



# DILEMMA OF DENGUE CONTROL: IN THE EYES OF PUBLIC HEALTH PROFESSIONALS

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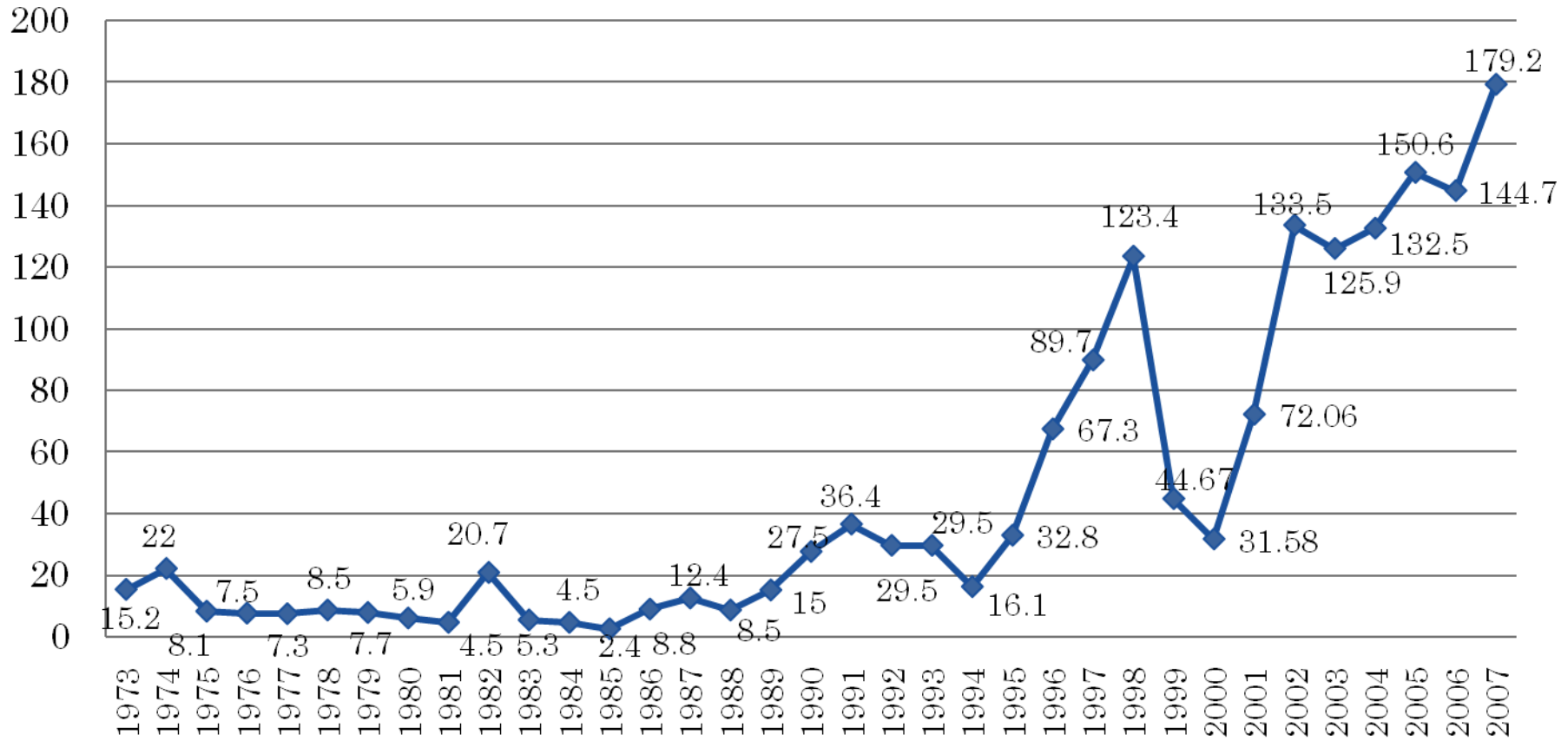
# INTRODUCTION



- Dengue continue to be a major public health problem in Malaysia.
  - Early 1990's there was a dramatic increase in annual number of cases.
  - In 1995 - 6,443 cases
  - Selangor - 155.4/100,000 population  
- 408/100,000 population
  - Petaling District - 6132 cases (2007)  
- 6624 cases (2009)
  - Increased dramatically in 2007 to 48,846 cases and 98 deaths (WHO,2008).
- Outbreaks of dengue continued to occur nation wide in spite of the intensive control measures taken.



# STATISTIK DENGGI – MALAYSIA (KADAR INSIDEN)



Tren Kadar Insiden Demam Denggi Dan Demam Denggi Berdarah Di Malaysia

Sumber: Bahagian Kawalan Penyakit, KKM, 2007



- Therefore, there is a need for information on factors that contribute for the continued outbreaks as well as the perception of the community on dengue and factors to promote community involvement for the control of dengue.
- One of the sources for this information can be obtained from the health care workers who have field experience on dengue control. This study is thus conducted to obtain the views and opinions of local Environmental Health Officers, Public Health Assistants and General Workers currently working in the dengue control programme.



# STUDY OBJECTIVES



- General objective:
  - To obtain views and opinions on the contributing factors to the dengue epidemic and the constrains of the control measures for dengue among public heath staff (Assistance Environmental Health Officers, Public Health Assistants, General workers) in the Health District of Petaling.
- Specific Objectives
  - To obtain views on the main factors for dengue outbreak, based on the local experience of public health staff.
  - To identify factors that contribute for the difficulty in controlling dengue outbreak.
  - To identify Health Education Strategies for the control of dengue.
  - To obtain opinion on the effectiveness of legal enforcement for the control of dengue.
  - To obtain opinion on the participation of local community for the control of dengue.



# METODOLOGY



- Study Design
  - Qualitative survey - Focus Group Discussion (FGD)
- Study Groups
  - Assistance Environmental Health Officers,
  - Public Health Assistants ,
  - General workers
- Sampling Unit
  - Public Health Staff of Petaling Health District who have wide field experience in dengue control:
    - Assistance Environmental Health Officers - 9 officers
    - Public Health Assistants - 8 officers
    - General workers - 5 workers



- Study method
  - 3 separate FGD - according to group
  - Each group conducted by a moderator and research assistant.
  - Duration - 1 to 2 hours
- Study Instrument
  - Research Guidelines on FGD and;
  - Guideline on questions;
- Place and date
  - Office of Petaling Health District, Selangor.
  - 9 March 2010, 10.30 am to 12.30 pm.



## ○ Data analysis

- Discussions were tape-recorded and transcribe *verbatim by the* research assistant.
- The data (transcripts) were analysed to five stages of Framework Analysis:
  - familiarization;
  - identifying a framework;
  - indexing;
  - charting;
  - and mapping and interpretation.
  - This involved (i) reading all transcripts fully ('familiarization') to gain a sense of the data; (ii) re-reading transcripts in detail, thematically coding data, resulting in a thematic framework; (iii) identifying patterns and connections within the data as emerging themes; (iv) mapping the form and nature of categories and concepts, including negative cases; (v) reviewing data charts in order to interpret the key themes.





# QUESTIONS ASKED



- Briefly describe your background.
  - ✓ Year of starting service
  - ✓ Duration in dengue control programme
  - ✓ Your current grade of service?
  - ✓ Frequency of posting?
  - ✓ Courses attended related to dengue control.
  - ✓ Recent course on dengue control.
  - ✓ Experience in simulation exercise for the control of epidemic?
- Status of dengue at current place of work.
  - ✓ Is dengue a problem?
  - ✓ How dengue is controlled?
  - ✓ Factors contributing to the dengue outbreak?
  - ✓ Measures to be taken for effective controlled of the outbreaks?
- Opinion of respondents on the constrains for dengue controlled.
  - ✓ Experience in legal enforcement for the control of dengue?
  - ✓ Effectiveness of legal enforcement for dengue control?
- Empowering Community Mobilization.
  - ✓ Removal of *Aedes* breeding sites
  - ✓ Cooperation for fogging activities
  - ✓ Public cleaning up campaign (Gotong royong).
- Health Education/Health Pronmotion/Risk communication choices for dengue control.
  - ✓ Pre crisis/normal situation?
  - ✓ During crisis?



# FINDINGS





# FACTORS OF DENGUE OUTBREAK



- Large population of 2 million which were mobile, presence of large number of local and foreign migrants.
- Development - housing and commercial constructions.
- Increase environmental risk to dengue -  
Unsanitary environment due to indiscriminate disposal of waste materials, vacant apartment units and poorly maintained water closet.



- Complacency and poor attitude of local population to the threat of dengue - failure to check for the *Aedes* breeding sites and uncooperative in dengue control measures such as fogging and public cleaning campaign.
- *Aedes* breeding are also common in within the houses compared to outside the house.
- Premises rented by Mara University of Technology (UITM) students frequently at risk for dengue outbreak. *Aedes* breeding in their premises were common due to their complacency attitude because they were busy attending their classes from morning to evening. Risk of breeding also increased when the students left for their homes during vacation time.



# CONSTRAIN AND BARRIERS IN CONTROLLING DENGUE



- Shortage of control teams (currently 20 teams) to cover 3 large local government areas of Shah Alam, Subang Jaya and Petaling.
- Shortage of vehicles for field investigation and control measures.
- Uncoordinated teamwork - surveillance, investigation, control and health education functioning independently.
- Coordination with the local government health teams not fully utilized.



- Lack of community participation.
  - Public cleaning campaigns attended only by the committee members and government staff.
  - Abate was not use even when distributed free.
- Fogging not well accepted by the community for various reasons;
  - Timing of fogging - In the evening not suitable because of prayer time and time for taking of meal.



# PERCEPTION ON ENFORCEMENT FOR DENGUE



- Refusal of entry to homes for inspection by Enforcement Officer.
- Enforcement procedures very lengthy and cumbersome.
- Limited power as compared to local council Enforcement Officers for inspection and closing of premise.
- Affordable to pay for compound penalty.



- Enforcement less effective with regards to inspection of government institutions.





# SUGGESTIONS FOR FURTHER DENGUE CONTROL MEASURES



- More public cleaning up campaign.
- More frequent house inspections.
  - Inspection directed strategically on high risk premises especially during outbreaks to increase coverage for inspection.
- Need for community mobilization through cooperation with local leaders.
- Precaution should be taken during outbreaks for unwarranted fogging conducted by unauthorized commercial providers.



- Soft skill communication strategy required to obtain the cooperation of community members.
- Team approach to be optimally used.
  - Involvement of all control staff for situational analysis (risk and need assessments)
  - Control measures should be according to the situational analysis and case investigation of reports.
  - The teams are responsible to specific dedicated areas. Rotation on area responsible should be done on a regular basis.



- Further improve coordination and cooperation with local government health authority.
- Special campaign for UITM students especially during orientation week.
- Distribute dengue information leaflets to every household during house inspection and also communicate risk to the households.



# DISCUSSION



- Viewed Petaling Health District as at risk to dengue outbreaks:
  - Due to its large, mobile and multi ethnic population.
  - Many housing estates, concentrated high rise apartments as well as industrial and commercial premises.
  - New construction sites continue to be risk for *Aedes* breeding such as the current Shah Alam Hospital under construction.
- Viewed the people of Petaling Health District being complacent:
  - Generally busy with their daily economic activities that extent beyond normal working hours and resulting in less attention to dengue control activities.
  - UITM students who rented outside the main campus were frequently infected with dengue and they were complacent due to their academic commitments.



- Acknowledged *Aedes* breeding in Petaling Health District occurred both indoors and outdoors:
  - Breeding indoors:
    - Basically due to complacency attitude of owners in spite of free provision of abate . In addition vacant housing units or units left unattended (students on vacation) are serious risk to large breeding sites for *Aedes*.
  - Breeding outdoors:
    - Due to irresponsible waste disposal and weakness in waste collection system.



- Acknowledge weakness in Dengue Control Programme.
  - There is a shortage of staff for the control dengue due to the widespread and frequent outbreaks and vacancy of posts.
  - Shortage of transportation hampers further the control measures.
  - Strict division of tasks resulted in uncoordinated measures and failure to perform as a team.
  - Coordination between agencies is also not fully utilised.
  - Control measures were carried out mainly based on information from line listings.
    - Information on other movements such as work place, place of visits obtained through investigation of patient was not given emphasis. Such actions will contribute to incomplete control measures.



- The staff that participated in the three focus group discussions appeared to have less enthusiasm in dengue control. The continuing outbreaks of dengue resulted in the control activities attitude taken as routine measures.
- Working hours beyond the normal working hours including week ends has affected the morale of staff. Financial remuneration for overtime given to lower category staff were restricted at the end of the year.
- The discussions gave the impression the control programme coordination between different functional units within the vector control seemed to be lacking.



# LIMITATIONS



- Not all of the respondents had wide experience on dengue control because several of them were either junior officers in service or newly transferred from other disease control programme.





# CONCLUSION AND RECOMMENDATIONS



- Improvement of the environmental and housing sanitation.
  - Institute measures to reduce risk of vector breeding sites in the environment and buildings.
    - Engineering design and works
    - Cleaning campaign
  - Enhance intersectoral collaboration
- Audit and strategic enhancement of the control measures.
  - Address the current control measures and identify weaknesses.
  - Strategic plan specific for each locality.
  - Enhance intersectoral collaboration.
- Empower the community.
  - Audit the current COMBI programme.
  - Enhance and promote COMBI programme.





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