
# COLLEGE OF COMPUTING AND INFORMATICS
# PUTRAJAYA CAMPUS

## CLASS PROJECT REPORT

## SEMESTER 1 2023/2024

SUBJECT CODE: CGMB4113

SUBJECT: Information Visualisation

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SECTION: 01B

## SECTION 1: CONTEXTUAL PLANNING

### a) Project Introduction

Dengue is a viral disease that spreads by the Aedes mosquito. It is commonly in tropical regions like Malaysia due to the warm climate and ideal breeding conditions for mosquitoes. This disease comes from a variety of factors such as rapid urbanization, high population density and global travel that increases the virus's spread. Although Malaysia has been taking measures to control the mosquito population and raise public awareness, but it remains to be a significant health concern. The dengue fever remains one of the top illnesses happening throughout every year. This highlights the need for continued efforts towards effective preventive measures.

Having this project on making a PowerPoint presentation deck and infographic poster about dengue cases in Malaysia for the year 2023 can help the audience to see the trend of the cases that have been going on within a year and comparison between the last few years. Showing the statistics will help to tackle the problem and determine the level or severity of dengue cases. By keeping track of trends over time, general public can predict and respond to outbreaks more efficiently. The poster will contain a few different types of graphs that describe top highest states of dengue cases in Malaysia, overall total cases, and deaths within 2023, comparison between past two years total cases, dengue symptoms, and age distribution. In general, dengue statistics are a fundamental tool for informed decision-making, resource allocation, and the development of strategies to stop the ongoing threat of dengue in Malaysia.

### b) Communication goal and message.

#### i. Overall communication objective

1. This visual representation and presentation about dengue cases in Malaysia for year 2023 are aims to raise public awareness and encourage best practice towards preventing dengue fever. The visual representation of data can help to inform the public about the status of dengue cases by giving them an exposure

to make informed decisions about their personal and community health. Besides, this also can seek to combine information dissemination and tangible preventive actions across Malaysian community.

2. Encouraging a nationwide commitment to dengue prevention can help decrease the frequency of dengue infections across the state.

**ii. Messages and insights**

**1. Spotlight on Dengue: Mapping Malaysia's States in 2022**

This insight is used to demonstrate the top state across Malaysia for dengue cases in December 2022. It will reveal the top rank of geographical areas with the highest incidence rates. It is shown that Selangor scored the highest total cases within the month with 3,942 cases and followed by Sabah.

**2. 2023 Dengue Report: Total Cases and Lives Lost**

The number of dengue cases and deaths in Malaysia for the year 2023 in quarter 4 is slightly increased (40%) compared to previous quarter. It is recorded that 122,995 total cases happened within the year. Analyzing this data helps estimate the severity of the outbreak and informs health authorities about the necessary healthcare resources.

**3. Dengue Dynamics Unveiled: A 2022-2023 Total Cases Breakdown**

By having a comparative analysis of dengue cases over the last two years (2022-2023) allows for the identification of trends and patterns. It is crucial to determine if the total number of cases has increased, decreased, or remained stable in order to evaluate the effectiveness of current prevention and control measures. The number shows 87% increased of total cases within 2022 to 2023.

**4. Age Under Fire: Who Dengue Hits Hardest in Malaysia?**

Dengue is most prevalent among children under 15 years old accounting for 50-60% of cases in Malaysia. Parents should take proactive measures to protect their children from Dengue. Your actions can help keep our kids safe!

5. **Unveiling Dengue Fever Phases: A Journey Through Symptoms**

Examining Dengue Fever phases & symptoms through a trendline raises awareness. Febrile, critical and recovery phase are highlighted, offering insight into possible symptoms. In the critical period (Days 3-7), a temporary improvement is indicated, guiding individuals to act promptly to prevent severe outcomes.

**c) Target audience**

The targeted audience is mainly for the general public and someone who has dengue fever. It is crucial to raise awareness among the public as they are first line of defense in preventing dengue. The infographic aims to bring together the general public and someone who has dengue fever in the fight against dengue in Malaysia.

**d) Publishing strategy and tool**

I choose to use an online educational institutions application like Brighten to publish the infographic poster. For digital format, by using social media, website and sharing via email can help to raise the dengue awareness to the targeted community. Whereas for tools, I choose Microsoft Excel, Microsoft PowerPoint, Tableau, Canva, and Microsoft Word for their user-friendly interfaces, which will help make the process more efficient in the creation and sharing of the infographic.

## SECTION 2: DATA PREPARATION

a) Link to each data source and a brief description of what the data is about:

1. **Insight 1:** Spotlight on Dengue: Mapping Malaysia's States in December 2022

**Data Source:** Total cases by states in Malaysia data (December 2022)

*Portal Rasmi Kementerian Kesihatan Malaysia*. (2018). Moh.gov.my. https://www.moh.gov.my/index.php/database_stores/store_view/17?items=25&page=1

The latest update full record is in December 2022, which shows the total cases of dengue that happened daily within the month. The source is from the Malaysian Ministry of Health. The statistic helps the general public to see an up-to-date look at the dengue cases across the state. The spotlight state is on Selangor, where dengue cases are increasing. Whereas in Perlis, Sarawak, W.P Labuan and Terengganu are showing least cases happened within the month. The spotlight helps highlight the need for quick attention and focused efforts to prevent the spread.

2. **Insight 2:** 2023 Dengue Report: Total Cases and Lives Lost

**Data Source:** Total Cases and Lives Lost 2023 Dengue

*Portal Rasmi Kementerian Kesihatan Malaysia*. (2018). Moh.gov.my. https://www.moh.gov.my/index.php/database_stores/store_view/17?items=25&page=1

To provide a current and detailed breakdown of total dengue cases and associated deaths happened within 2023 quarterly. This will help to identify the peak and low points in the trend of dengue cases. Looking at the total number and the associated deaths, this can highlight how serious and widespread dengue during that time. Having this insight can help general public to comprehend the severity of the problem. This awareness can facilitate the development of effective strategies to address and mitigate the challenges posed by dengue.

3. **Insight 3:** Dengue Dynamics Unveiled: A 2022-2023 Total Cases Breakdown

**Data Source:** Total Cases Breakdown Year 2022 – 2023 data

*Portal Rasmi Kementerian Kesihatan Malaysia*. (2018). Moh.gov.my. https://www.moh.gov.my/index.php/database_stores/store_view/17?items=25&page=1

To let the general public see the overview of total cases of dengue between the years 2022 and 2023 and make a comparison. The breakdown offers valuable insight and understanding of the fluctuations in dengue cases over specified timeframes, patterns, and potential peak periods. It is shown that estimated 50.3% increase in dengue cases from the year 2022 to 2023. This statistic underscores the urgency of the matter, signaling a significant rise in dengue occurrences within a relatively short period. By knowing when cases tend to peak or decline, we can take more informed steps to protect ourselves and our communities during those times.

4. **Insight 4:** Age Under Fire: Who Dengue Hits Hardest in Malaysia?

   **Data Source:** Data from Dengue Cases in 2023

   To identify the impact of dengue across different age groups by drawing insights from data on dengue cases in 2023. This data seeks to identify which demographic groups: children, adults, and elders are exposed more to dengue infections. It is shown that children are often ranked the highest getting dengue cases. So, this insight can help create better prevention ways to protect those who are most vulnerable to the virus.

5. **Insight 5:** Unveiling Dengue Fever Phases: A Journey Through Symptoms

   **Data Source:** Figure 5: Clinical Course of DHF

Malaysia Health Technology Assessment Section (MaHTAS) Medical Development Division, Ministry of Health Malaysia (n.d.). CPG Management of Dengue Infection In Adults. Kementerian Kesihatan Malaysia. Retrieved January 15, 2024, from https://www.moh.gov.my/moh/resources/penerbitan/CPG/CPG%20Dengue%20Infection%20PDF%20Final.pdf

To assist the general public in identifying the different stages of dengue fever and their timelines. It is divided into 3 phases: The Febrile phase, The Critical Phase, and The Recovery Phase. By understanding these phases, individuals can recognize warning signs early and seek prompt medical attention, leading to better outcomes and more effective community-wide dengue prevention efforts.

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b) Data preparation activities

i. Data Acquisition

For collecting the data, most of the insights are found within data sources from a variety of sites such as government and open data, online free data repositories, news articles, websites, and data foraging. However, for insight 4, there is no accurate data stating the numbers of age distribution that most impactful to the dengue cases.

ii. Data Examination

Most of the data being collected are from raw data and not in table format. So, it needs to be processed and edited to summarize into the normalized data. Due to the unclear information, some of the data also need to be filtered like the time range of the data from year 2022 to 2023 only as the source states the year starting in 2019.

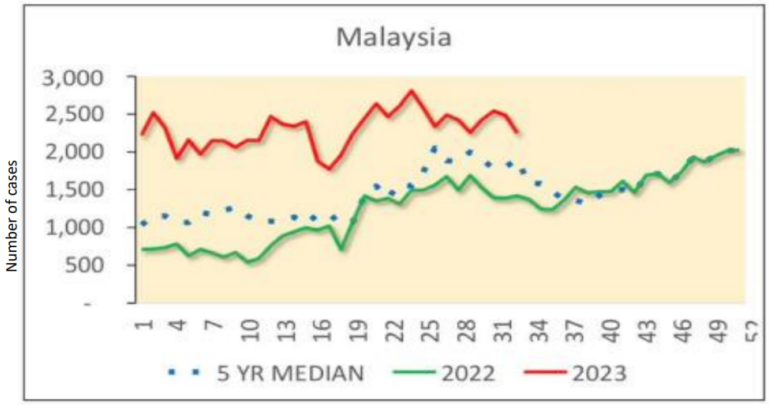


**Figure 2.1** Insight 2

**Figure 2.1** shows the missing values for the year 2023, inconsistencies data, inaccuracies data and the wide range of weeks being illustrated.

Whereas for insight 2 and 3, the data is collected within a ministry health online repository. So, it is a must to convert the data into table form for easy understanding and processing the output.

iii. Data Cleaning

To fix the issues, it is best to manually insert the missing values and interpret the data into a table format for easy analysis. Creating a table to filter the values of data and range of date can help to ease the graph-making process.

iv. Data Transformation (include table of data values)

For insight 2 and 3, converting the weekly to quarterly range can help minimize the number of data being visualized within the graph and increase the readability for the general public while looking at the data. Some of the transformation being done is listed in the tables below:

**Insight 1**

| STATE | WEEK 49 | WEEK 50 | WEEK 51 | WEEK 52 |
|---|---|---|---|---|
| JOHOR | 172 | 152 | 152 | 148 |
| KEDAH | 44 | 31 | 33 | 55 |
| KELANTAN | 48 | 43 | 28 | 25 |
| MELAKA | 18 | 23 | 25 | 24 |
| NEGERI SEMBILAN | 65 | 65 | 94 | 46 |
| PAHANG | 30 | 29 | 29 | 25 |
| PERAK | 48 | 55 | 62 | 46 |
| PERLIS | 9 | 15 | 9 | 6 |
| PULAU PINANG | 95 | 112 | 146 | 128 |
| SABAH | 241 | 234 | 244 | 240 |
| SARAWAK | 7 | 19 | 11 | 5 |
| SELANGOR | 902 | 960 | 1,001 | 1,079 |
| TERENGGANU | 4 | 9 | 4 | 4 |
| WP KUALA LUMPUR & WP PUTRA | 188 | 201 | 180 | 193 |
| WP LABUAN | - | 2 | - | - |
| **Total** | **1,871** | **1,950** | **2,018** | **2,024** |

**Figure 2.2** Insight 1 Raw data

| STATE | TOTAL CASES (Dec 2022) |
|---|---|
| SELANGOR | 3,942 |
| SABAH | 959 |
| WP KUALA LUMPUR & WP PUT | 762 |
| JOHOR | 624 |
| PULAU PINANG | 481 |
| NEGERI SEMBILAN | 270 |
| PERAK | 211 |
| KEDAH | 163 |
| KELANTAN | 144 |
| PAHANG | 113 |
| MELAKA | 90 |
| SARAWAK | 42 |
| PERLIS | 39 |
| TERENGGANU | 21 |
| WP LABUAN | 2 |
| **Total** | **7,863** |

**Figure 2.3** Insight 1 Processed data

**Insight 2**

**Data:** Jan – Dec 2023

| Week | Cases | Death |
|---|---|---|
| 1 | 2,219 | 1 |
| 2 | 2,520 | 1 |
| 3 | 2,319 | 1 |
| 4 | 1,910 | 1 |
| 5 | 2,159 | 2 |
| 6 | 1,967 | 3 |
| 7 | 2,149 | 4 |
| 8 | 2,145 | 1 |
| 9 | 2,062 | 1 |
| 10 | 2,152 | 1 |
| 11 | 2,151 | 0 |
| 12 | 2,469 | 1 |
| 13 | 2,365 | 1 |
| 14 | 2,239 | 2 |
| 15 | 2,399 | 1 |
| 16 | 1,850 | 1 |
| 17 | 1,775 | 0 |
| 18 | 1,956 | 2 |
| 19 | 2,242 | 2 |
| 20 | 2,444 | 2 |
| 21 | 2,638 | 3 |
| 22 | 2,455 | 3 |
| 23 | 2,608 | 3 |
| 24 | 2,808 | 2 |
| 25 | 2,582 | 0 |
| 26 | 2,336 | 1 |
| 27 | 2,488 | 2 |
| 28 | 2,421 | 3 |
| 29 | 2,258 | 2 |
| 30 | 2,427 | 0 |
| 31 | 2,542 | 2 |
| 32 | 2,487 | 4 |
| 33 | 2,248 | 1 |
| 34 | 2,349 | 1 |
| 35 | 1,924 | 2 |
| 36 | 2,284 | 2 |
| 37 | 2,380 | 0 |
| 38 | 2,310 | 3 |
| 39 | 2,299 | 3 |
| 40 | 2,436 | 2 |
| 41 | 2,271 | 0 |
| 42 | 2,262 | 6 |
| 43 | 2,272 | 0 |
| 44 | 2,221 | 5 |
| 45 | 2,435 | 2 |
| 46 | 2,372 | 0 |
| 47 | 2,686 | 3 |
| 48 | 2,988 | 1 |
| 49 | 2,948 | 3 |
| 50 | 3,140 | 5 |
| 51 | 2,913 | 4 |
| 52 | 2,715 | 4 |
| **TOTAL** | **122,995** | **100** |

**Figure 2.4** Insight 2 Raw data

| Quater | Total Cases | Total Deaths |
|---|---|---|
| Q1 (week 1 -13) | 28,587 | 18 |
| Q2 (week 14 - 26) | 30,332 | 22 |
| Q3 (week 27-39) | 30,417 | 25 |
| Q4 (week 40 - 52) | 33,659 | 35 |
| | **122,995** | **100** |

**Figure 2.5** Insight 2 Processed data

## Insight 3

| Week | 2022 | 2023 |
|---|---|---|
| 1 | 712 | 2,219 |
| 2 | 717 | 2,520 |
| 3 | 736 | 2,319 |
| 4 | 783 | 1,910 |
| 5 | 625 | 2,159 |
| 6 | 711 | 1,967 |
| 7 | 666 | 2,149 |
| 8 | 608 | 2,145 |
| 9 | 671 | 2,062 |
| 10 | 543 | 2,152 |
| 11 | 592 | 2,151 |
| 12 | 760 | 2,469 |
| 13 | 888 | 2,365 |
| 14 | 945 | 2,239 |
| 15 | 997 | 2,399 |
| 16 | 967 | 1,850 |
| 17 | 1,021 | 1,775 |
| 18 | 709 | 1,956 |
| 19 | 650 | 2,242 |
| 20 | 800 | 2,444 |
| 21 | 1,000 | 2,638 |
| 22 | 1,387 | 2,455 |
| 23 | 1,311 | 2,608 |
| 24 | 1,430 | 2,808 |
| 25 | 1,495 | 2,582 |
| 26 | 1,560 | 2,336 |
| 27 | 1,676 | 2,488 |
| 28 | 1,495 | 2,421 |
| 29 | 1,689 | 2,258 |
| 30 | 1,524 | 2,427 |
| 31 | 1,394 | 2,542 |
| 32 | 1,390 | 2,487 |
| 33 | 1,419 | 2,248 |
| 34 | 1,373 | 2,349 |
| 35 | 1,247 | 1,924 |
| 36 | 1,250 | 2,284 |
| 37 | 1,363 | 2,380 |
| 38 | 1,533 | 2,310 |
| 39 | 1,460 | 2,299 |
| 40 | 1,474 | 2,436 |
| 41 | 1,477 | 2,271 |
| 42 | 1,460 | 2,262 |
| 43 | 1,460 | 2,272 |
| 44 | 1,693 | 2,221 |
| 45 | 1,715 | 2,435 |
| 46 | 1,593 | 2,372 |
| 47 | 1,734 | 2,686 |
| 48 | 1,935 | 2,988 |
| 49 | 1,871 | 2,948 |
| 50 | 1,950 | 3,140 |
| 51 | 2,018 | 2,913 |
| 52 | 2,024 | 2,715 |
| TOTAL | 64,501 | 122,995 |

**Figure 2.6** Insight 3 Raw data

| Quater | 2022 | 2023 |
|---|---|---|
| Q1 (week 1 -13) | 9,012 | 28,587 |
| Q2 (week 14 - 26) | 14,272 | 30,332 |
| Q3 (week 27-39) | 18,813 | 30,417 |
| Q4 (week 40 - 52) | 22,404 | 33,659 |
| | 64,501 | 122,995 |

**Figure 2.7** Insight 3 Processed data

## SECTION 3: SOLUTION DEVELOPMENT

### Presentation Deck

a) Justification for the selection of each graph.

b) Discussion on the design decision for each graph presentation, inclusive of storytelling elements.

INSIGHT 1

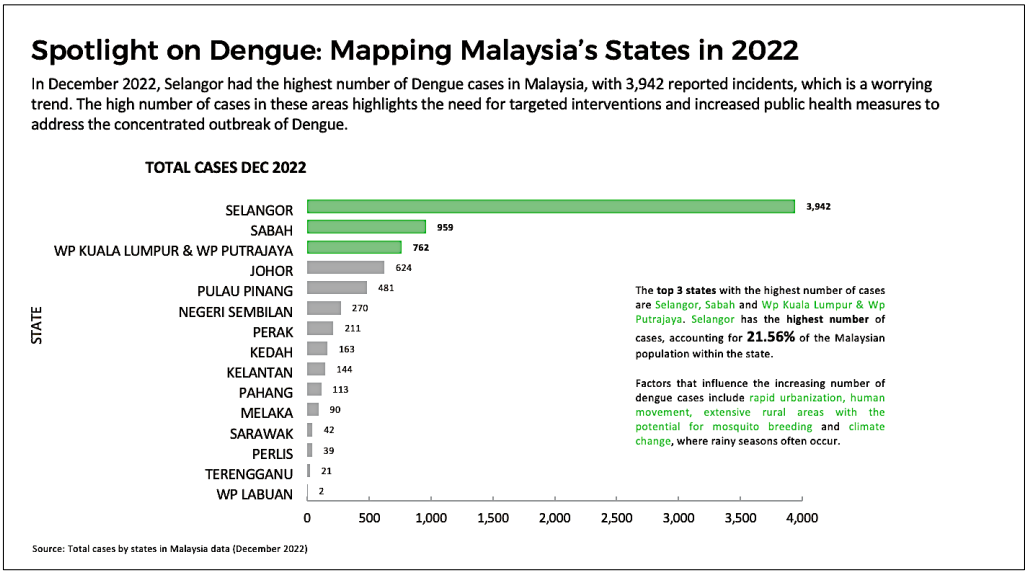



**Figure 3.1** Insight 1

- The descriptive title helps the general audience quickly understand the context of the graph at the first glance.
- The bar chart is used to represent data with discrete categories and long text, such as the state names in Malaysia. This chart allows for easy comparison of the number of dengue cases in each state through the length of the bars. Its simplicity makes it suitable for a broad audience.
- The green bars draw attention by highlighting the top 3 states with the highest dengue cases, leveraging the positive associations of green with growth or importance. Grey bars for other states provide contrast and de-emphasize less critical information.
- Bold and large font size are used to emphasize the percentage values within the text highlights, making the distribution of dengue more convincing.
- The green font colour for annotations helps relate the story within the 3 green bars being illustrated in the bar chart graph. The consistent use of green for both bars and annotations creates a unified visual experience.

INSIGHT 2

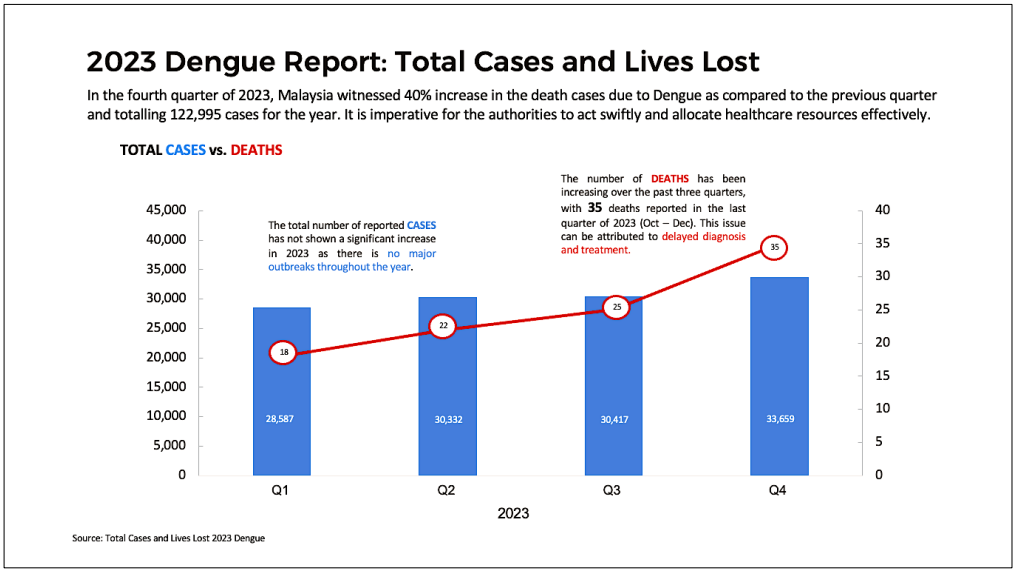



**Figure 3.2** Insight 2

- The title clearly summarizes the graph's focus, and the subtitle strategically emphasizes the most crucial information.
- I used combo chart, combining a line chart to illustrate total deaths and a column chart for the total of dengue cases in 2023 for each quarter. This allows for a direct comparison between the two variables, making it easier to observe if increases or decreases in cases correspond with similar changes in deaths.
- The blue columns represent total cases, while red line illustrates total deaths, drawing attention to the main concern of the death population.
- Axis labels provide the exact numerical values for both variables. This enables the general audience to see precise information.
- Lastly, text annotations highlight key takeaways based on the colour of each variable for better understanding while analyzing the graph.

INSIGHT 3

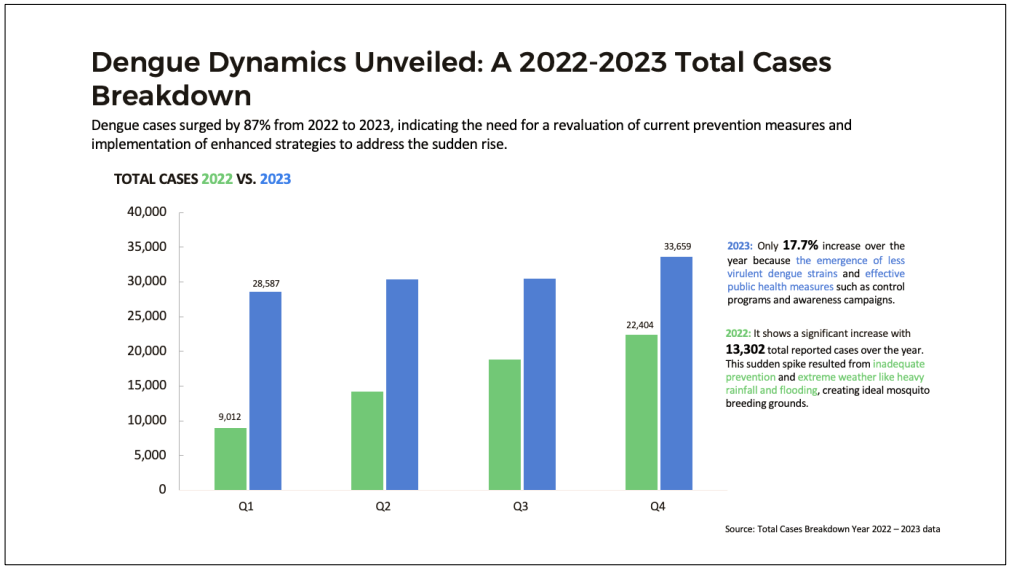



**Figure 3.3** Insight 3

- The clustered column chart is effective for comparing years (2022 and 2023). Comparing the columns allows for a clear view of the overall increase in cases for both years. It also help to analyze the trend of total cases and make assumptions for the past two years.
- The chart uses two colours (blue and green) to differentiate between the years. The two colour is effective as it gives the contrast for variables while maintaining a visually appealing and accessible look.
- Highlighting the chart title with each year's colour is a good way to help general audience understand the context of the chart.
- Text annotations are placed on the right side of the chart for easy reading of information and align with the column lines.
- The values of total cases for the years 2022 and 2023 are shown for the first and last column to show the increase from the first quarter to the last quarter.

INSIGHT 4

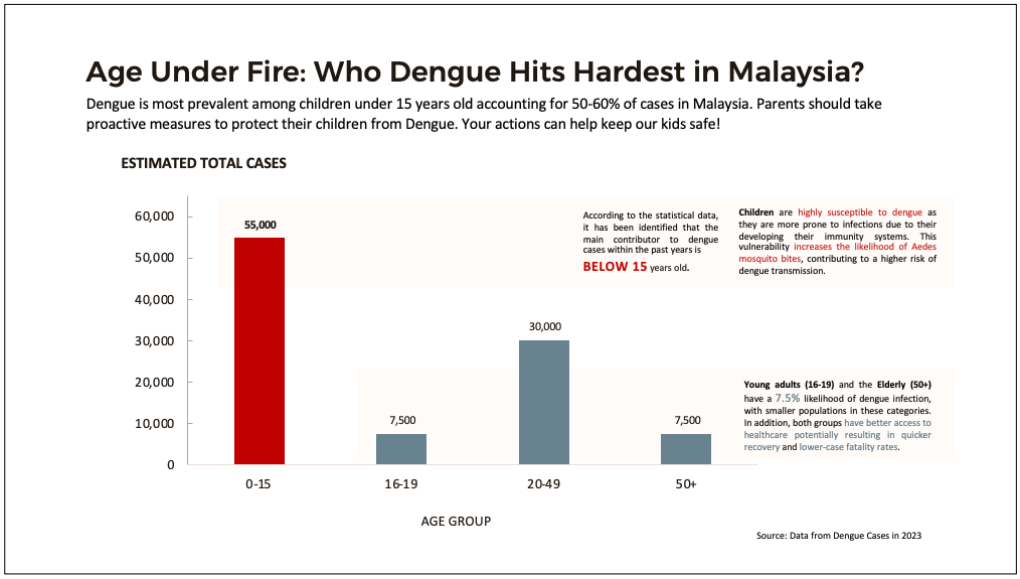



**Figure 3.4** Insight 4

- The question title is aims to intrigue curiosity about which age group is most at risk and affected by dengue cases in Malaysia.
- A column chart is used to represent the total number of dengue cases contributed by each age group category. The chart is in two colours, with red to show the highest contributor to dengue cases and blue-grey for average contributor. The red colour urges people to focus on the targeted age group and take immediate action.
- The rectangle shape serves as a background for text annotations to emphasize the story telling aspect.
- Using large font size in text annotations to highlight important information will help to capture the audience's attention and focus on the messages being conveyed.

INSIGHT 5

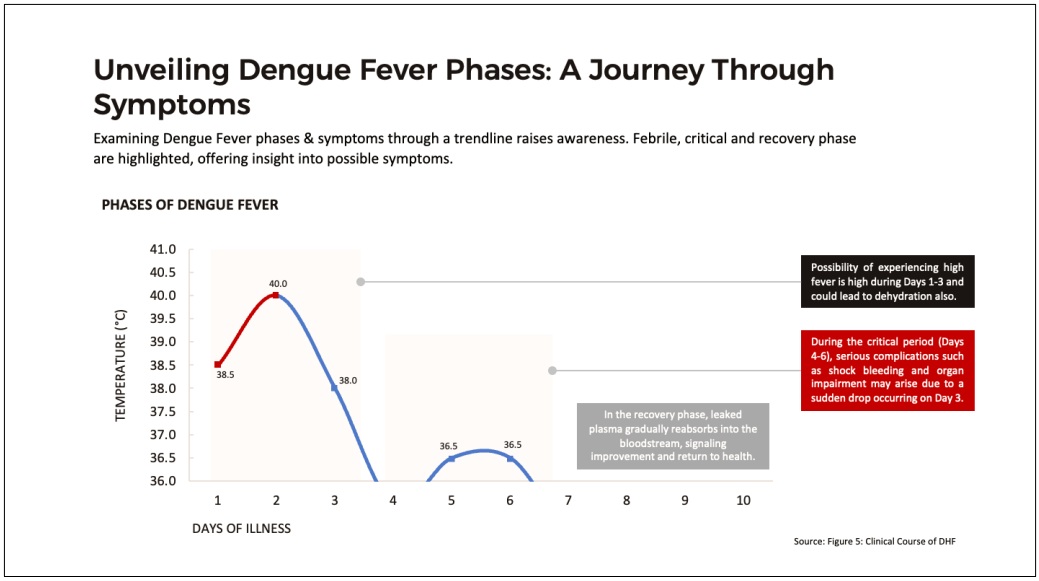



**Figure 3.5** Insight 5

- The subtitle helps to focus on the progression of symptoms and their potential for raising awareness about the disease.
- To illustrate the duration of the possible symptoms, a line chart is suitable for visualizing changes over a continuous period. The line chart effectively demonstrates the progression of dengue fever symptoms throughout the day of illness. It also helps highlight the peak and end of symptom intensity.
- The red line to show the increase in temperature that can lead to high fever, signalling the need for immediate action. Meanwhile the blue line signifies a decrease in temperature back to normal levels.
- Annotations are placed within a textbox with multiple colours to differentiate the phases: a black box for the febrile period, a red box indicating the critical period and grey to show the recovery period.

## Infographics

## DESIGN DECISION

List all the decisions made when designing this infographic:

1. **Main Title:**

### a. "DENGUE FEVER"

The title is written in capital letters, bold and dark red to emphasize to the general audience the importance of Dengue fever awareness. It highlights the need to be alert to this disease, considering it is one of the top illnesses occurring in Malaysia every year.

## 2. Colour:


**Figure 3.6** Color palette of infographic

The color selection for this health-related infographic, specifically addressing Dengue fever, is chosen to give overview to the general audience. The palette includes, white, cream, silver, various shades of red, black, dark blue, green, brown, and various shades of grey. This selection serves not only to grab attention but also to prompt a sense of urgency for preventive actions, align with cultural significance and ensure universal recognition. The use of red is associated with blood, heat, and illness, effectively communicates the severity of Dengue fever. This color palette provides visibility and contrast, allowing the poster's message to be easily comprehend by the audience. It also let the infographic becomes both informative and visually appealing besides raising awareness about the Dengue fever without causing unnecessary alarm.

## 3. Structure:

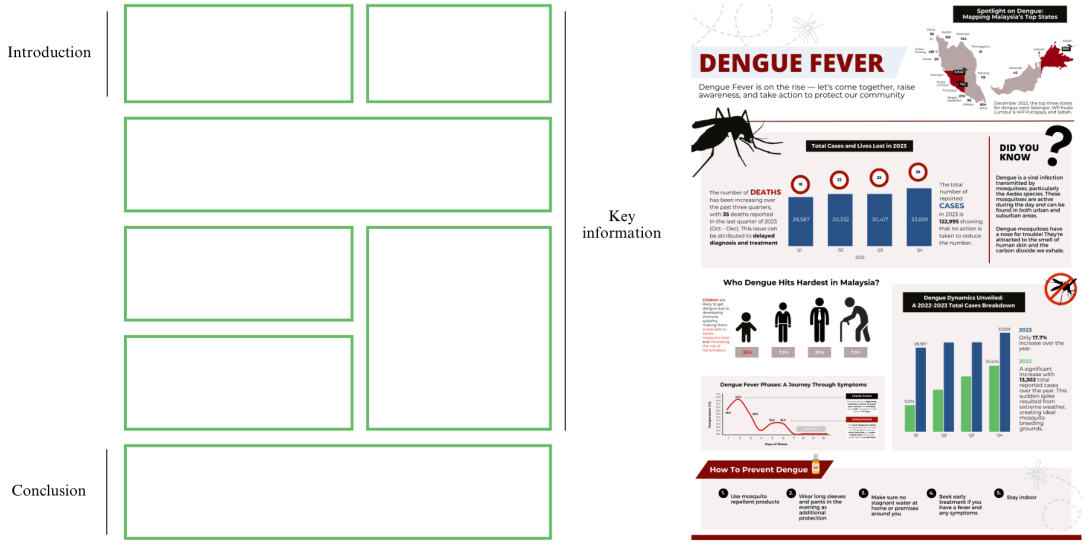



**Figure 3.7** Infographic structure

### a. Information Block:

The highlighted green boxes serve as information blocks for each piece of data in the infographics. Light grey boxes are to illustrate and organize the information in a clean and structured manner, providing a visually appealing and well-defined separation for each section. This not only enhances the overall organization but also adds a distinct background to the graph. In addition, dark red lines are used to separate the introduction from the informational graph, ensuring a smooth visual transition.

### b. Layout/Composition:

The selected layout is organized with a distinct order, presenting the title, introduction, key information, and conclusion in a logical sequence. This measured arrangement follows the conventional reading pattern, where individuals typically start from the top and move down and to the right. This design ensures a seamless and intuitive flow of information for the audience.

## 4. Icons

The selected icons in this infographic include a mosquito to symbolize the Aedes mosquito and the disease it transmits, such as dengue fever. This choice effectively draws attention to the main theme of the poster. Additionally, icons representing various age groups, including children, young adults, adults, and the elderly are incorporated. The different heights of the group of people silhouettes highlight that the disease can impact individuals of all ages. Lastly, the "no mosquito" sign serves as a symbol for preventing mosquito breeding and the spread of dengue fever, urging the audience to take preventative measures.

**5. Visual Anchor**

The main point of this infographic is the mosquito icon which is located at the top left. Placed strategically, it serves as a powerful visual anchor with immediate recognition and universal association to dengue fever. The icon is essential because it connects to the disease. It helps to organize all the information on the poster, making it easy to understand. It can look different in other designs, making it cool and interesting. So, when the audience sees the big mosquito, they will remember it is there to talk about the dengue fever and why it is important to know about it.

**6. Introduction**

In designing the infographic titled "DENGUE FEVER" for dengue awareness, careful considerations were made to strategically inform the audience about the happenings of dengue fever among the Malaysian population. The primary objective is to raise public awareness and advocate for best practices in preventing dengue fever.

**7. Key Information**

**a. Mapping Malaysia's States in December 2022**

To showcase the dengue situation in December 2022, I used a map chart to illustrate it with different colors. The states with a lot of dengue cases were marked in dark red, so it is easy for audience to see and be careful. The map helps to see where dengue is spreading, find the states with the most cases, and get audience's attention. In this design, Selangor had the most dengue cases with 3,942 incidents, which is 21.56% of the population in that state.

Next, I use dark red color to indicate the high-risk states and light brown for the other states, making it easy to see the difference. The total number of cases for the top 3 states is written in a black box with white bold letters, making it clear which states are most affected. This way, audience can quickly know where dengue is a big issue and take action to stay safe.

**b. Total Cases and Lives Lost in 2023**

To provide the audience with the latest updates on the total cases and deaths in 2023, a combo chart was chosen. This type of chart combines multiple variables, making it easier for the audience to compare the total cases and deaths for each quarter of 2023. This visual representation is helpful for a quick understanding of the data.

I utilized dark blue columns to depict the total cases, and white overlays with red circles represent the total deaths in each quarter of 2023. To emphasize key information, text annotations with large-sized fonts highlighting “DEATHS” and “CASES” were added, using bold text for clarity. This design ensures that the audience can swiftly grasp the main messages without the need for lengthy explanations.

**c. A 2022-2023 Total Cases Breakdown**

I used a clustered column chart in the infographic to help the audience easily compare the total dengue cases for the years 2022 and 2023. This chart is effective for discrete values, making it straightforward for the audience to understand the data. The columns assist in identifying trends and patterns over the two years, and column charts are commonly used and generally easy for wide audience to comprehend. To distinguish between the years, I used dark blue for 2023, and green represents 2022.

By including the total cases at the start of each year’s first quarter and the end of the year can give a clearer view to the audience. This visual addition allows the audience to, at a glance, observe any increase or decreases in total cases from quarter 1 to quarter 4, providing a comprehensive overview of the data for both years.

**d. Who Dengue Hits Hardest in Malaysia?**

I chose to use visual cues to illustrate the distribution of age groups, making it easier for the audience to quickly grasp the information. Using varying sizes of visual cues to represent different age factors is effectively conveyed. Additionally, highlighting the percentage values for children in a bold red font serves to emphasizes that children are the most affected by dengue. This is crucial information, prompting the audience to take immediate preventative measures to protect their children from the illness.

With the different sizes and bold colors use within the visual cues can enhance the infographic's clarity and visual appeal. They guide the audience's attention to key details and facilitate a swift understanding of the data. This approach not only makes the information more accessible but also encourages prompt action by drawing attention to the age group most at risk.

**e. A Journey Through Symptoms**

To help the audience understand how symptoms can manifest within a 10-day period of illness, I utilized a line graph displaying temperature and days of illness. This visual representation assists the audience in recognizing the phases or stages of illness they may be experiencing. This information acts as an early precaution, allowing the audience to be aware of the specific phase they have entered. If any symptoms arise, this awareness enables them to promptly seek medical consultation.

The use of the different-colored text boxes proves valuable in aiding the audience to distinguish between phases and identify which stages require most attention. For instance, a critical period is highlighted within a red box to emphasize that it is the most crucial phase demanding extra care.

Overall, the line graph is helpful to present the visual timeline of the symptoms, providing a clear correlation between temperature and the progression of illness. This approach enhances the infographic's effectiveness by offering a visual

guide for the audience to recognize symptoms and understand the urgency of seeking medical attention during specific phases of the illness.

**8. Conclusion**

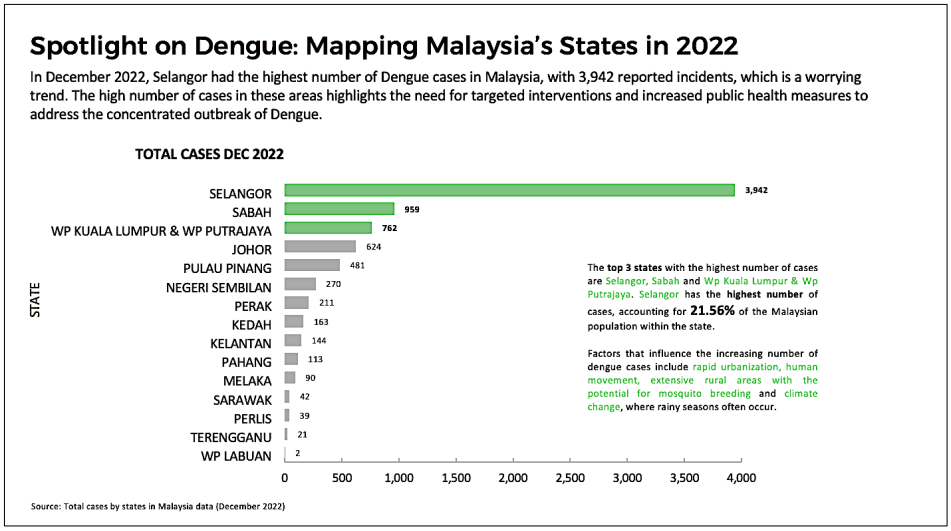
To conclude the infographic, it is the best to provide some tips to the general audience on how to prevent the dengue as a preventative measure that they can implemented throughout their day-to-day activities. By listing few tips such as use mosquito repellent products, wear long sleeves and pants in the evening as additional protection, make sure no stagnant water at home or premises around you, seek early treatment if you have a fever and any symptoms and stay indoors, will help to reduce the number of dengue cases and risk of getting dengue fever.

**9. Source**

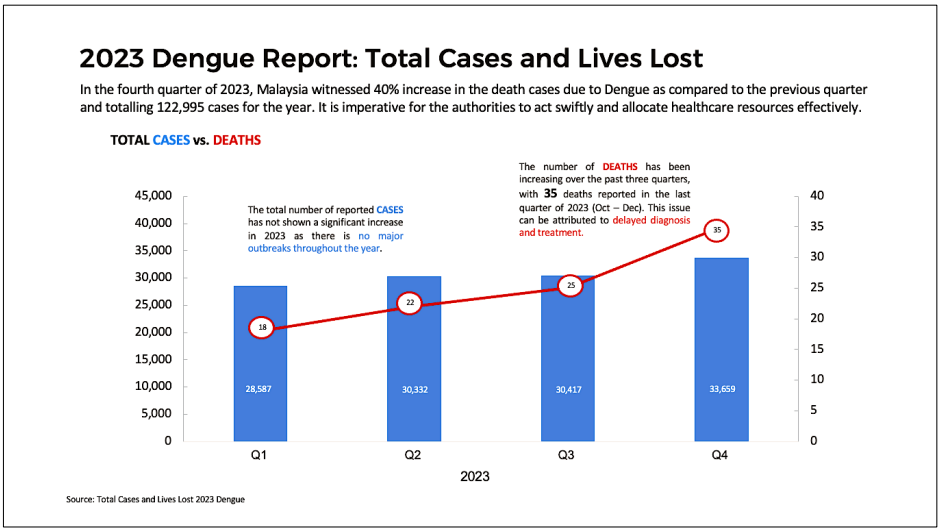
The inclusion of the citation "Source: Portal Rasmi Kementerian Kesihatan Malaysia. (2018). Moh.gov.my" is crucial component for upholding the credibility of the infographic's data. Serving as a footnote, this attribution offers transparency, clearly indicating the origin of the presented information. By explicitly referencing Portal Rasmi Kementerian Kesihatan Malaysia. (2018). Moh.gov.my as my source, the infographic establishes accountability and enables audiences to trace the data back to its authoritative origin.

## THE FINAL VISUALIZATION OUTPUT

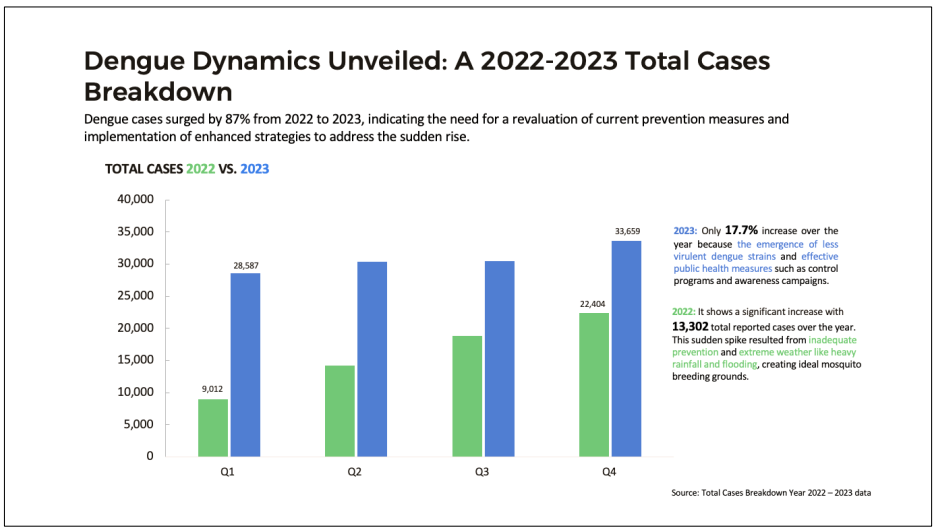
### Presentation deck



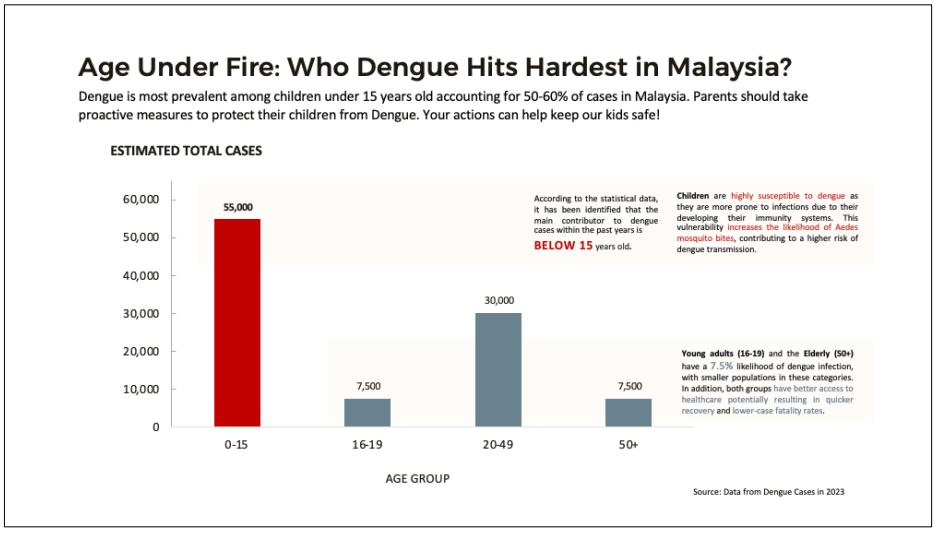

Insight 1



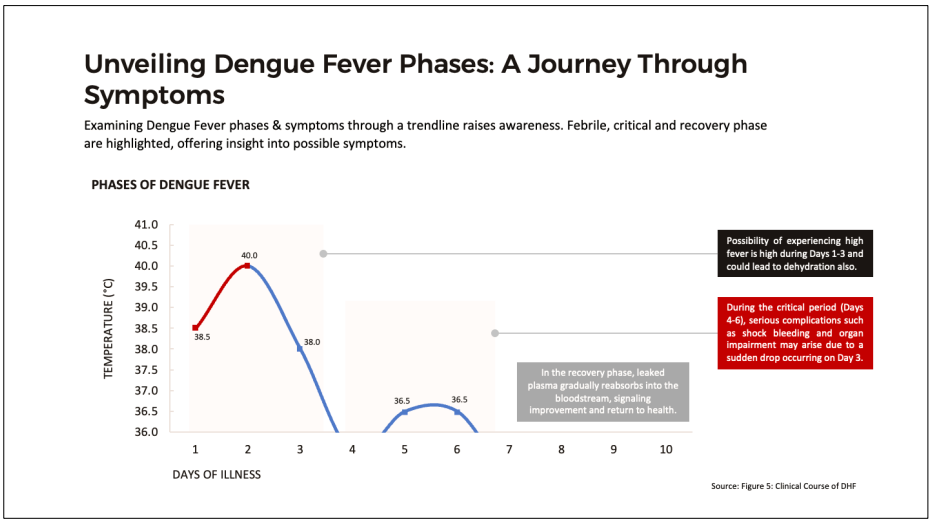

Insight 2




Insight 3




Insight 4




Insight 5

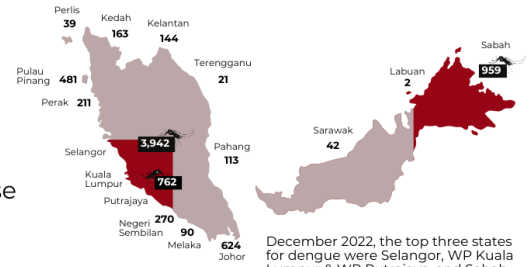
## Infographic

https://www.canva.com/design/DAF59hiafIs/uzVybgTGdrwJuDGnLqy0_Q/edit?utm_content=DAF59hiafIs&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton

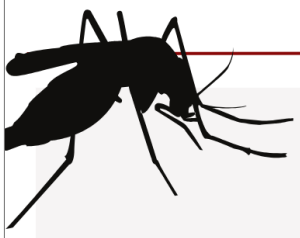
# DENGUE FEVER

Dengue Fever is on the rise — let's come together, raise awareness, and take action to protect our community

## Spotlight on Dengue: Mapping Malaysia's Top States

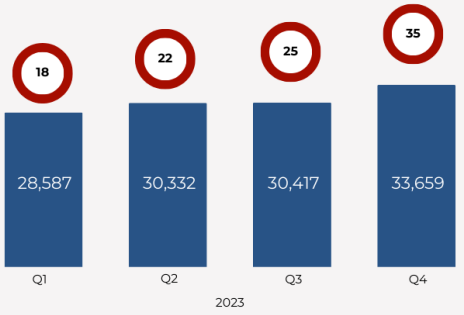



December 2022, the top three states for dengue were Selangor, WP Kuala Lumpur & WP Putrajaya, and Sabah.



## Total Cases and Lives Lost in 2023

The number of **DEATHS** has been increasing over the past three quarters, with **35** deaths reported in the last quarter of 2023 (Oct – Dec). This issue can be attributed to **delayed diagnosis and treatment**




The total number of reported **CASES** in 2023 is **122,995** showing that no action is taken to reduce the number.

## DID YOU KNOW ?

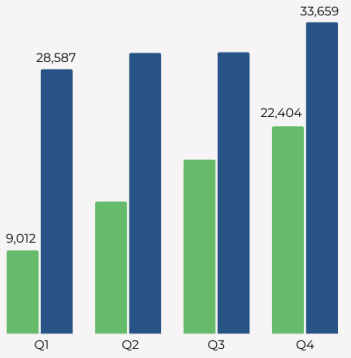
Dengue is a viral infection transmitted by mosquitoes, particularly the Aedes species. These mosquitoes are active during the day and can be found in both urban and suburban areas.

Dengue mosquitoes have a nose for trouble! They're attracted to the smell of human skin and the carbon dioxide we exhale.

## Who Dengue Hits Hardest in Malaysia?

**Children** are likely to get dengue due to developing immune systems, making them vulnerable to Aedes mosquito bites and increasing the risk of transmission.

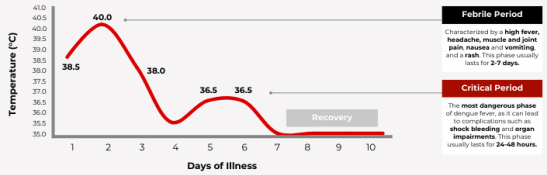

## Dengue Dynamics Unveiled: A 2022-2023 Total Cases Breakdown




**2023**
Only **17.7%** increase over the year.

**2022**
A significant increase with **13,302** total reported cases over the year. This sudden spike resulted from extreme weather, creating ideal mosquito breeding grounds.

## Dengue Fever Phases: A Journey Through Symptoms




## How To Prevent Dengue

1. Use mosquito repellent products
2. Wear long sleeves and pants in the evening as additional protection
3. Make sure no stagnant water at home or premises around you
4. Seek early treatment if you have a fever and any symptoms
5. Stay indoor

Source: Portal Rasmi Kementerian Kesihatan Malaysia. (2018). Moh.gov.my