permanent Secretary for Health;
- (d) Permanent Secretary for Environment and Ecology (Food);
- (e) Permanent Secretary for the Environment and Ecology (Environment);
- (f) Permanent Secretary for Education;
- (g) Permanent Secretary for Commerce and Economic Development;
- (h) Permanent Secretary for Development (Works);
- (i) Permanent Secretary for Culture, Sports and Tourism;

- (j) Under Secretary for Health;
- (k) DoH;
- (l) Director of Social Welfare;
- (m) Director of Agriculture, Fisheries and Conservation;
- (n) Director of Food and Environmental Hygiene (“DFEH”);
- (o) Director of Leisure and Cultural Services;
- (p) Director of Information Services (“DIS”);
- (q) Director of Home Affairs (“DHA”);
- (r) Director of Environmental Protection;
- (s) Commissioner for Tourism;
- (t) Director of Water Supplies;
- (u) Commissioner for Transport;
- (v) Director of Highways;
- (w) Director of Civil Engineering and Development;
- (x) Director of Architectural Services;
- (y) Director of Drainage Services;
- (z) Director of Electrical and Mechanical Services;
- (aa) Director of Lands;
- (bb) Director of the Hong Kong Observatory¹;
- (cc) Government Property Administrator;
- (dd) Controller, Centre for Health Protection (“CCHP”); and
- (ee) Chief Executive of HA.

20. The Steering Committee will co-opt other senior officials and non-government experts as circumstances warrant. Members may send their representatives to attend the meetings as appropriate.

Emergency Response Level

21. At the Emergency Response Level, the **Steering Committee will be chaired by the CE** with HHB providing secretariat support.

22. As the situation warrants, the Steering Committee will have the following as its core members –

¹ To serve as ad hoc member.

- (a) Chief Secretary for Administration;
- (b) Financial Secretary;
- (c) Secretary for Justice;
- (d) Deputy Secretaries of Departments
- (e) Director, CE's Office;
- (f) All Directors of Bureaux;
- (g) DoH;
- (h) DFEH ;
- (i) DIS;
- (j) DHA;
- (k) CCHP; and
- (l) Chief Executive of HA.

23. The Steering Committee may co-opt other senior officials and non-government experts as members. Members may send their representatives to attend Steering Committee meetings as circumstances warrant.

24. Sub-committee(s) chaired by S for Health may be set up under the Steering Committee, as appropriate, to look after operational matters and specific issues and to make recommendations to the Steering Committee. Representatives from DH and HA should be the core members of the sub-committee(s). S for Health may invite members from relevant B/Ds and non-government experts to join the sub-committee(s).

ONGOING PUBLIC HEALTH RESPONSE MEASURES

25. All relevant government B/Ds are advised to draw up contingency plans in response to DF to ensure coordinated responses and essential services in the Government and in major stakeholding sectors. All relevant B/Ds should also periodically conduct exercises and revise related contingency plans.

26. Hong Kong is under the threat of DF as it is surrounded by countries/areas with endemic transmission of DF. Imported cases occurred frequently in Hong Kong while sporadic local cases have also occurred occasionally. Ongoing preventive and control measures are in place.

26.1 *Surveillance*

- (a) DH will –
 - (i) monitor the DF situation;
 - (ii) maintain close liaison with WHO and relevant health authorities on the DF situation;
 - (iii) conduct epidemiological investigation of all the reported DF cases and informs relevant parties to implement control measures as appropriate; and
 - (iv) liaise with WHO and universities on epidemiological and academic aspects as necessary.

26.2 *Laboratory Service Provision*

- (a) DH will –
 - (i) oversee laboratory services for DF in support of clinical management and public health measures;
 - (ii) liaise with HA laboratories, FEHD and other local laboratories for effective laboratory service provision for DF; and
 - (iii) inform relevant parties on any significant laboratory findings requiring follow-up actions.

- (b) HA will –
 - (i) liaise with the Public Health Laboratory Services Branch (“PHLSB”) of DH for service provision for DF; and
 - (ii) send specimens to PHLSB for DF test.

26.3 *Infection Control, Investigation and Control Measures*

- (a) Environment and Ecology Bureau (“EEB”) will convene meeting of the Pest Control Steering Committee (“PCSC”) before the arrival of the rainy season and on ad-hoc basis as appropriate, for example, when local cases are reported or of concern, or when there are any situations requiring preemptive actions.
- (b) DH will –
 - (i) regularly review and update the investigation protocol on DF and share with FEHD;
 - (ii) conduct epidemiological investigation within 24 hours of notification and relay the epidemiological findings to Pest Control Advisory Section (“PCAS”) of FEHD for appropriate vector control measures (including the local movements during the incubation period and febrile stage);
 - (iii) isolate confirmed DF cases in hospitals during febrile stage;
 - (iv) share the information pertaining to the DF case with Red Cross Blood Transfusion Service to prevent transmission of DF through blood transfusion and conduct contact tracing as appropriate;
 - (v) inform respective health authorities on clustering of imported cases as appropriate; and
 - (vi) organise infectious disease management training for health care professionals.
- (c) FEHD will –
 - (i) notify relevant B/Ds of any DF case for prompt vector

control actions within 24 hours after receiving notification from DH;

- (ii) carry out entomological surveys in areas within 250 metres radius of all local movement of the patient during incubation period and infectious period of the disease; and disseminate survey findings to relevant B/Ds for follow up actions;
- (iii) convene mosquito control task force meetings at the district level;
- (iv) regularly update protocols and oversee vector surveillance, in particular, Gravidtrap Indices. The findings will regularly be sent to DH and relevant departments for the implementation of respective anti-mosquito measures;
- (v) boost mosquito prevention by strengthening the manpower to conduct intensive mosquito prevention work, and redeploy adequate manpower for the supervisory work;
- (vi) strengthen inspections to potential mosquito breeding grounds and take stringent law enforcement actions;
- (vii) carry out appropriate targeted anti-mosquito measures on receiving report of imported dengue virus infection from DH. For imported cases, obtain information from DH on places visited by the patient(s) to ascertain the target areas for prompt control works to prevent the spread of dengue virus infection. The patient(s)'s residence, workplace, sites visited during the infectious period of the disease and the hospital to which the patient(s) was / were admitted would be investigated for prompt control measures;
- (viii) carry out vector control actions cover an area within a radius 250 metres around the patient's residence, workplace, hospital admitted and any other places visited by patient locally during the incubation period and the infectious period of the disease;
- (ix) carry prompt mosquito control work starting two days and seven days after the first round of control works by applying fogging and larval control at the target areas when receiving the directive and information from PCAS;

- (x) advise HA and private hospitals to adopt vector prevention and control measures to ensure relevant hospitals are vector-free; and
 - (xi) advise relevant B/Ds and relevant stakeholders² to enhance vector prevention and control measures in areas under their purview according to the results of investigations and their respective procedures, guidelines and / or contingency plans.
- (d) HA will –
- (i) regularly review and update clinical management guidelines on DF; and
 - (ii) arrange confirmed cases to be hospitalised in a mosquito-free environment during febrile stage.

26.3.1 When there are locally acquired cases,

- (a) DH will –
- (i) conduct active case finding, contact tracing and medical surveillance;
 - (ii) provide detailed information on the movements of the cases to FEHD for mosquito control;
 - (iii) liaise with HA / private doctors to enhance testing / surveillance in certain target population as appropriate;
 - (iv) conduct site visits to the cases' residential place and joint health talk with FEHD representatives at the residential areas of the cases as appropriate;
 - (v) assess the epidemiological and entomological information with FEHD to determine high risk areas;

² Relevant B/Ds include Agriculture, Fisheries and Conservation Department ("AFCD"), Architectural Services Department ("ArchSD"), Civil Engineering and Development Department ("CEDD"), DH, Development Bureau ("DEVB"), Drainage Services Department ("DSD"), Education Bureau ("EDB"), Electrical and Mechanical Services Department ("EMSD"), Environmental Protection Department ("EPD"), Home Affairs Department ("HAD"), Highways Department ("HyD"), HA, Housing Department ("HD"), Information Services Department ("ISD"), Labour Department ("LD"), Lands Department ("LandsD"), Leisure and Cultural Services Department ("LCSD"), Marine Department ("MD"), Social Welfare Department ("SWD"), Transport Department ("TD"), Tourism Commission ("TC"), Water Supplies Department ("WSD"), etc. This applies to subsequent references to "relevant B/Ds and relevant stakeholders".

- (vi) isolate confirmed DF cases in hospitals during febrile stage;
- (vii) inform District Officers of HAD of respective region of DF cases for their assistance in liaising with the local community and, where necessary, coordinating with other government departments at district level on anti-mosquito measures;
- (viii) handle press enquiries, issue press releases on the latest DF situation in Hong Kong, and organise press briefings as and when required.
- (ix) step up health advice to the public through various means including pamphlets, posters, infographics, announcements in the public interest (“APIs”), website, social media, 24-hour DH Health Education Hotline, GovHK Notifications App and incorporates health messages in ongoing health education activities;
- (x) review and update clinical guidelines as appropriate; and
- (xi) set up Emergency Hotline Centre (“EHLIC”) to answer public enquiries.

(b) FEHD will –

- (i) obtain information from parties concerned on places visited by the patient(s) to ascertain the target areas for prompt control works to prevent the spread of dengue virus infection (the target areas may involve two or more districts including areas within a radius of 250 metres from the patient(s)’s residence, workplace, sites visited during the incubation period and infectious period of the disease and the hospital to which the patient(s) was / were admitted);
- (ii) carry out mosquito (egg, larval and adult) control actions covering an area within a radius of 250 metres around the patient(s)’s residence, workplace, hospital admitted and any other places visited by the patient locally during the incubation period and infectious period of the disease. The findings will be sent to DH;

- (iii) conduct larval control including carrying out larviciding weekly for a total of five rounds starting from Day 1;
- (iv) arrange fogging on alternative days for 16 days followed by fogging once every five days for another three rounds to eradicate infective vectors and prevent dengue virus infection from establishing a foothold in Hong Kong;
- (v) conduct trapping of mosquitoes by gravidtraps and light traps, within a radius of 100 metres from the sites where the patient of local dengue case has visited during the incubation period, and send the collected vectors (both larvae and adult) to DH for viral examination;
- (vi) conduct health talks jointly with DH;
- (vii) advise HA and private hospitals to adopt vector prevention and control measures to ensure relevant hospitals are vector-free;
- (viii) advise relevant B/Ds and relevant stakeholders to enhance vector prevention and control measures in areas under their purview according to the results of investigations and their respective procedures, guidelines and/or contingency plans;
- (ix) step up mosquito control by fogging in appropriate areas such as those scrubby areas in the vicinity of high human activities (e.g. housing estates and schools);
- (x) identify the ownership of the source of breeding, and advise the relevant parties to eliminate the source of breeding (e.g. to remove the stagnant water) or take out enforcement actions, as appropriate;
- (xi) carry out prompt follow-up mosquito (larvae and adult) prevention and control measures at the target areas (areas with positive Gravidtrap Indices detected);
- (xii) immediately convene meetings with the interdepartmental task forces on anti-mosquito work to discuss measures to strengthen mosquito prevention and control at the headquarters level;
- (xiii) offer technical advice on mosquito prevention and control to other B/Ds and the public;

- (xiv) convene mosquito control task force meetings at the district level of concerned districts; and
 - (xv) liaise with relevant neighbouring health authorities and approach them as necessary to obtain information on their relevant vector prevention and control measures which have been implemented.
- (c) HA will –
- (i) prepare for organising staff forum, and update staff on relevant information on DF; and
 - (ii) arrange confirmed cases to be hospitalised in a mosquito-free environment during febrile stage.

26.4 *Provision of Medical Services*

- (a) HA will –
- (i) regularly review and update clinical management guidelines on DF; and
 - (ii) review screening procedures and donor deferral policy for blood donation.

26.5 *Vector Control and Risk Communication*

All relevant government B/Ds are advised to perform respective prevention and control measures on a continuous basis, and to step up vector control and provision of specific advice particularly to targeted groups. For example –

- (a) DEVB will request works departments to enhance the supervision of public works construction sites with respect to the implementation of mosquito control measures.
- (b) EDB will disseminate information to schools on preventing the spread of DF in schools.
- (c) AFCD will –

- (i) strengthen mosquito preventive measures in wholesale markets operated by AFCD, the Vegetable Marketing Organization (“VMO”) and the Fish Marketing Organization (“FMO”) throughout the year;
 - (ii) conduct regular review to eliminate any potential mosquito breeding places in these wholesale markets;
 - (iii) distribute leaflets and work closely with FEHD and DH to give talks on anti-mosquito measures to farmers, fish farmers, market users, fish traders and fishermen associations;
 - (iv) regularly inspect and cleanse recreation sites, recreation facilities, hiking trails and construction sites and carry out clearance of weeds;
 - (v) continue to advise country park visitors to protect themselves against insect bites through verbal advice, leaflets and posters; and
 - (vi) advise morning walkers not to keep containers in country parks and hillsides and remove any unauthorised planting sites, level depressions which can hold water and remove water storage devices found in country parks to prevent mosquito breeding.
- (d) EPD will –
- (i) disseminate information to relevant contractors of EPD's waste facilities / sites on DF prevention measures; and
 - (ii) having regard to the fact that facilities/sites are prone to the breeding of mosquitoes, remind their contractors on the importance of mosquito prevention, as well as enhance the efforts to eliminate mosquitoes where applicable.
- (e) FEHD will –
- (i) step up its mosquito control work including during winter;
 - (ii) review the number of surveillance areas with gravidtraps for *A. albopictus* across the territory and strengthen the surveillance as necessary;

- (iii) step up surveillance operations for *A. albopictus* in all port areas (except the airport where surveillance is done once a week) from once a month to twice a month;
 - (iv) increase the number of out-sourced pest control roving teams in winter;
 - (v) step up mosquito control work during the year-end cleanup campaign;
 - (vi) implement the Anti-mosquito Campaign and Thematic Mosquito Prevention and Control Special Operations; and
 - (vii) having regard to the fact that works sites are prone to the breeding of mosquitoes, advise relevant departments to remind their contractors on the importance of mosquito prevention, as well as enhancing the efforts to eliminate mosquitoes particularly in works sites.
- (f) HAD will provide assistance to relevant B/Ds in disseminating information to hotels, guesthouses, bedspace apartments, property management companies, owners' corporations and mutual aid committees on DF prevention measures (e.g. by providing the contact information of the above parties).
- (g) HA will –
 - (i) strengthen mosquito prevention and control measures including larviciding and fogging, and implement anti-mosquito initiatives of FEHD in the premises under HA's management;
 - (ii) monitor closely the performance of pest control contractors;
 - (iii) remind staff and visitors of hospitals the importance of mosquito prevention in the compound of hospitals; and
 - (iv) maintain close liaison with FEHD for expertise advice and for problems near the hospital areas for follow up.
- (h) HD will –
 - (i) conduct regular cleansing and implement mosquito prevention and control measures in the public areas of

- public rental housing estates; encourage residents to maintain good hygiene practices including mosquito prevention, and take enforcement actions against hygiene offences; and
 - (ii) conduct regular anti-mosquito works in works sites via contractors.
- (i) LD will disseminate information to employers, employees and associations on preventing the spread of DF in the workplace.
 - (j) LandsD will conduct regular inspections and take necessary actions to ensure the cleanliness and tidiness of fenced-up government sites under their control and step up the frequency and intensity of anti-mosquito work.
 - (k) LCSD will –
 - (i) disseminate information to staff of all districts and sections on preventing the spread of DF in LCSD venues such as parks, playgrounds, sitting-out areas, sports grounds, sports centres, swimming pools and beaches, etc.;
 - (ii) step up the routine anti-mosquito and cleansing operations in LCSD venues, including removing stagnant water and distributing anti-mosquito publicity materials;
 - (iii) provide venues for conducting roving exhibitions on the control and prevention of mosquito-borne diseases and DF;
 - (iv) check the performance of mosquito trapping devices installed at LCSD venues;
 - (v) control overgrown vegetation in LCSD venues; and
 - (vi) step up enforcement action against littering in LCSD venues.
 - (l) Relevant works departments (including ArchSD, CEDD, DSD, EMSD, HyD and WSD) will –
 - (i) implement appropriate enhanced measures at construction

- sites and facilities under their purview as per DEVB's guidelines issued; and
- (ii) enforce DEVB guidelines and ensure supervision of site supervisory staff and contractors will be enhanced based on gravidtraps levels.
- (m) SWD will disseminate information to child care centres, community care and support services units for elderly persons and persons with disabilities, residential care homes for the elderly and persons with disabilities, drug treatment and rehabilitation centres, and other residential units on preventing the spread of DF in the centres/homes/units.
- (n) SWD and other non-governmental organisations will alert elderly persons and needy persons in the context of prevention of DF.
- (o) TC will help disseminate information targeting tourists and the travel sector on hygiene and infection control.
- (p) TD will disseminate information to the transport sector on preventing the spread of DF on public transport service vehicles and ferries.

26.6 *Port Health Measures*

- (a) DH will –
 - (i) provide health education for travelers on DF at boundary control points (“BCPs”), through operators of BCPs, cross-boundary conveyances and travel industry and through the Travel Health Service website; and
 - (ii) advise operators of cross-boundary conveyances the need for disinfection as appropriate.

IV. SPECIFIC PUBLIC HEALTH RESPONSE MEASURES FOR INDIVIDUAL RESPONSE LEVELS

27. Depending on the different Response Levels, different levels of the public health response measures would be taken. In general, response measures should include the following key areas –

- (a) surveillance;
- (b) laboratory support;
- (c) infection control, Investigation and control measures;
- (d) provision of medical services;
- (e) vector control;
- (f) port health measures; and
- (g) risk communication.

Alert Response Level

28. Generally, it depicts a situation when there are THREE or more locally acquired cases with onset dates within a period of TWO weeks.

28.1 Surveillance

- (a) DH will –
 - (i) inform and liaise with HA / private doctors to enhance testing / surveillance in certain target population;
 - (ii) consider activating electronic platform (namely “e-Dengue”) for doctors working in HA to report the case through the platform if they order blood test for DF for a patient;
 - (iii) liaise with FEHD for information on vector surveillance and control; and
 - (iv) liaise with WHO and universities on epidemiological and academic aspects as necessary.
- (b) HA will collaborate with DH to consider activating “e-Dengue”, the electronic platform.

28.2 *Laboratory Service Provision*

- (a) DH will –
 - (i) oversee laboratory services for DF in support of clinical management and public health measures;
 - (ii) liaise with HA laboratories, FEHD and other local laboratories for effective laboratory service provision for DF; and
 - (iii) inform relevant parties on any significant laboratory findings requiring follow-up actions.
- (b) HA will –
 - (i) send specimens to PHL SB for DF test; and
 - (ii) review laboratory diagnosis strategy and prepare to enhance capacity.

28.3 *Infection Control, Investigation and Control Measures*

- (a) EEB will convene ad-hoc meeting of the PCSC to provide policy steer.
- (b) DH will –
 - (i) conduct active case finding, contact tracing and medical surveillance;
 - (ii) provide detailed information on the movements of the cases to FEHD for mosquito control;
 - (iii) conduct site visits to the cases' residential place and joint health talk with FEHD representatives at the residential areas of the cases as appropriate;
 - (iv) assess the epidemiological and entomological information with FEHD to determine high risk areas;
 - (v) isolate confirmed DF cases in hospitals during febrile phase; and
 - (vi) review and update clinical guidelines as appropriate.
- (c) HA will –

- (i) admit patients of confirmed cases in a mosquito-free environment during febrile stage; and
- (ii) organise staff forum, and update staff on relevant information on DF.

28.4 *Provision of Medical Services*

- (a) HA will –
 - (i) regularly review and update clinical management guidelines on DF; and
 - (ii) review the screening procedures and donor deferral policy for blood donation.

28.5 *Vector Control*

Where appropriate, HHB, FEHD, DH, HAD, Civil Aid Service and District Council will co-organise anti-mosquito campaign/operation.

- (a) DEVB will request works departments to step up inspection; and increase the frequency and intensity of anti-mosquito work.
- (b) EDB will –
 - (i) closely work with DH and FEHD to disseminate information to schools on preventing the spread of DF in schools;
 - (ii) remind schools to implement appropriate hygienic measures, particularly in mosquito control, to prevent the spread of mosquito-related and other communicable diseases in schools; and
 - (iii) remind schools to seek advice from DH / FEHD if necessary.
- (c) AFCD will –
 - (i) step up inspection and increase cleansing frequency of recreation sites, recreation facilities, trails and works sites

at country parks to eliminate potential mosquito breeding grounds;

- (ii) pay additional efforts to remove discarded containers particularly in country parks and morning walkers' garden hotspots and give advice to visitors and morning walkers not to store water, keep containers and dispose of containers properly in country parks;
- (iii) advise World Wide Fund for Nature Hong Kong to step up inspection, cleansing and removal of discarded containers in Mai Po Nature Reserve to eliminate potential mosquito breeding grounds;
- (iv) step up inspection, cleansing and removal of discarded containers in the Hong Kong Wetland Park to eliminate potential mosquito breeding grounds;
- (v) liaise with management staff of the pig farms in the vicinity of the patient(s)'s residence to enhance mosquito prevention work and promotion activities;
- (vi) distribute leaflets and work closely with FEHD and DH to give talks on anti-mosquito measures to farmers, fish farmers, market users, fish traders and fishermen associations;
- (vii) re-issue notices at government wholesale food markets putting stronger emphasis on the need to implement anti-mosquito measures, and reinforce the message in the AFCD's Market Management Advisory Committee meetings with market traders;
- (viii) ensure weekly application of larvicide against mosquito at government wholesale food markets;
- (ix) organise "Market Clean-up Days" for the Cheung Sha Wan Wholesale Vegetable Market and Wholesale Fish Markets.
- (x) advise the FMO to display posters in its seven wholesale fish markets for promotion of market cleanliness and anti-mosquito measures;
- (xi) advise Cheung Sha Wan Wholesale Vegetable Market under the VMO 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;
- (xii) remind VMO to maintain close contact with FEHD to eliminate potential mosquito breeding sites directly adjacent to the VMO market premises;
 - (xiii) strengthen liaison with operators and concerned parties of the agriculture industry regarding the publicity and mosquito prevention work in wholesale markets, farms and their working environment. Specifically, field officers will give verbal reminders to livestock farmers, requesting them to keep farms in good hygiene condition to prevent mosquito-borne diseases, during routine inspections;
 - (xiv) issue letters on prevention of DF to livestock farmers; and
 - (xv) issue letters on prevention of DF to all Vegetable Marketing Co-operative Society and Pig Raising Co-operative Society.
- (d) DH will perform relevant mosquito control and preventive measures at premises under DH's purview in accordance with FEHD's advice.
 - (e) EPD will remind the contractors to upkeep the anti-mosquito control measures and enhance the frequency on the facilities/sites as necessary.
 - (f) FEHD will –
 - (i) regularly update protocols and oversee vector surveillance, in particular, Gravidtrap Indices. The findings will regularly be sent to DH and relevant B/Ds for the implementation of respective anti-mosquito measures;
 - (ii) boost mosquito prevention by strengthening the manpower to conduct intensive mosquito prevention work, and redeploy adequate manpower for the supervisory work;

- (iii) strengthen inspections to potential mosquito breeding grounds and take stringent law enforcement actions;
- (iv) carry out appropriate targeted anti-mosquito measures on receiving report of imported dengue virus infection from DH. For imported cases, obtain information from DH on places visited by the patient(s) to ascertain the target areas for prompt control works to prevent the spread of DF. The patient(s)'s residence, workplace, sites visited during the infectious period of the disease and the hospital to which the patient(s) was / were admitted would be investigated for prompt control measure;
- (v) carry out specific control measures including larviciding weekly for a total of four rounds and fogging once every five days for a total of five rounds starting from Day 1 to sustain suppression of adult vector density;
- (vi) advise HA and private hospitals to adopt vector prevention and control measures to ensure relevant hospitals are vector-free;
- (vii) advise relevant B/Ds and relevant stakeholders to enhance vector prevention and control measures in areas under their purview according to the results of investigations and their respective procedures, guidelines and/ or contingency plans; and
- (viii) communicate with non-government stakeholders in the fields of pest control, property management and cleansing to appeal for their support in –
 - collaboration with the Government's "Anti-mosquito Operation" and disseminating mosquito control messages to their members with a view to raising their awareness in mosquito control;
 - stepping up frontline cleansing workers' effort to timely remove stagnant water and refuse;
 - reporting of any mosquito infestation location to the estate management for taking forward mosquito control work; and
 - enhancing mosquito control measures in housing

estates and the surroundings, such as increasing the frequency of cleansing and spraying mosquito repellents.

- (g) District Offices of HAD will, if required, assist in enhancing measures that may contribute to vector control.
- (h) HA will –
 - (i) inform concerned hospitals upon admission of confirmed cases of DF to carry out specific control measures including fogging once every five days for four rounds for imported DF cases; and fogging on alternate days for 16 days, followed by fogging once every five days for another three rounds for local DF cases;
 - (ii) intensify and monitor closely the mosquito prevention and control program including during the winter period; and
 - (iii) enhance monitoring of works agents to strengthen anti-mosquito measures and eliminate accumulation of stagnant water and construction waste in construction areas.
- (i) HD will –
 - (i) intensify the regular mosquito preventive measures and step up housekeeping and cleansing of public rental housing estates;
 - (ii) strengthen supervision of contractors to step up frequency and intensity of anti-mosquito works; and
 - (iii) help disseminate information to frontline staff and contractors on preventing the spread of DF in public rental housing estates and works sites.
- (j) LandsD will –
 - (i) enhance the inspection frequency of fenced-up government sites under their control;
 - (ii) promptly conduct necessary cleaning and grass cutting work thereon; and

- (iii) further enhance the frequency and intensity of anti-mosquito work.
- (k) LCSD will –
- (i) enhance inspection of service contractors to step up frequency and intensity of anti-mosquito work;
 - (ii) step up weekly application of larvicide against mosquito to prevent the spread of DF in LCSD venues such as parks, playgrounds, sitting-out areas, sports grounds, sports centres, swimming pools and beaches, etc.;
 - (iii) recirculate FEHD's technical guidelines on prevention of mosquito breeding to staff of all districts and sections for reference; and
 - (iv) carry out special anti-mosquito (including larval and adult) and cleansing operations in LCSD venues within a radius of 250 metres around the places visited by the patients locally during the incubation period and infectious period of the disease.
- (l) MD will –
- (i) assist in the publicity amongst the owners / coxswains / agent of vessels to prevent DF; and
 - (ii) enhance supervision / monitoring of cleansing services and anti-mosquito work in the port areas under its management.
- (m) SWD will advise residential care homes for the elderly ("RCHEs"), residential care homes for person with disabilities ("RCHDs") and child care centres to step up preventive work against DF, and also remind other residential units to prevent DF.
- (n) Works departments (including ArchSD, CEDD, DSD, EMSD, HyD and WSD) will –
- (i) enhance supervision by increasing the frequency and intensity of anti-mosquito work and strengthening

monitoring at construction sites and facilities under their purview as per DEVB's guidelines issued; and

- (ii) enhance the supervision of contractors and ensure they will step up the frequency and intensity of anti-mosquito work including protection of site personnel from being infected by DF.

28.6 *Port Health Measures*

- (a) DH will –
 - (i) work with FEHD on the anti-mosquito measures at BCPs;
 - (ii) review the port health measures and make recommendations to senior directorates as appropriate; and
 - (iii) provide health education for travellers on DF at BCPs, through operators of BCPs, cross-boundary conveyances and travel industry and through the Travel Health Service website.

28.7 *Risk Communication*

- (a) EDB will disseminate information to schools on preventing the spread of DF in schools.
- (b) DH will –
 - (i) set up EHLC to answer public enquiries;
 - (ii) oversee the operation of EHLC, after it has been activated, and compile relevant information on public enquiries;
 - (iii) liaise with FEHD to strengthen publicity and health education measures (including production of health education materials); establish and maintain dedicated webpage on DF; and inform relevant stakeholders on the disease status and engage them in publicity and education effort;
 - (iv) prepare information to inform doctors, private hospitals, schools and RCHE / RCHD, and the public of the latest situation;

- (v) hold press briefings with FEHD and HA representatives as appropriate;
 - (vi) issue press releases on the latest DF situation in Hong Kong;
 - (vii) conduct briefings to community leaders and organise community education activities;
 - (viii) inform PCSC the latest DF situation;
 - (ix) inform Scientific Committee on Vector-borne Diseases (“SCVBD”) the latest DF situation;
 - (x) inform other relevant health authorities of local situation as appropriate;
 - (xi) inform community leaders; and
 - (xii) as appropriate, provide risk assessment and situation update to HHB for overall strategy in handling DF outbreak, together with relevant input from HA and FEHD.
- (c) FEHD will –
- (i) advise relevant B/Ds to remind their contractors the importance of mosquito prevention as well as to enhancing the efforts to eliminate mosquitoes particularly within works sites;
 - (ii) continue to liaise with relevant neighbouring health authorities and approach them as necessary to obtain information on their relevant vector prevention and control measures which have been implemented; and
 - (iii) convene monthly mosquito control task force meetings at the district level until the Alert Response Level has been stepped down.
- (d) HAD will gauge district concerns with regard to the DF situation.
- (e) HA will –
- (i) promulgate health advice and share information with patients and staff;

- (ii) regularly review and update situations as well as timely disseminate relevant information to public and media; and
 - (iii) streamline communication strategy to disseminate updated information to all staff.
- (f) ISD will –
 - (i) allocate airtime of APIs to remind the public of the importance of mosquito prevention during the outbreak of DF; and
 - (ii) assist individual B/Ds to disseminate news and publicity materials including APIs on prevention of DF and mosquito bites via the channels of ISD.
- (g) LD will disseminate information to employers, employees and associations on preventing the spread of DF in the workplace.
- (h) SWD will disseminate information to child care centres, community care and support services units for elderly persons and persons with disabilities, residential care homes for the elderly and persons with disabilities, drug treatment and rehabilitation centres, and other residential units on preventing the spread of DF in the centres/homes/units.
- (i) TC will help disseminate information targeting tourists and the travel sector on hygiene and infection control.
- (j) TD will –
 - (i) step up publicity with public transport operators and management operators of government facilities (i.e. government car parks, tunnels and tolled roads) to prevent DF; and
 - (ii) request the concerned operators to enhance cleansing of facilities under their management.

Serious Response Level

29. Generally, it depicts a situation when there are more than TEN locally acquired cases with onset dates within a period of TWO weeks and epidemiological linkage can be identified among the cases in geographical clusters.

29.1 Surveillance

- (a) DH will –
 - (i) consider reviewing the reporting criteria of DF;
 - (ii) utilise the electronic platform “e-Dengue” for data exchange of DF cases with HA. Private doctors may also be required to report cases or submit additional information as appropriate;
 - (iii) consider activating Outbreak Intelligence Centre upon instruction of DoH / CCHP;
 - (iv) consider activating (Emergency Response Centre (“ERC”) upon instruction of DoH / CCHP;
 - (v) liaise with FEHD for information on vector surveillance and control; and
 - (vi) liaise with WHO and universities on epidemiological and academic aspects as necessary.
- (b) HA will –
 - (i) enhance surveillance programs;
 - (ii) activate the electronic platform “e-Dengue”; and
 - (iii) closely monitor relevant service statistics.

29.2 Laboratory Service Provision

- (a) DH will –
 - (i) oversee laboratory services for DF in support of clinical management and public health measures;
 - (ii) liaise with HA laboratories, FEHD and other local laboratories for effective laboratory service provision for

- DF; and
- (iii) inform relevant parties on any significant laboratory findings requiring follow-up actions.
- (b) DH and HA will increase laboratory capacity and use rapid technique as appropriate for testing to assist diagnosis.
- (c) HA will –
 - (i) activate HA Laboratory Network to perform DF rapid test;
 - (ii) liaise with the PHLSB of DH on the laboratory test arrangement; and
 - (iii) review laboratory diagnosis strategy and prepare to enhance capacity.

29.3 *Infection Control, Investigation and Control Measures*

- (a) EEB will convene ad-hoc meeting of PCSC as appropriate.
- (b) DH will –
 - (i) continue epidemiological investigation of individual cases;
 - (ii) consider soliciting support from Hong Kong Police Force to facilitate case investigation and identification of foci of outbreaks using the Major Incident Investigation and Disaster Support System;
 - (iii) require febrile cases to stay at vector-free environment if compulsory hospital admission is not feasible. Insect repellent may be considered to be distributed for cases in out-patient settings; and
 - (iv) provide training, review and update clinical guidelines as appropriate.
- (c) DH and HA will enhance and / or review infection control measures according to the latest knowledge on the transmission route of DF.

- (d) FEHD will further enhance vector control measures within 250 metres radius in the locality when mosquitoes collected in relation to DF cases are found to be carrying dengue virus.
- (e) HA will –
 - (i) admit confirmed cases to be hospitalised in a mosquito-free environment during febrile stage; and
 - (ii) organise staff forum, and update staff on relevant information on DF.
- (f) Relevant B/Ds will disseminate messages to frontline staff and activate respective departmental contingency plans (e.g. adequate supplies) wherever appropriate.

29.4 *Provision of Medical Services*

- (a) HA will –
 - (i) monitor the territory-wide utilisation of public hospital services;
 - (ii) review and promulgate updated guidelines on diagnosis, treatment and admission criteria;
 - (iii) review the screening procedures and donor deferral policy for blood donation; and
 - (iv) monitor the situation and prepare for activation of designated clinics, if necessary, by phases.

29.5 *Vector Control*

- (a) DEVB will –
 - (i) promptly disseminate the advice given by FEHD and PCSC during outbreaks of DF to works departments and relevant trade associations/organisations for reference and compliance in public works contracts as well as private sector contracts where practicable; and
 - (ii) request works departments to devise contingency plans by making reference to FEHD's investigation report and

recommendations, and step up special anti-mosquito and cleansing operations, together with enhanced supervision and monitoring arrangements, based on the gravidtrap survey result as appropriate.

(b) EDB will –

- (i) closely work with DH and FEHD to disseminate information to schools on preventing the spread of DF in schools;
- (ii) remind schools individually to implement appropriate hygienic measures, particularly in mosquito control, to prevent the spread of mosquito-related and other communicable diseases in schools; and
- (iii) remind schools to seek advice from DH / FEHD if necessary.

(c) AFCD will –

- (i) step up special anti-mosquito and cleansing operations in the wholesale markets;
- (ii) apply larvicidal oil or pesticide when necessary and take action to remove stagnant water and fallen leaves. Immediate fogging shall be carried out in the wholesale markets;
- (iii) distribute leaflets and advisory letters to market users to take anti-mosquito measures in the wholesale markets;
- (iv) report to FEHD any outside locations nearby the market premises that are susceptible to become breeding grounds for mosquitoes for FEHD's follow-up actions on an ad-hoc basis;
- (v) disseminate the advice given by FEHD and PCSC during outbreaks of DF to farmers, fish farmers, market users, fish traders and fishermen associations; and
- (vi) advise the FMO to step up cleaning of the wholesale fish markets and apply pesticides where practicable.

- (d) DH will perform relevant mosquito control and preventive measures at premises under DH's purview in accordance with FEHD's advice.
- (e) EPD will step up mosquito control and prevention measures in EPD's waste facilities/sites.
- (f) FEHD will, in the neighbourhood of affected cases –
 - (i) convene monthly mosquito control task force meetings at the district level;
 - (ii) obtain information from parties concerned on places visited by the patient(s) to ascertain the target areas for prompt control works to prevent the spread of DF (the target areas may involve two or more districts including areas within a radius of 250 metres from the patient(s)'s residence, workplace, sites visited during the incubation period and infectious period of the disease and the hospital to which the patient(s) was / were admitted);
 - (iii) carry out mosquito (egg, larval and adult) control actions covering an area within a radius of 250 metres around the patient's residence, workplace, hospital admitted and any other places visited by the patient locally during the incubation period and infectious period of the disease. The findings will be sent to DH;
 - (iv) conduct trapping of mosquitoes by gravidtraps and light traps, within a radius of 100 metres from the sites where the patient has visited during the incubation period and the infectious, and send the collected vectors (both larvae and adult) to DH for viral examination;
 - (v) send the dengue virus vectors collected from locations epidemiologically-linked to the local case to DH for viral examination;
 - (vi) advise HA and private hospitals to adopt vector prevention and control measures to ensure relevant hospitals are vector-free;

- (vii) advise relevant B/Ds and relevant stakeholders³ to enhance vector prevention and control measures in areas under their purview according to the results of investigations and their respective procedures, guidelines and / or contingency plans;
- (viii) step up mosquito control by fogging in appropriate areas such as those scrubby areas in the vicinity of high human activities (e.g. housing estates and schools);
- (ix) identify the ownership of the source of breeding, and advise the relevant parties to eliminate the source of breeding (e.g. to remove the stagnant water) or take out enforcement actions, as appropriate;
- (x) carry out prompt follow-up mosquito (larvae and adult) control measures at the target areas (areas with positive Gravidtrap Indices detected);
- (xi) immediately convene meetings with the interdepartmental task forces on anti-mosquito work to discuss measures to strengthen mosquito prevention and control at the headquarters level;
- (xii) offer technical advice on mosquito control and prevention to other departments and the public;
- (xiii) convene mosquito control task force meetings at the district level of concerned districts; and
- (xiv) larval control including larviciding will be carried out weekly for a total of five rounds starting from Day 1. To prevent DF from establishing a foothold in Hong Kong, eradication of infective vectors is the prime target and as such, fogging will be carried out on alternate days for 16 days followed by fogging once every five days for another three rounds.

- (g) HAD will, in the neighbourhood of affected cases –
 - (i) assist other departments in liaising with local residents and stakeholders and take forward their efforts on mosquito

³ In addition to those covered in footnote 1, other public sectors such as utility companies and the MTR Corporation Limited (“MTRCL”) will also be advised.

- control;
 - (ii) liaise closely with DH and FEHD to monitor local developments;
 - (iii) assist in the publicity for mosquito prevention and control, including distribution of anti-mosquito promotional leaflets and items through District Offices' liaison network, and to assist in achieving wider participation by local communities in health seminars, workshops, talks and other activities organised by relevant departments;
 - (iv) assist in the government-wide efforts to intensify publicity through distribution of anti-mosquito leaflets, posters and souvenirs by District Offices to local residents and property management companies; and
 - (v) intensify anti-mosquito related minor works in areas under the purview of HAD including grass cutting and desilting as and when necessary.
- (h) HA will –
- (i) increase frequency of inspection round, keeping up environmental hygiene, and removing stagnant water from weekly to daily, and further enhance inspection after raining;
 - (ii) increase frequency of checking the service drainage channels from weekly to daily, and removing leaves, debris, mud, gravel and such like in drains, surface channels, sand traps, etc. to avoid blockage and water accumulation, besides weekly larviciding;
 - (iii) step up grass cutting and plant pruning besides weekly fogging;
 - (iv) conduct site inspection by senior administrative managers to exercise close monitoring; and
 - (v) intensify publicity and education to staff and visitors.
- (i) HD will, in the neighbourhood of affected cases –
- (i) provide support in vector control by strengthening vector prevention and control in housing estates managed by HD;

- (ii) step up regular inspection (at least weekly) and to conduct surprise visits to estates including commercial facilities, construction and maintenance sites to demonstrate commitment and to ensure adequate alertness and preventive measures in place;
- (iii) for estates and works sites located in areas where Gravidtrap Indices exceed 20%, to take the following measures –
 - carrying out inspections in estates and works sites;
 - clearing floor drains, roof gutters, sand traps, manhole covers and surface channels;
 - applying larvicidal pesticide to stagnant water at potential blackspots; and
 - applying pesticide by fogging if necessary in appropriate areas with dense vegetation for killing adult mosquitoes.
- (iv) for estates, to take the following measures –
 - encouraging tenants to report on mosquito breeding hotspots through HD's hotline;
 - arousing tenants' awareness and participation in combating against DF through social media, such as Facebook and Instagram posts;
 - arranging articles in estate newsletters appealing residents' concerted effort in eliminating mosquito breeding places; and
 - putting up posters on mosquito prevention at prominent places of housing estates.
- (j) LandsD will, in the neighbourhood of affected cases –
 - (i) conduct grass cutting and tidy up (including disposal of containers and rubbish) fenced-up government sites with elimination of mosquito breeding places under LandsD's control;
 - (ii) apply larvicidal oil/pesticide as and when necessary and take action to level uneven grounds where stagnant water may easily accumulate. Fogging operation may also be

necessary in the scrubby areas to kill the adult mosquito at short time;

- (iii) step up clearance of the identified hillside illegal cultivation blackspots to eliminate potential mosquito breeding grounds;
 - (iv) carry out prompt inspections and appropriate follow-up actions in response to complaints and referrals;
 - (v) issue advisory letters to tenants (Short Term Tenancies) and licensees (Government Land Licences) in the neighbourhood of the affected areas urging them to take anti-mosquito measures; and
 - (vi) assist in the distribution of educational materials to the public through the District Lands Offices.
- (k) LCSD will, in the neighbourhood of affected cases –
- (i) enhance mosquito control and preventive measures, and increase fogging frequency (at least weekly) for killing adult mosquitoes to prevent the spread of DF in LCSD venues such as parks, playgrounds, sitting-out areas, sports grounds, sports centres, swimming pools and beaches, etc.;
 - (ii) continue to carry out special anti-mosquito (including larval and adult) and cleansing operations in LCSD venues within a radius of 250 metres around the places visited by the patients locally during the incubation period and infectious period of the disease; and
 - (iii) closely monitor the Gravidtrap Indices (those exceed the alert level of 20%) to further intensify the anti-mosquito operations in LCSD venues.
- (l) MD will –
- (i) perform relevant mosquito control and preventive measures at premises under MD's purview in accordance with FEHD's advice; and
 - (ii) assist to distribute relevant leaflets prepared by FEHD to vessels moored in typhoon shelters and anchorages and to

alert them in enhancing measures on mosquito control.

- (m) SWD will continue to disseminate the advice from DH and FEHD to vulnerable and elderly service users on the prevention of DF through relevant social service units.
- (n) Works departments will refer to their respective contingency plans and step up anti-mosquito work at construction sites and facilities under their purview.

29.6 *Port Health Measures*

- (a) DH will –
 - (i) work with FEHD on the anti-mosquito measures at BCPs;
 - (ii) review the port health measures and make recommendations to senior directorates as appropriate; and
 - (iii) provide health education for travellers on DF at BCPs, through operators of BCPs, cross-boundary conveyances and travel industry and through the Travel Health Service website.

29.7 *Risk Communication*

- (a) EDB will disseminate information to schools on preventing the spread of DF in schools.
- (b) HHB will facilitate the steering and implementation of a joint public relations strategy.
- (c) DH will –
 - (i) activate ERC upon instruction of DoH / CCHP;
 - (ii) prepare information to inform doctors, private hospitals, schools and RCHE / RCHD, and the public of the latest situation;
 - (iii) provide timely update on the local situation and distribution of DF through the CHP website;

- (iv) set up EHLC to answer public enquiries;
 - (v) liaise with FEHD to step up publicity and health education effort to empower the public to take preventive measures and educate them on when and how to seek medical advice or treatment; establish and maintain dedicated webpage on DF; and inform relevant stakeholders on the disease status and engage them in publicity and education effort;
 - (vi) hold press briefings with FEHD and HA representatives;
 - (vii) issue press releases on the latest DF situation in Hong Kong;
 - (viii) inform PCSC the latest DF situation;
 - (ix) inform SCVBD the latest DF situation;
 - (x) convene ad-hoc meeting of SCVBD;
 - (xi) conduct briefings to community leaders and organise community education activities; and
 - (xii) inform WHO and other relevant health authorities of the local situation as appropriate.
- (d) FEHD will –
- (i) advise relevant B/Ds to remind their contractors the importance of mosquito prevention as well as to enhance the efforts to eliminate mosquitoes particularly within works sites;
 - (ii) continue to liaise with relevant neighbouring health authorities and approach them as necessary to obtain information on their relevant vector prevention and control measures which have been implemented; and
 - (iii) convene monthly mosquito control task force meetings at district level until the Serious Response Level has been stepped down.
- (e) HAD will provide assistance to relevant B/Ds in disseminating relevant information to the public.
- (f) HA will –

- (i) activate HA Emergency Operation Command Centre / Head Office Major Incident Control Centre for information, monitoring and response, if necessary;
 - (ii) promulgate health advice and share information to public and staff;
 - (iii) regularly review and update situations as well as timely disseminate relevant information to public and media;
 - (iv) streamline communication strategy to disseminate update information to all staff;
 - (v) consider to join press briefing with DH and FEHD representatives when necessary; and
 - (vi) participate in interdepartmental meetings when necessary.
- (g) ISD will –
 - (i) allocate airtime of APIs to remind the public of the importance of mosquito prevention during the outbreak of DF; and
 - (ii) assist individual B/Ds to disseminate news and publicity materials including APIs on prevention of DF and mosquito bites via the channels of ISD.
- (h) LD will disseminate information to employers, employees and associations on preventing the spread of DF in the workplace.
- (i) SWD will disseminate information and alert to vulnerable and elderly service users on the prevention of DF through relevant social service units.
- (j) TC will help disseminate information targeting tourists and the travel sector on hygiene and infection control.
- (k) TD will inform the public transport operators and management operators of government facilities (i.e. government car parks, tunnels and tolled roads) the latest DF information.

Emergency Response Level

30. Generally, it depicts a situation when clear geographical clusters of transmission cannot be identified suggesting there is territory-wide local transmission.

30.1 Surveillance

- (a) DH will –
 - (i) consider reviewing the reporting criteria of DF; and
 - (ii) liaise with WHO and universities on epidemiological and academic aspects as necessary.
- (b) HA will review and update the prevailing enhanced surveillance programs.

30.2 Laboratory Service Provision

- (a) DH will –
 - (i) oversee laboratory services for DF in support of clinical management and public health measures;
 - (ii) liaise with HA laboratories, FEHD and other local laboratories for effective laboratory service provision for DF; and
 - (iii) inform relevant parties on any significant laboratory findings requiring follow-up actions.
- (b) HA will –
 - (i) collaborate with PHLSB of DH to perform DF tests to cope with the increasing demand; and
 - (ii) liaise with PHLSB of DH to review the diagnosis strategy and develop a sustainable action plan.

30.3 Infection Control, Investigation and Control Measures

- (a) DH will –

- (i) scale down epidemiological investigation of individual cases to an extent that efficient collection of individual case information will be sufficient for monitoring of the progress of the outbreak and surveillance;
 - (ii) require febrile cases to stay at vector-free environment if compulsory hospital admission is not feasible. Insect repellent may be considered to be distributed for cases in out-patient settings; and
 - (iii) provide training, review and update clinical guidelines as appropriate.
- (b) HA will organise staff forum, and update staff on relevant information on DF.

30.4 *Provision of Medical Services*

- (a) DH and HA will –
 - (i) review and update protocols on research projects in collaboration with academia, private sectors and international organisations, if necessary; and
 - (ii) reprioritise their non-urgent and non-essential services.
- (b) HA will –
 - (i) closely monitor the territory-wide utilisation of public hospital services;
 - (ii) review and promulgate updated guidelines and protocols on diagnosis, treatment and admission criteria;
 - (iii) review the screening procedures and donor deferral policy for blood donation;
 - (iv) admit confirmed cases who are haemodynamically unstable and with warning signs;
 - (v) provide support for severe DF cases by Intensive Care Units; and
 - (vi) activate designated clinics to relieve the burden of the Accident and Emergency Departments of hospitals, subject to situation assessment.

30.5 *Vector Control*

- (a) DEVB will –
 - (i) immediately convene interdepartmental meetings attended by directorates of works departments to discuss measures to strengthen mosquito prevention and control;
 - (ii) request works departments to further strengthen the anti-mosquito measures to be implemented in areas for all public works construction sites; carry out prompt follow-up mosquito (larvae and adult) control measures and step up mosquito control by fogging at target areas (areas with high gravidtrap survey results); and
 - (iii) closely monitor the implementation of the anti-mosquito measures by works departments on sites and their effectiveness.

- (b) EDB will –
 - (i) closely work with DH and FEHD to disseminate information to schools on preventing the spread of DF in schools;
 - (ii) remind schools individually to implement appropriate hygienic measures, particularly in mosquito control, to prevent the spread of mosquito-related and other communicable diseases in schools;
 - (iii) remind schools to seek advice from DH / FEHD if necessary;
 - (iv) provide sample letter to school for issuance to enlist parents' co-operation in paying attention to students' personal and environmental hygiene so as to tie in with the preventive measures taken by schools; and
 - (v) provide school lists in the district concerned to relevant parties for delivery of posters and pamphlets upon request

- (c) AFCD will –
 - (i) disseminate the advice given by FEHD and PCSC during

- outbreaks of DF to farmers, fish farmers, market users, fish traders and fishermen associations;
- (ii) liaise closely with other departments to strengthen anti-mosquito measures; and
 - (iii) advise the FMO to step up cleaning of the wholesale fish markets and apply pesticides where practicable.
- (d) DH will perform relevant mosquito control and preventive measures at premises under DH's purview in accordance with FEHD's advice.
- (e) EPD will –
- (i) increase frequency of inspection in particular after raining;
 - (ii) subject to outcomes of inspection, further step up mosquito control and prevention works in EPD's waste facilities/sites (e.g. increase the frequency of the spraying of larvicidal oil for mosquito; trimming of grass within site area as necessary, etc.); and
 - (iii) carry out follow up inspections for detection and elimination of mosquito breeding places by physical removal of the water/ water bodies.
- (f) FEHD will –
- (i) monitor latest developments and seek advice from WHO as necessary on new technologies with regard to vector control;
 - (ii) strengthen the vector prevention and control measures in areas with Gravidtrap Indices at and above 20% in the current and last months; and
 - (iii) convene monthly mosquito control task force meetings at district level until the Emergency Response Level has been stepped down.
- (g) FEHD will also, in the neighbourhood of affected cases –
- (i) obtain information from parties concerned on places visited by the patient(s) to ascertain the target areas for

prompt control works to prevent the spread of DF (the target areas may involve two or more districts including areas within a radius of 250 metres from the patient(s)'s residence, workplace, sites visited during the incubation period and infectious period of the disease and the hospital to which the patient(s) was / were admitted);

- (ii) carry out mosquito (egg, larval and adult) control actions covering an area within a radius of 250 metres around the patient's residence, workplace, hospital admitted and any other places visited by the patient locally during the incubation period and infectious period of the disease. The findings will be sent to DH;
- (iii) conduct trapping of mosquitoes by gravidtraps and light traps, within a radius of 100 metres from the sites where the patient has visited during the incubation period and infectious period, and send the collected vectors (both larvae and adult) to DH for viral examination;
- (iv) send the dengue virus vectors collected from locations epidemiologically-linked to the local case to DH for viral examination;
- (v) advise HA and private hospitals to adopt vector prevention and control measures to ensure relevant hospitals are vector-free;
- (vi) advise relevant B/Ds and relevant organisations⁴ to enhance vector prevention and control measures in areas under their purview according to the results of investigations and their respective procedures, guidelines and / or contingency plans;
- (vii) step up mosquito control by fogging in appropriate areas such as those scrubby areas in the vicinity of high human activities (e.g. housing estates and schools);
- (viii) identify the ownership of the source of breeding, and advise the relevant parties to eliminate the source of breeding (e.g. to remove the stagnant water) or take out

⁴ In addition to those covered in footnote 1, other public sectors such as utility companies and MTRCL will also be advised.

enforcement actions, as appropriate;

- (ix) carry out prompt follow-up mosquito (larvae and adult) control measures at the target areas (areas with positive Gravidtrap Indices detected);
- (x) immediately convene meetings with the interdepartmental task forces on anti-mosquito work to discuss measures to strengthen mosquito prevention and control at the headquarters level;
- (xi) offer technical advice on mosquito control and prevention to other departments and the public;
- (xii) convene mosquito control task force meetings at the district level of concerned districts; and
- (xiii) larval control including larviciding will be carried out weekly for a total of five rounds starting from Day 1. To prevent DF from establishing a foothold in Hong Kong, eradication of infective vectors is the prime target and as such, fogging will be carried out on alternate days for 16 days followed by fogging once every five days for another three rounds.

(h) HA will –

- (i) increase frequency of inspection round, keeping up environmental hygiene, and removing stagnant water from weekly to daily, and further enhance inspection after raining;
- (ii) increase frequency of checking the service drainage channels from weekly to daily, and removing leaves, debris, mud, gravel and such like in drains, surface channels, sand traps, etc. to avoid blockage and water accumulation, besides weekly larviciding;
- (iii) step up grass cutting and plant pruning besides weekly fogging;
- (iv) conduct site inspection by senior administrative managers to exercise close monitoring; and
- (v) intensify publicity and education to staff and visitors.

- (i) HD will –
 - (i) monitor the situation at headquarters level;
 - (ii) strengthen anti-mosquito measures, such as intensive fogging, in accordance with the advice given by the PCSC or FEHD, in particular for those targeted estates or works sites; and
 - (iii) step up supervision of contractors to further intensify anti-mosquito work in public rental housing estates and works sites.

- (j) LandsD will –
 - (i) strengthen grass cutting work and applying larvicidal oil/pesticide for fenced-up government sites under LandsD's control within the target areas (i.e. where Gravidtrap Indices exceed 20% and/or around the patient(s)'s residence, workplace, hospital admitted and any other places visited by the patient(s) locally during the incubation period and infectious period of the disease) upon notification by FEHD;
 - (ii) strengthen mosquito control by fogging at the fenced-up government sites under LandsD's control within the target areas upon notification by FEHD; and
 - (iii) carry out prompt inspections and appropriate follow-up actions in response to complaints and referrals.

- (k) LCSD will –
 - (i) work closely with FEHD to promptly disseminate information to staff and sections to concentrate on killing adult mosquitoes to prevent further spread of DF in LCSD venues such as parks, playgrounds, sitting-out areas, sports grounds, sports centres, swimming pools and beaches, etc.;
 - (ii) continue to carry out targeted anti-mosquito (including larval and adult) and cleansing operations in LCSD venues within a radius of 250 metres around the places visited by the patients locally during the incubation period and

- infectious period of the disease; and
 - (iii) closely monitor the Gravidtrap Indices (those exceed the alert level of 20%) to further intensify the anti-mosquito operations in LCSD venues.
- (l) MD will –
- (i) continue to perform relevant mosquito control and preventive measures at premises under MD's purview in accordance with FEHD's advice; and
 - (ii) disseminate the advice given by FEHD and PCSC during outbreaks of DF to vessels moored in typhoon shelters and anchorages.
- (m) SWD will continue to disseminate information and alert to vulnerable and elderly persons to maintain their vigilance on the prevention of DF through relevant social service units.
- (n) Works departments will –
- (i) attend interdepartmental meetings convened by DEVB and/or senior management of works departments to discuss measures for strengthening mosquito prevention and control;
 - (ii) follow DEVB's directives to further strengthen the anti-mosquito work at construction sites and facilities under their purview; and
 - (iii) disseminate DEVB's directives to further strengthen anti-mosquito measures to be implemented at construction sites and facilities under their purview; carry out prompt follow-up mosquito (larvae and adult) control measures and step up mosquito control by fogging at target areas (areas with high gravidtrap survey results).

30.6 *Port Health Measures*

- (a) DH will –

- (i) work with FEHD on the anti-mosquito measures at BCPs;
- (ii) review the port health measures as appropriate; and
- (iii) provide health education for travellers on DF at BCPs, through operators of BCPs, cross-boundary conveyances and travel industry and through the Travel Health Service website.

30.7 *Risk Communication*

- (a) EDB will disseminate information to schools on preventing the spread of DF in schools.
- (b) HHB will facilitate the steering and implementation of a joint public relations strategy.
- (c) DH will –
 - (i) provide regular update on the local situation and distribution of DF through the CHP website;
 - (ii) continue publicity and health education effort to empower the public to take preventive measures and educate them on when and how to seek medical advice or treatment; establish and maintain dedicated webpage on DF; and inform relevant stakeholders on the disease status and engage them in publicity and education effort;
 - (iii) prepare information to inform doctors, private hospitals, schools and RCHE / RCHD, and the public of the latest situation;
 - (iv) hold press briefings with FEHD and HA representatives when necessary;
 - (v) issue press releases on the latest DF situation in Hong Kong;
 - (vi) inform PCSC the latest DF situation;
 - (vii) inform SCVBD the latest DF situation;
 - (viii) conduct briefings to community leaders and organise community education activities; and

- (ix) exchange epidemiological information of DF with WHO and other health authorities as appropriate.
- (d) FEHD will –
 - (i) advise relevant B/Ds to remind their contractors of the importance of mosquito prevention as well as to enhancing the efforts to eliminate mosquitoes particularly within works sites;
 - (ii) continue to liaise with relevant neighbouring health authorities and approach them as necessary to obtain information on their relevant vector prevention and control measures which have been implemented; and
 - (iii) convene monthly mosquito control task force meetings at the district level until the Emergency Response Level has been stepped down.
- (e) HAD will provide assistance to relevant B/Ds in disseminating relevant information to the public.
- (f) HA will –
 - (i) promulgate health advice and share information to public and staff;
 - (ii) regularly review and update situations as well as timely disseminate relevant information to public and media;
 - (iii) streamline communication strategy to disseminate update information to all staff;
 - (iv) join press briefings with DH and FEHD representatives when necessary;
 - (v) participate in interdepartmental meetings when necessary; and
 - (vi) communicate with DH / expert / academia for sharing of expertise and diversion of workload.
- (g) ISD will –
 - (i) allocate airtime of APIs to remind the public of the importance of mosquito prevention during the outbreak of

DF; and

- (ii) assist individual B/Ds to disseminate news and publicity materials including APIs on prevention of DF and mosquito bites via the channels of ISD.
- (h) LD will disseminate information to employers, employees and associations on preventing the spread of DF in the workplace.
- (i) SWD will disseminate information and alert to vulnerable and elderly persons to maintain their vigilance on the prevention of DF through relevant social service units.
- (j) TC will help disseminate information targeting tourists and the travel sector on hygiene and infection control.
- (k) TD will inform the public transport operators and management operators of government facilities (i.e. government car parks, tunnels and tolled roads) the latest DF information.

31. *Other Measures*

- (a) HHB will prompt all government agencies to respond according to their respective contingency plans.
- (b) SWD will provide relief measures, counselling and other support services for needy persons.
- (c) Works departments will –
 - (i) promptly disseminate the advice given by FEHD and PCSC during outbreaks of DF; and
 - (ii) refer to their respective contingency plans and make reference to FEHD's investigation report and risk assessment as checklist during such outbreaks, and step up their respective monitoring system based on the gravidtrap survey result as necessary.

32. The actions to be taken at Emergency Response Level will be reviewed and the strategy revised as appropriate to ensure the most efficient use of health resources.

Health Bureau
Department of Health
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