



LOCAL DENGUE FEVER Public Health Perspective



衛生署
Department of Health

Presentation at a glance

- ❖ Background on dengue fever
- ❖ Global situation of dengue fever
- ❖ Latest situation of local dengue fever



Dengue fever

- ❖ Acute mosquito-borne infection caused by the dengue viruses
- ❖ Found in tropical and sub-tropical regions around the world
- ❖ Endemic illness in many countries in South East Asia
- ❖ The dengue viruses encompass four different serotypes, each of which can lead to dengue fever and dengue haemorrhagic fever
- ❖ Immunity to dengue virus was serotype specific



Signs and Symptoms

- ❖ High fever (last for 3-5 days) and severe headache
- ❖ Pain behind the eyes, muscle and joint pains, anorexia, nausea
- ❖ Rash :develop on day 3 or 4, from chest to trunk and extend to limbs and face, sometimes itchy
- ❖ Young children may exhibit a milder non-specific febrile illness with rash
- ❖ Nose and gum bleeding
- ❖ Dengue haemorrhagic fever is a severe and potentially fatal complication of dengue fever. It may progress to circulatory failure, shock and death



Mode of Transmission

- ❖ Dengue fever is transmitted to humans through the bites of female *Aedes* mosquitoes which are infected with a dengue virus
- ❖ It cannot be spread directly from human to human
- ❖ If the patient was bitten by a mosquito **just before or during the feverish phase**, the virus will be transmitted to the latter which could cause further spread
- ❖ In Hong Kong, the principal vector *Aedes aegypti* is not found, but the prevailing species *Aedes albopictus* can also spread the disease



Incubation period, Communicability

- ❖ The incubation period ranges from 3 to 14 days, commonly 4 to 7 days
- ❖ People infected with dengue are considered infectious to mosquitoes from shortly before onset to the end of the febrile period, usually about 3-5 days



Management of case

- ❖ No specific medication for dengue fever or dengue haemorrhagic fever
- ❖ Symptomatic treatment is given to provide relief from fever and pain
- ❖ Patients with dengue haemorrhagic fever should be treated promptly with supportive management in hospital. With appropriate and timely treatment, mortality rate should be less than 1%
- ❖ **CHP will routinely issue isolation order for patient in infectious period i.e. still feverish**



Prevention

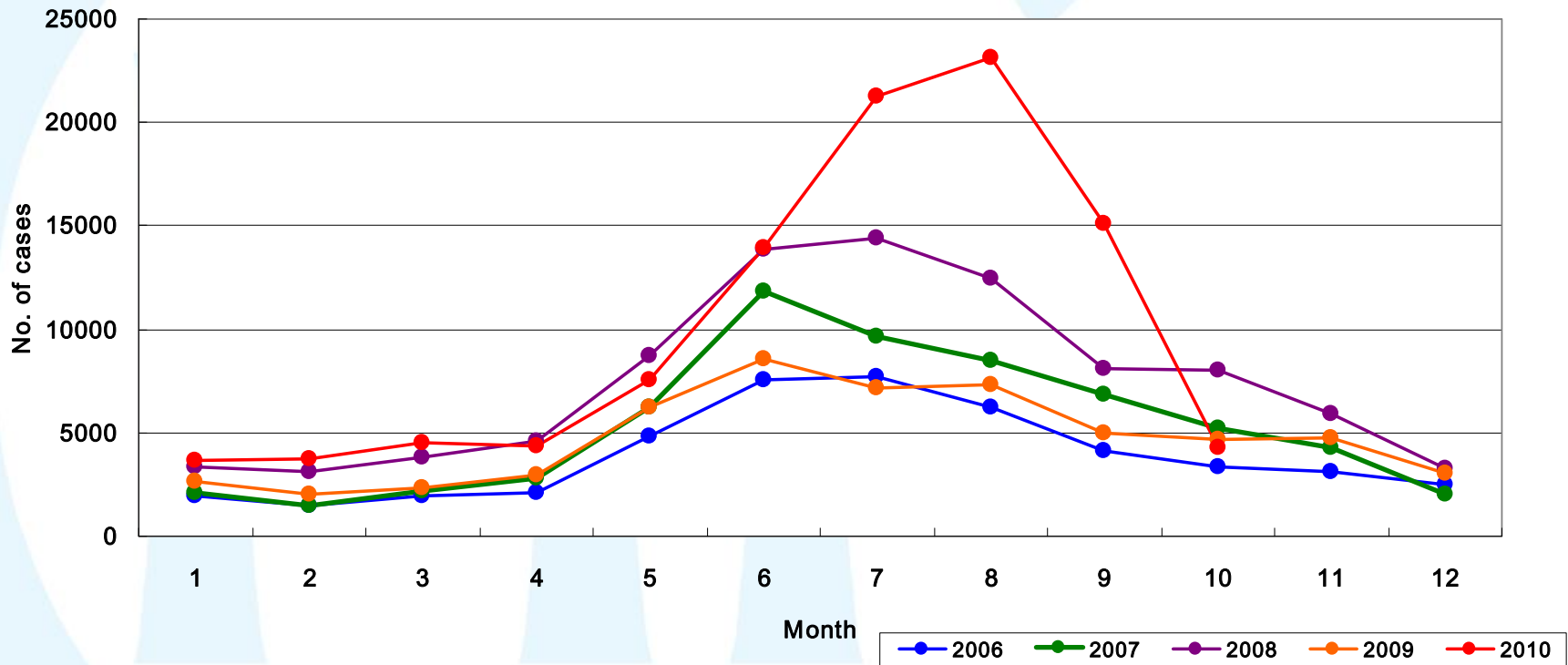
- ❖ No effective vaccine for dengue fever is available
- ❖ The best preventive measure remains on control of disease-carrying Aedes mosquitoes and to avoid mosquito bites
- ❖ **General Measures on Preventing Mosquito-borne Diseases**
 - ☞ Wear long-sleeved clothing and trousers, and apply **effective mosquito repellent containing DEET** to exposed parts of the body & clothes
 - ☞ Use mosquito screens or nets when the room is not air-conditioned
 - ☞ Place mosquito coil or electric mosquito mat / liquid near possible entrance, such as window, to prevent mosquito bites
 - ☞ Prevent the accumulation of stagnant water
 - Put all used cans and bottles into covered dustbins.
 - Change water for plants at least once a week, leaving no water in the saucers underneath flower pots
 - ☞ - Cover tightly all water containers, wells and water storage tanks
 - Keep all drains free from blockage
 - Top up all defective ground surfaces to prevent the accumulation of stagnant water



Global Situation Updates



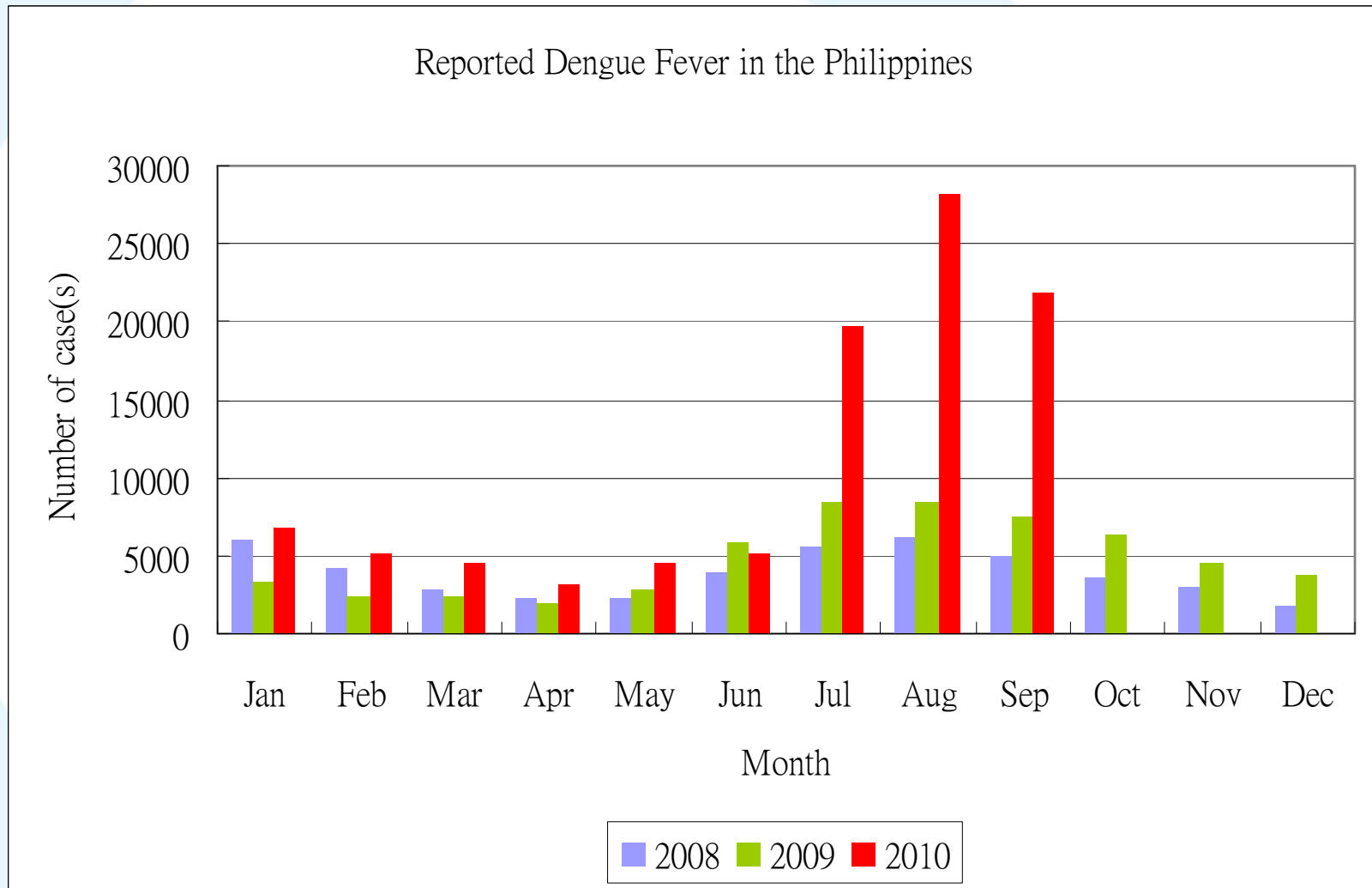
Dengue Fever in Thailand



As of 23 Oct 2010: 101,573 cases in 2010



Dengue Fever in the Philippines

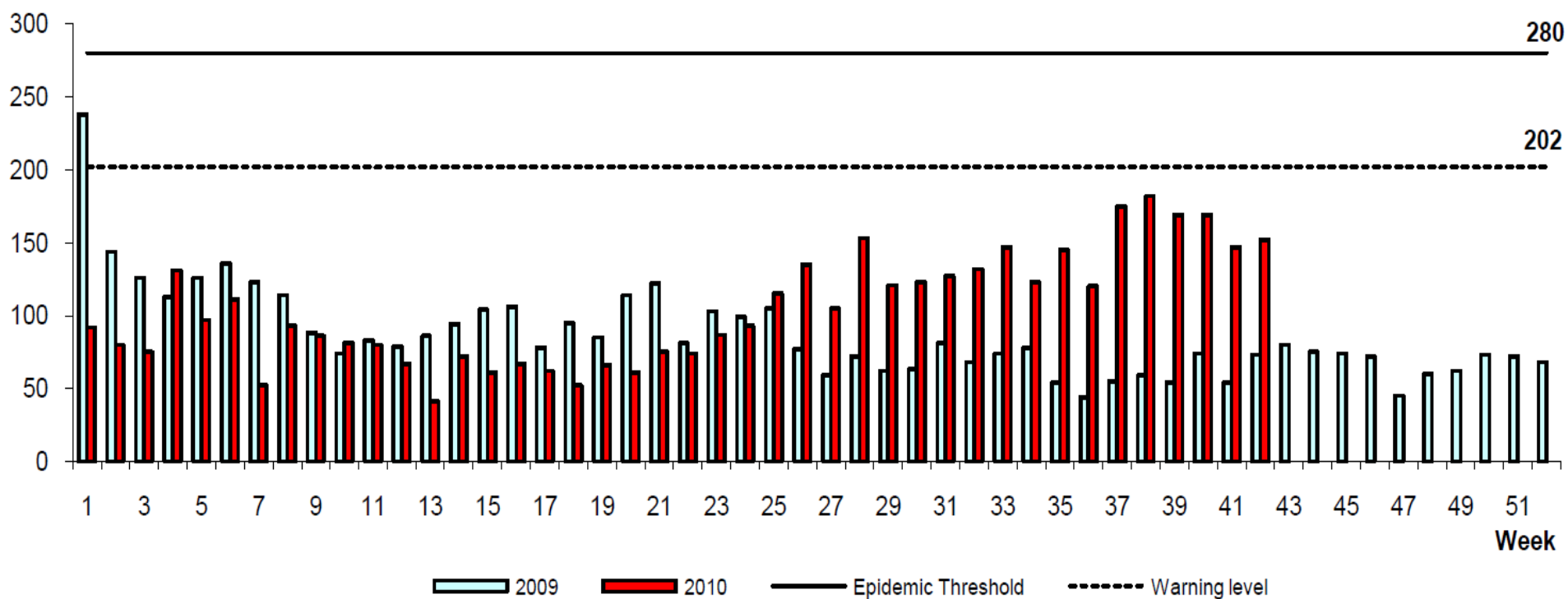


As of 2 Oct 2010: 98,934 cases in 2010

Dengue Fever in Singapore

Dengue Fever/Dengue Haemorrhagic Fever

No. of Cases

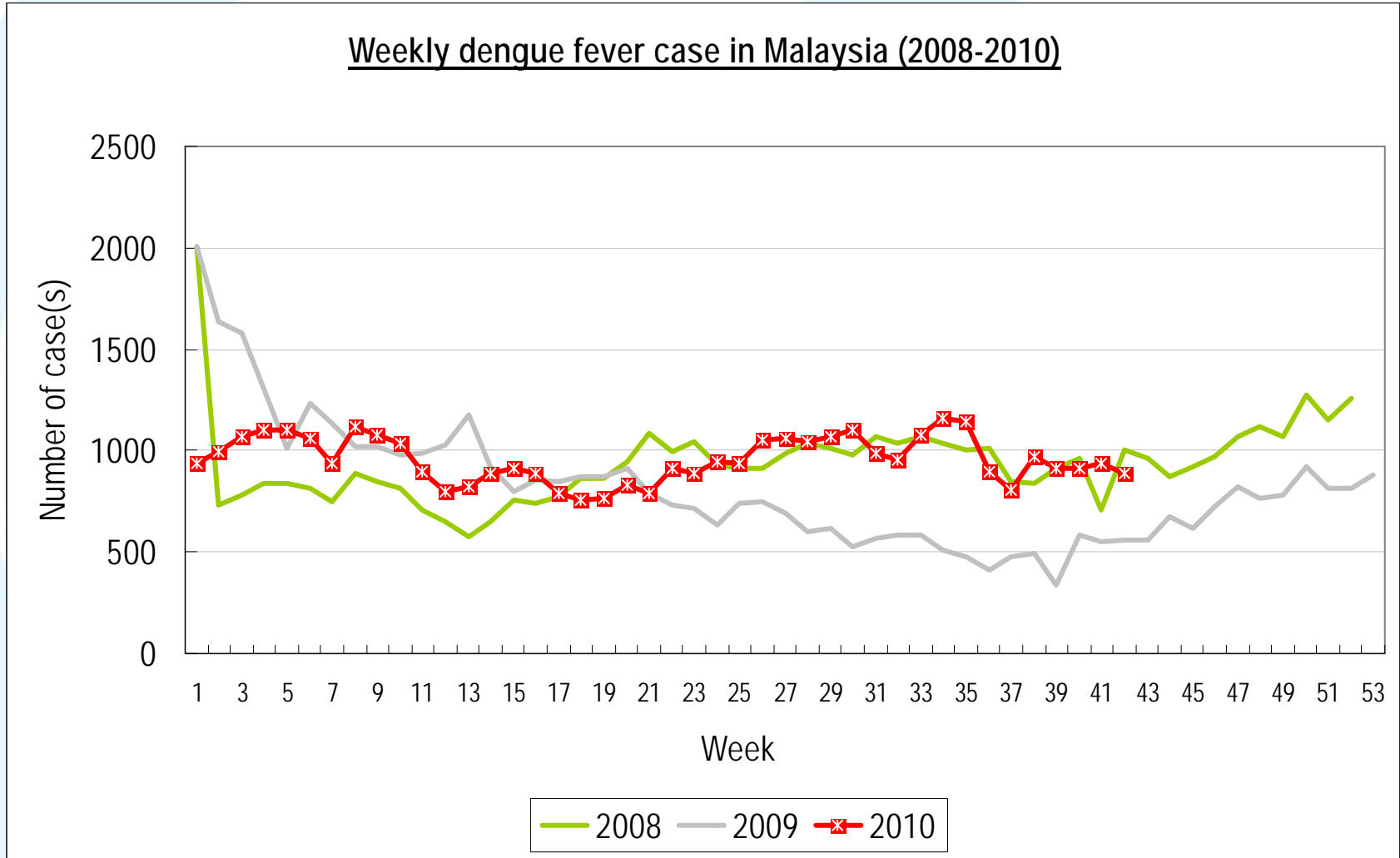


As of 23 Oct 2010: 4,364 cases in 2010



Dengue Fever in Malaysia 衛生防護中心 Centre for Health Protection

Weekly dengue fever case in Malaysia (2008-2010)



As of 23 Oct 2010: 40,152 cases in 2010

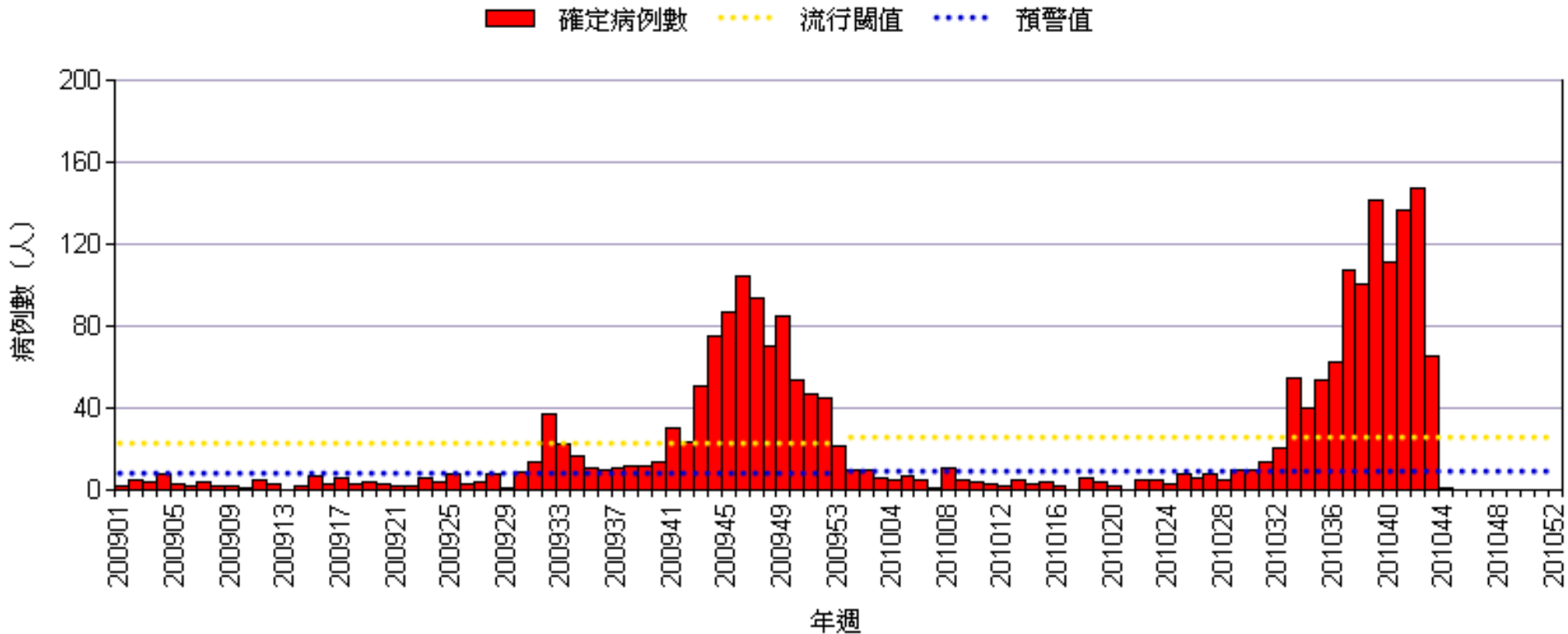
Source: <http://www.moh.gov.my/>



Dengue Fever in Taiwan

No. of Cases

全國登革熱含本土及境外移入病例趨勢圖(2009/01/01~2010/11/1)



資料來源：疾病管制局 Taiwan CDC 2010/11/2

As of 1 Nov 2010: 1219 cases

Source: Taiwan CDC, <http://nidss.cdc.gov.tw>

Local Situation Updates

- ❖ Local cases in the past
- ❖ Latest Statistics



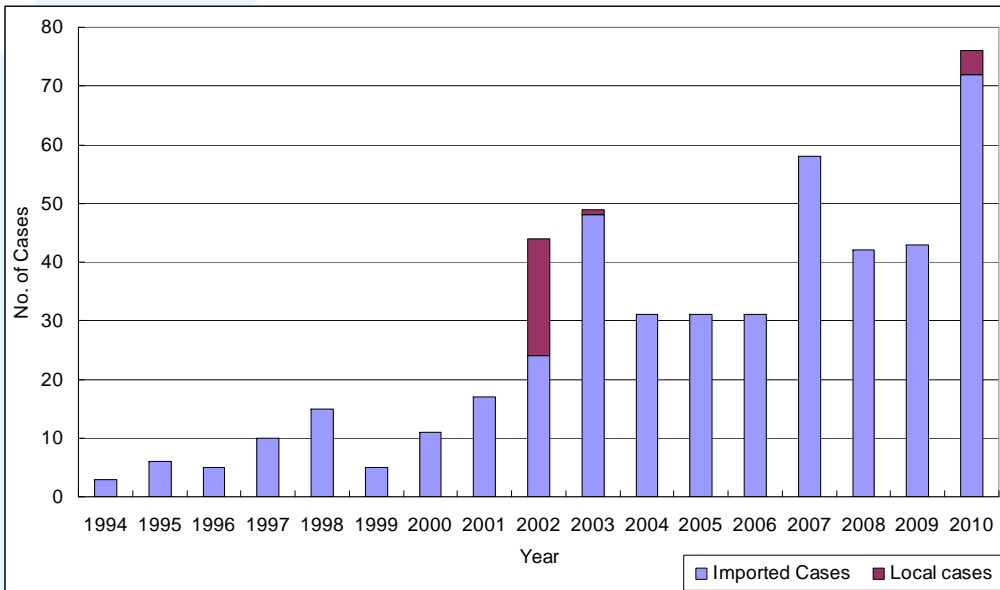
Local cases in the past

- ❖ Last outbreak occurred in September, 2002
- ❖ Epidemiological investigation identified the outbreak in a construction site in Ma Wan affecting 16 workers and residents nearby
- ❖ All of them recovered without complication of DHF
- ❖ The outbreak was contained after implementation of aggressive mosquito control measures
- ❖ Another local case reported in 2002 acquired through blood transfusion from a Ma Wan case. Three other sporadic local cases in 2002 and one in 2003.
- ❖ For these 21 local cases, dengue virus serotype 1 was identified in seven cases whereas type 2 was identified in one case.

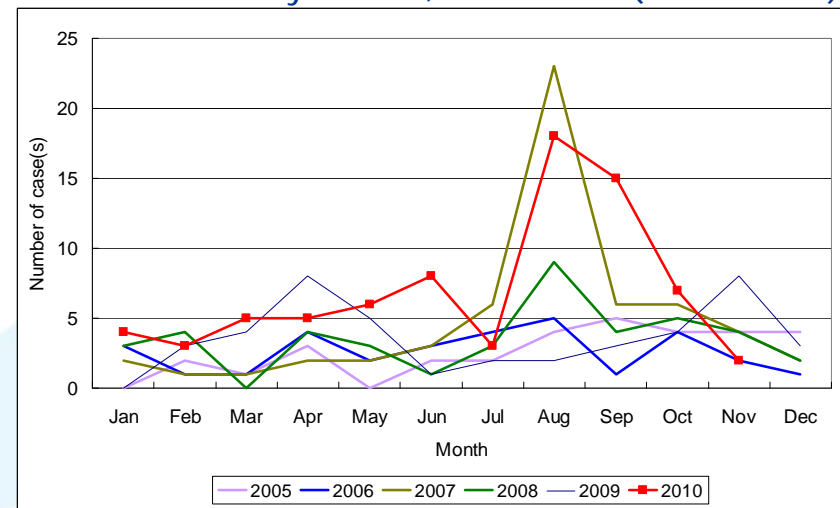


Dengue Fever in Hong Kong

No. of notifications, 1994-2010 (as of Nov 8)



No. of notifications by month, 2005-2010 (as of Nov 8)



Recent Local Dengue Fever Outbreak

- ❖ Case Investigations
- ❖ Enhanced Surveillance
- ❖ Vector Surveillance & Control



The index case

- ❖ 46-year-old gentleman
- ❖ Lives in DeepDene
- ❖ Lives with wife, 2 sons (aged 8 and 18) and a domestic helper

- ❖ Onset date : Sep 13
- ❖ Presented with fever, headache, rash, nausea, stomach ache and diarrhea
- ❖ Consulted GP at a private hospital on Sep 18. No hospitalization required

- ❖ Laboratory testing :
 - ⌘ Blood (taken on Sep18) +ve for Dengue virus IgM by PHLSB on Sep 20
 - ⌘ Confirmed by PCR (**dengue virus type 4**) on Sep 22

- ❖ He recovered without complication



Cases with Type 4 Virus in 2010

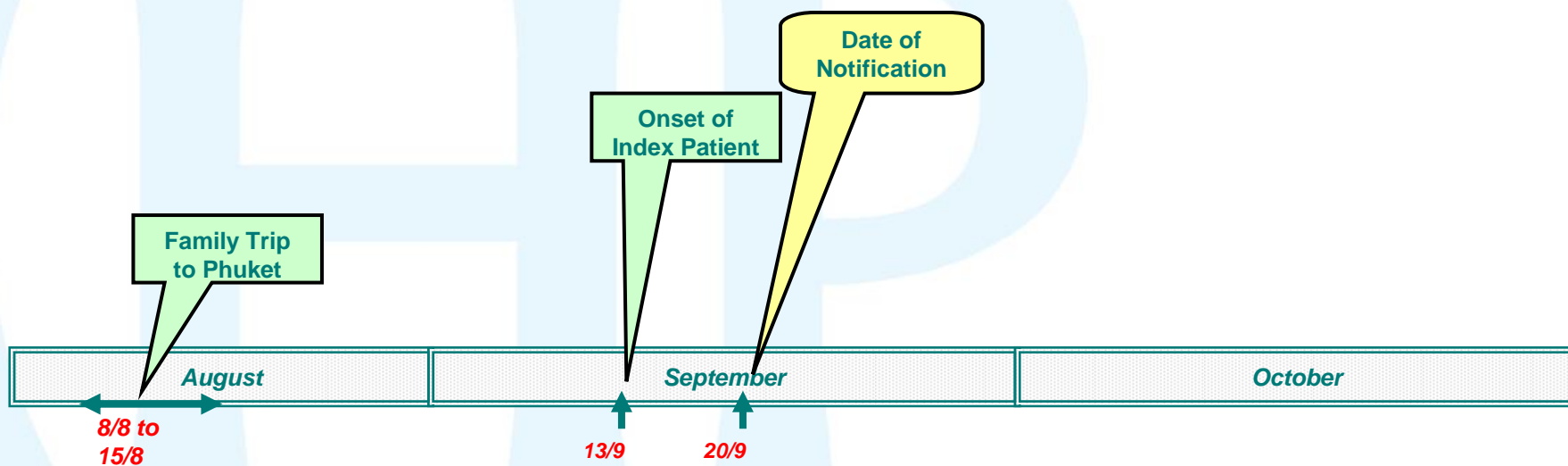
- ❖ Dengue fever cases with Type 4 Virus in 2010 was reviewed
- ❖ No epidemiological linkage to the current local cases was identified



Epidemiological findings of the index case

- ❖ No travel history outside of Hong Kong during the incubation period
- ❖ Travelled to Phuket of Thailand with wife and two sons about one month before his symptoms onset (Aug 8–15)
- ❖ Local area visited during the incubation period:
 - ☞ Mainly in the vicinity of Deep Water Bay, including Victoria Recreation Club and Middle Island (Tong Po Chau)
 - ☞ Office in Central
 - ☞ Visited Clear Water Bay in Sai Kung once



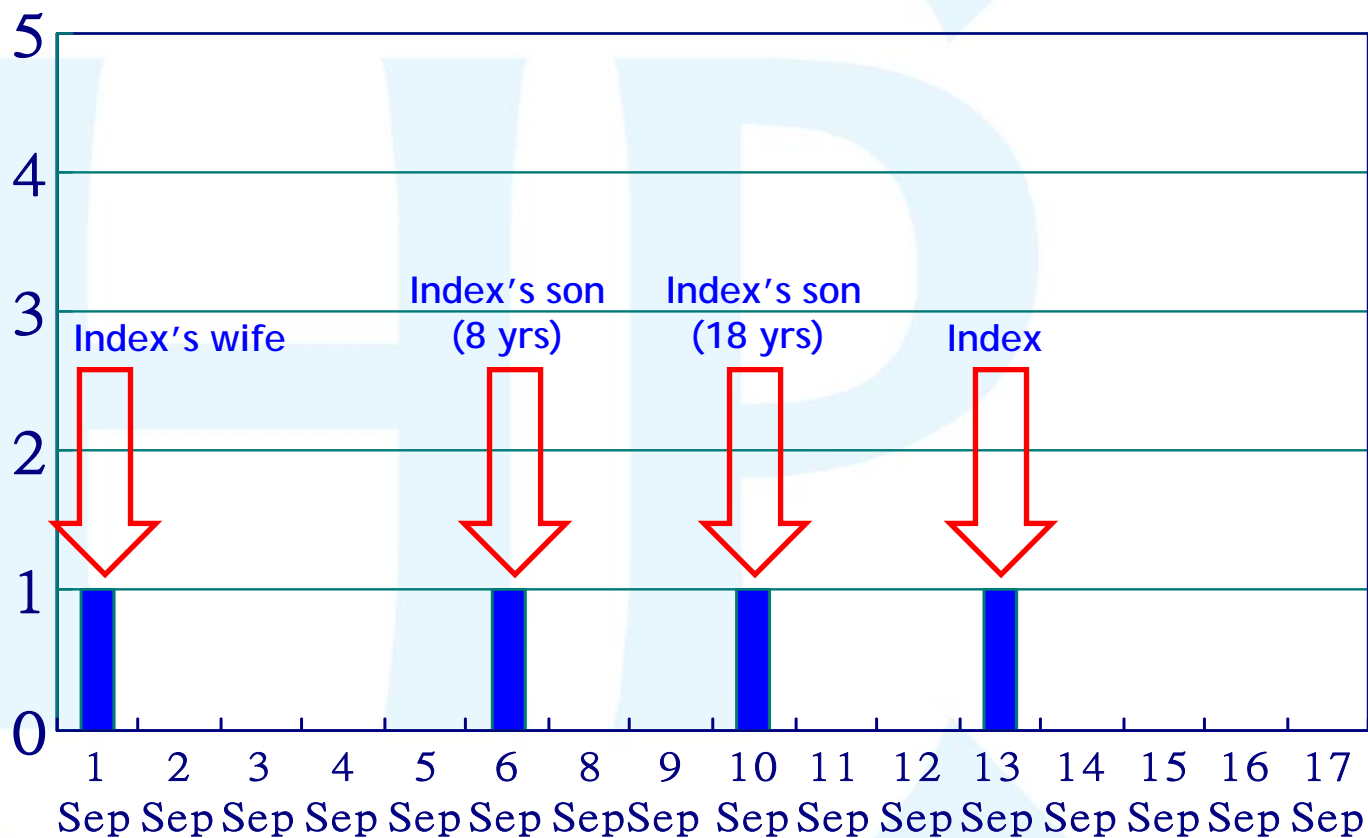


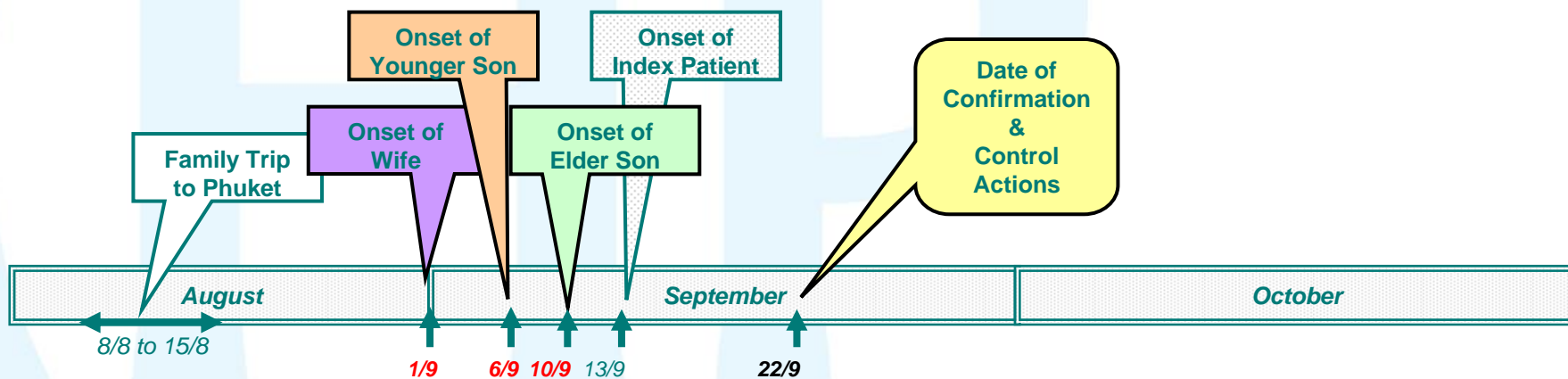
Investigation results on family members of the index case

	Travel history	Symptoms	Onset	Lab test (Date of blood taken)
Wife (F/47),	Phuket, Thailand (Aug 8-15)	Headache, skin rash	1 Sep	+ve for IgM (Sep 24)
Son (M/18), Finished secondary school	Phuket, Thailand (Aug 8-14)	Fever	10 Sep	+ve for IgM (Sep 24)
Son (M/8), studying in Bradbury School in Stubbs Road	Phuket, Thailand (Aug 8-15)	Fever	6 Sep	+ve for IgM (Sep 24)
Domestic helper	Philippines (Aug 25 – Sep 7)	Asymptomatic		-ve for IgM (Sep 24)



Epidemic curve





Interdepartmental Coordination Committee on Dengue fever

- ❖ Held on Sep 22
- ❖ Discussed the preventive and control measures for dengue fever
- ❖ Representatives from :
 - ❧ various services of Department of Health
 - ❧ Hospital Authority
 - ❧ Food and Environmental Hygiene Department
 - ❧ Social Welfare Department
 - ❧ Education Bureau
 - ❧ Leisure and Cultural Services Department
 - ❧ Housing Department
 - ❧ Home Affairs Department
 - ❧ Lands Department
 - ❧ Highway Department
 - ❧ Environmental Protection Department
 - ❧ Information Services Department



Active case finding

- ❖ Conduct field visits and screening for symptomatic case through interview / questionnaires and offered blood tests for the following people :
 - ☞ Residents living within 200m radius of patients home in DeepDene
 - ☞ Co-workers in Central
 - ☞ Members of Victoria Recreation Club at Deep Water Bay
 - ☞ Members of Aberdeen Boat Club in Middle Island
 - ☞ Residents living within 200m radius of patient's school in Stubbs Rd.

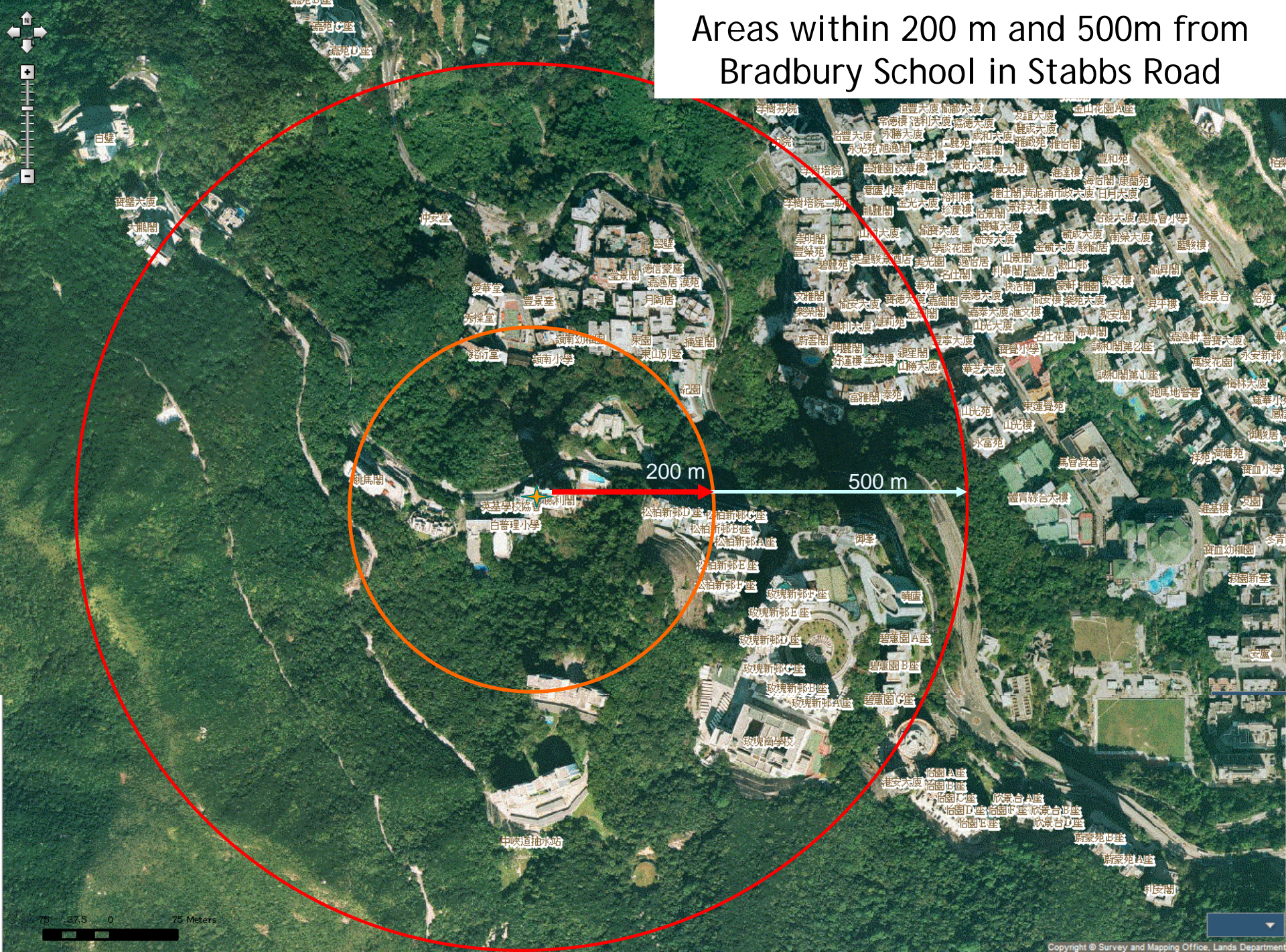


Vector surveillance and vector control

- ❖ Working closely with the FEHD
- ❖ Vector surveillance and vector control measures were carried out within 500m of patients' home in Deep Water Bay and the areas visited, including Middle Island



Areas within 200 m and 500m from Bradbury School in Stabbs Road



Enhanced surveillance for dengue fever

❖ Reporting criteria :

- 1) A person presented with acute **febrile** illness with **two or more** of the following features: headache, retro-orbital pain, myalgia, arthralgia, rash, haemorrhagic manifestations or leucopenia **AND**
- 2) History of **visiting the following places** within the incubation period (two weeks before onset of symptoms):
Deep Water Bay or Middle Island; OR
Hillside International Kindergarten at 43 Stubbs Road (司徒拔道的英基國際幼稚園 (曉新)) and nearby buildings *

❖ Results (Sep 22 to Oct 31):

- ❧ 25 cases reported
- ❧ 14 of these were imported cases
- ❧ 11 of these were classified as “local”, but none of them were test positive or confirmed

*including Bradbury Junior School (白普理小學), Lingnan Primary School and Kindergarten at No. 15 Stubbs Road, and No. 7 Tung Shan Terrace (司徒拔道15號和司徒拔道東山臺7號: 嶺南小學暨幼稚園), No. 24, 43-46 Stubbs Road(司徒拔道24, 43-46號), No 1-82 Mount Nicholson Road (聶歌信山道1-82號) and No. 5-6 Tung Shan Terrace (東山臺5-6號)



Enhanced surveillance for dengue fever Hotline centre

- ❖ A telephone hotline (2125 1122) operated starting from 22/9/10
 - ☞ To detect potential cases
 - ☞ Laboratory investigation or referral to hospital will be arranged if appropriate
 - ☞ To offer counselling to persons who lived in Deep Water Bay or have visited the place since 1 June 2010
 - ☞ From Sep 22 to Oct 31, 78 enquires were received



Enhanced risk communication

- ❖ Letter to doctors and private hospitals
- ❖ Letter to schools and institutions
- ❖ Press conference held on the day [Sep 22] when the local case was confirmed
- ❖ Press releases to update the situation



監測及流行病學處



Surveillance
And
Epidemiology
Branch

本署電話 Our Tel. : (124) in DH SEB CD/8/12/1 V
來函編號 Your Ref. :
電話 Tel. :
傳真 Fax No. : 2711 0927

22 September, 2010

Dear Doctor,

A Local Case of Dengue Fever Reported

We would like to draw your attention to a local case of dengue fever reported in Hong Kong and to remind doctors to remain vigilant against this disease.

A local case of dengue fever was confirmed by the Centre for Health Protection



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Department of Health

Mobilization of community effort

- ❖ Health talks to schools, South district and WanChai residents



- ❖ District Council Meeting on Sep 27

Designated Dengue webpage

The screenshot shows the homepage of the Centre for Health Protection. At the top left is the HP logo and the text 'Centre for Health Protection, Department of Health, The Government of the Hong Kong Special Administrative Region'. Below this is a navigation bar with 'GovHK 香港政府一站通', language options 'TEXT ONLY 繁體版 简体版', and a search box. A vertical menu on the left lists various services like 'Home', 'About Us', 'Scientific Advisory Structure', etc. The main content area features a large banner for 'Dengue Fever' with a mosquito illustration and the Chinese characters '登革熱'.

[Home](#) > Feature topics

22 September 2010

Prevention of Dengue Fever

Printer friendly

Control mosquitoes **Avoid mosquito bites**

- [Dengue Fever](#)

[Press Releases](#)

[Letters to Doctors](#)

[Letters to Schools and Institutions](#)

[Health Education Materials](#)

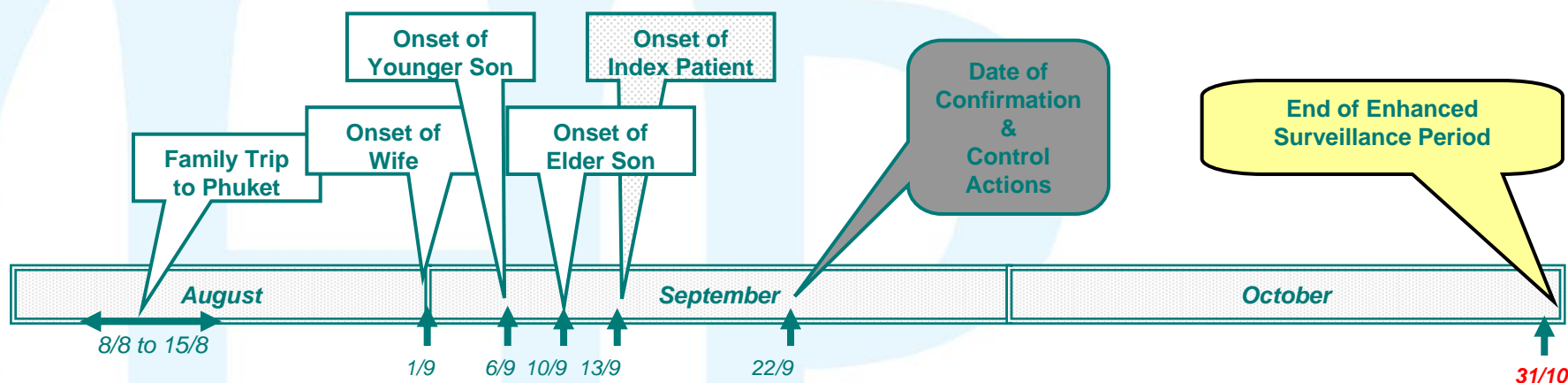
[Guidebook on Control and Prevention of Mosquito Breeding](#)

Enquiry

Organisation	Hotline
Centre for Health Protection	2125 1122
Food and Environmental Hygiene Department	2868 0000

Related links

- [Food and Environmental Hygiene Department, HK](#)
- [Hong Kong Travel Health Service](#)
- [World Health Organization](#)
- [Centers for Disease Control and Prevention, USA](#)



❖ The period of enhanced surveillance for dengue fever ended on 31 October, 2010, six weeks after the confirmation of the index case. This covered the lifespan of the vector *Aedes albopictus* (about 4 weeks) and the longest incubation period of dengue fever (2 weeks).

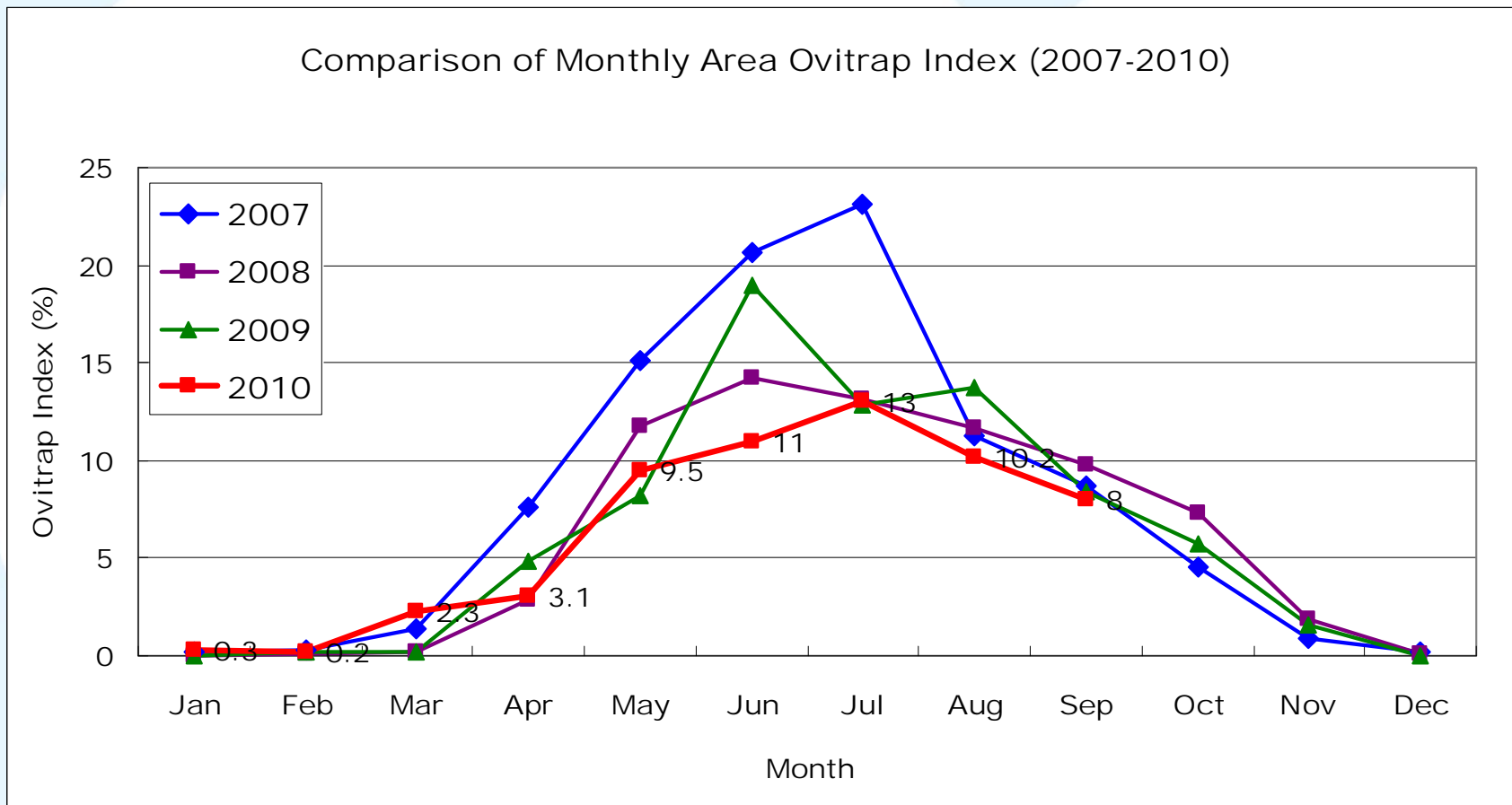


Vector situation



Vector Survey in Hong Kong 衛生防護中心 Centre for Health Protection

Area Ovitrap Indexes, 2007-2010



Monthly Ovitrap Index for September: 8%



衛生署
Department of Health

Summary of Dengue fever

- ❖ Surrounded by dengue fever endemic areas, Hong Kong experienced local cases of dengue fever this year after last outbreak occurred in 2002
- ❖ Active case finding so far indentified a family cluster involving 4 persons but no other confirmed cases
- ❖ Intensive vector control has been carried in patients' home and areas visited to prevent further infection
- ❖ In view of the epidemiological and surveillance findings, the family of local cases of dengue fever represented a sporadic cluster and the outbreak has been brought under control





Thank you !

