

Department of Health
Field Epidemiology
Training Program
Intermediate Course
Northern Luzon Cluster

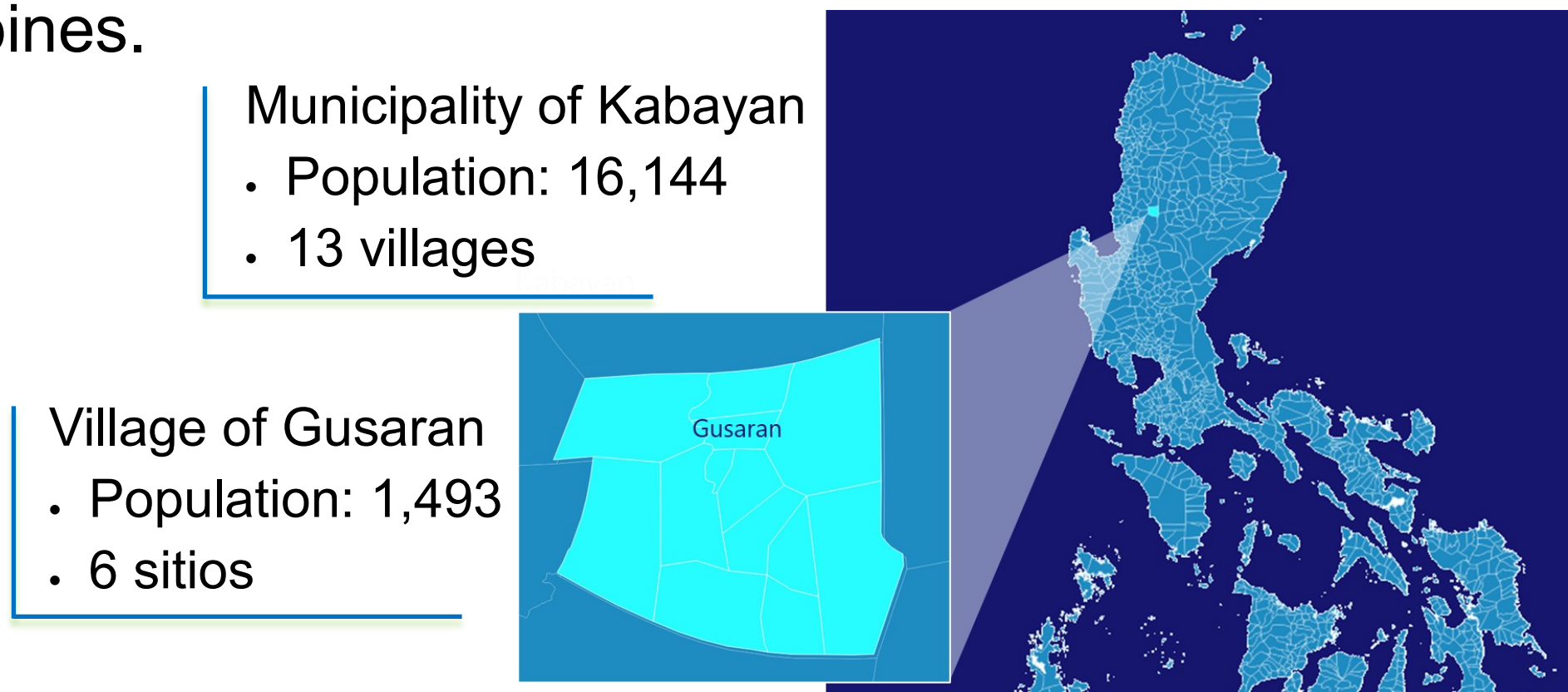
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Introduction

Dengue is a public health threat globally and in the Philippines. The Cordillera Region in the north experiences seasonal dengue outbreaks.

Background

- May 14, 2024 - Regional Public Health Unit detected a **rise of dengue cases** in a Village in Benguet, Northern Luzon, Philippines.



- July 11, 2024 - a **continuous increase** of cases was noted despite interventions conducted
- July 17-19, 2024 - the public health unit with FETP-intermediate trainee conducted an outbreak investigation

Objectives

1. To determine the existence of an outbreak
2. To profile the cases
3. To describe possible factors of continuous increase
4. To recommend prevention and control measures

Methods

Descriptive study:

- **Records review:** local surveillance data (i.e. Disease Reporting System, records from local health unit and District Hospital)
- **Active case finding** using the following case definition

Suspect case - any person residing in the village who developed fever (≥ 2 days) with two or more symptoms: headache, body malaise, myalgia, arthralgia, retro-orbital pain, anorexia, nausea, vomiting, diarrhea, flushed skin or rash (petechial, Herman's sign) from May 26 to July 17, 2024.



During case interview

- Interview of cases on demographics, clinical information, practices on dengue prevention and travel history
- **Key Informant Interview** - Interview of local health officers and village health workers on implementation of dengue prevention and control program
- **Entomological Survey** - collected vector and environmental data for computation of larval indices
- **Laboratory Examination** - collected specimens from cases for confirmatory test



*Inspection of tires used as roof weight
for presence of mosquito larvae.*

Results

- 97 cases were reported from MW 22-29, with no death.
- epidemic threshold breached and cases peaked on MW 26

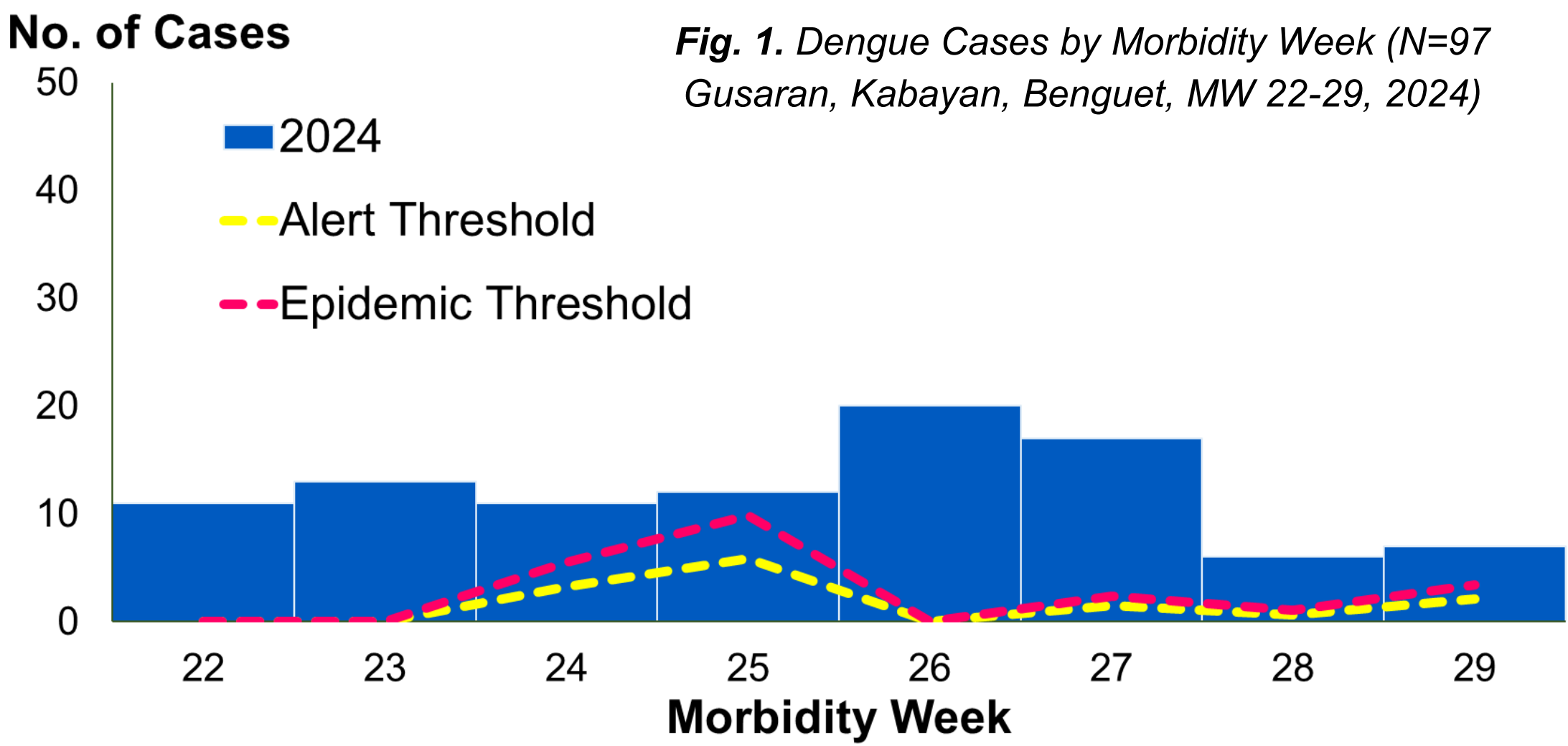


Fig. 1. Dengue Cases by Morbidity Week (N=97 Gusaran, Kabayan, Benguet, MW 22-29, 2024)

- Most (50, 51%) were females
- Ages ranged: <1 to 74 years old (median=29)
- Most affected age group: 10 to 19 years old

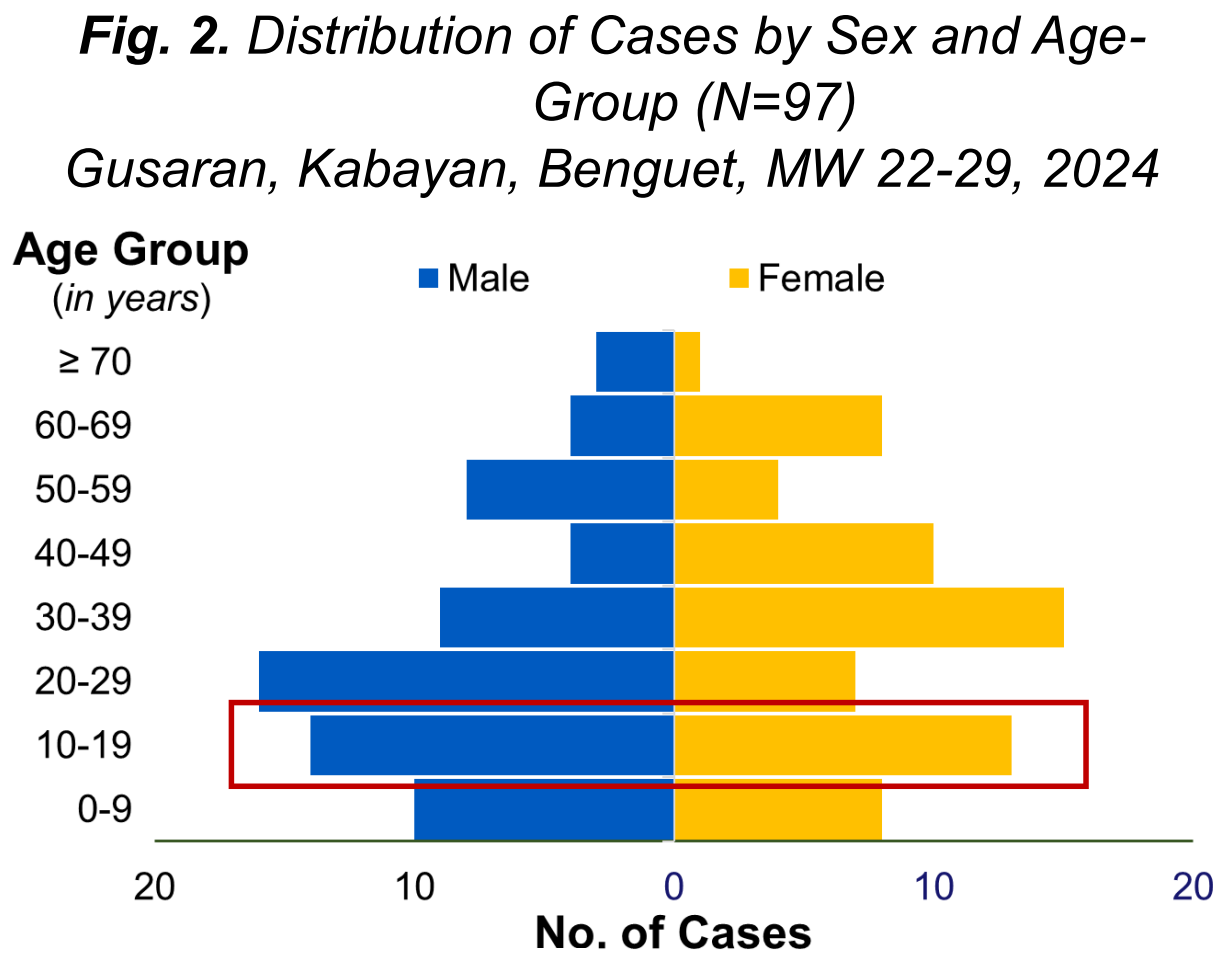


Fig. 2. Distribution of Cases by Sex and Age-Group (N=97)
Gusaran, Kabayan, Benguet, MW 22-29, 2024

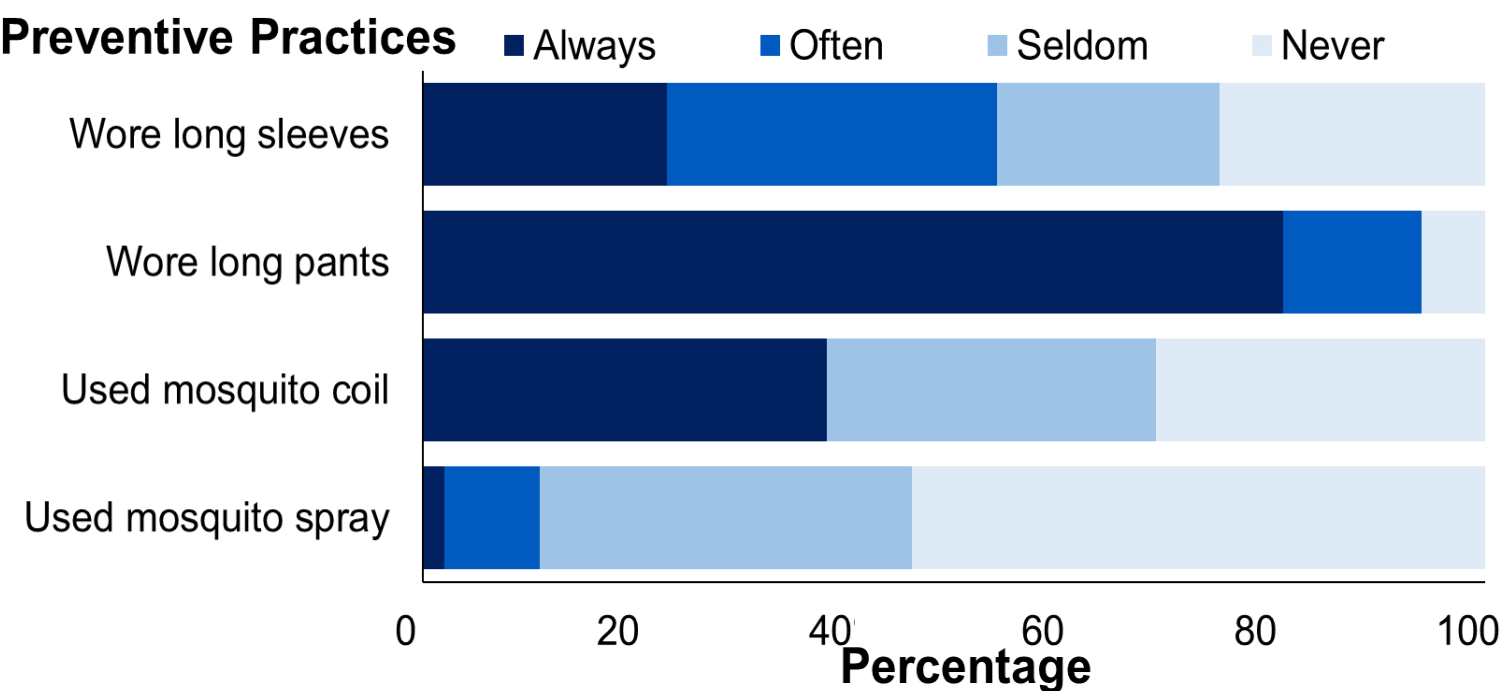


Fig. 3. Dengue Preventive Practices Cases (n=52), Gusaran, Kabayan, Benguet, MW 22-29, 2024

- 46% seldom or never wore long sleeves, used mosquito coil (62%) or mosquito spray (89%)

Table 1. Mosquito Breeding Sites and Containers (N=212), Gusaran, Kabayan, Benguet, MW 22-29, 2024

Breeding Sites and Containers	No.	Positive for Larvae (%)
Tires	77	65 (84)
Water tank (uncovered)	5	2 (40)
Household disposables	12	3 (25)
Standing pipes	4	1 (25)
Pail	10	2 (20)
Plant, husks, pots or vase	13	2 (15)
Discarded bottle	8	1 (13)
Drum	62	6 (10)
Basin	11	0 (0)
Water Jugs	6	0 (0)

Table 2. Summarized Response of Key Informants (n=5), Gusaran, Kabayan, Benguet, MW 22-29, 2024

Interventions	Yes	No	Remarks
Dengue prevention and control ordinance	✓		Only to encourage 4S and ABKD
Availability of insecticides	✓		DOH allocation
Compliance of residents to 4S		✓	
Sustained and regular conduct of <i>Oplan taob</i>		✓	
Conduct of regular larval surveillance		✓	
Fogging and misting machine		✓	
Fund	✓		RDT, IV fluids and ORS

Table 3. Larval indices of Aedes species, Gusaran, Kabayan, Benguet, MW 22-29, 2024

House Index (HI)	Breteau Index (BI)	Container Index (CI)	Larval Identification		
			<i>Ae. aegypti</i>	<i>Ae. albopictus</i>	Others
59%	87%	41%	55%	44%	1%

- All entomological indices were above threshold.
- Old and unused tires were common breeding grounds for mosquitoes and existing policies were not adhered to.

Conclusion

- The outbreak reflects societal practices driving dengue spread.
- High vector indices show environmental conditions fueling transmission.
- Dengue control needs strong surveillance, adaptive strategies, and community action.



Acknowledgment:

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