Situation Report

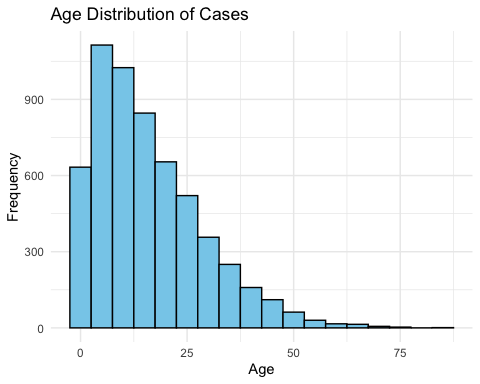
Your Name

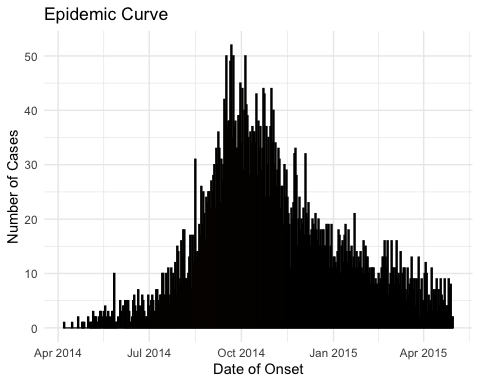
2024-05-22

## Introduction

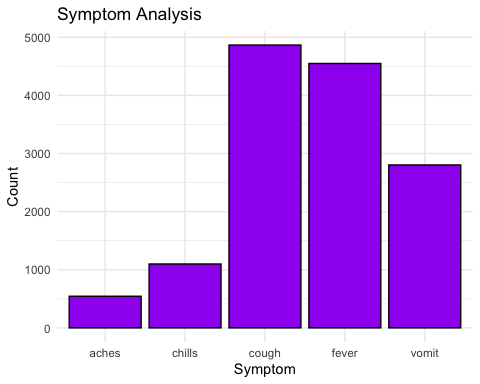
This report provides a comprehensive analysis of the current epidemiological situation using the provided linelist data. Key metrics and visualizations are included to facilitate understanding of the outbreak dynamics and support decision-making processes.

## Data Import and Analysis





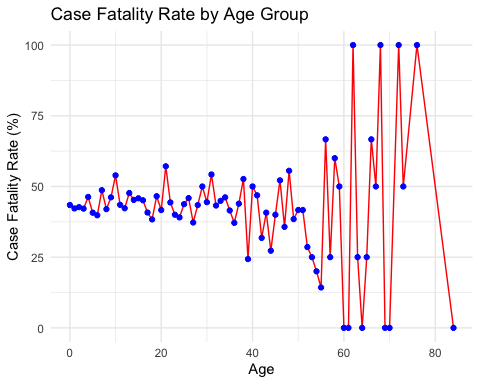
# Symptoms Analysis  
symptoms <- linelist\_data %>%   
 select(fever, cough, chills, aches, vomit) %>%  
 pivot\_longer(cols = everything(), names\_to = "symptom", values\_to = "presence") %>%  
 filter(presence == "yes")  
  
ggplot(symptoms, aes(x = symptom)) +  
 geom\_bar(fill = 'purple', color = 'black') +  
 labs(title = 'Symptom Analysis', x = 'Symptom', y = 'Count') +  
 theme\_minimal()



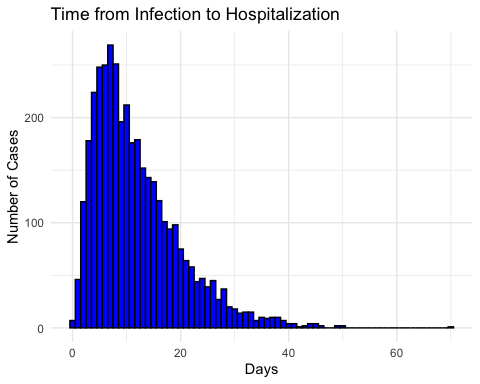
# Case Fatality Rate by Age Group  
case\_fatality <- linelist\_data %>%  
 group\_by(age) %>%  
 summarize(  
 total\_cases = n(),  
 total\_deaths = sum(outcome == "Death", na.rm = TRUE),  
 case\_fatality\_rate = (total\_deaths / total\_cases) \* 100  
 )  
  
ggplot(case\_fatality, aes(x = age, y = case\_fatality\_rate)) +  
 geom\_line(color = 'red') +  
 geom\_point(color = 'blue') +  
 labs(title = 'Case Fatality Rate by Age Group', x = 'Age', y = 'Case Fatality Rate (%)') +  
 theme\_minimal()

## Warning: Removed 1 row containing missing values (`geom\_line()`).

## Warning: Removed 1 rows containing missing values (`geom\_point()`).



# Time Series Analysis: Infection to Hospitalization  
time\_series <- linelist\_data %>%  
 filter(!is.na(date\_infection) & !is.na(date\_hospitalisation)) %>%  
 mutate(time\_to\_hospital = as.numeric(date\_hospitalisation - date\_infection))  
  
ggplot(time\_series, aes(x = time\_to\_hospital)) +  
 geom\_histogram(binwidth = 1, fill = 'blue', color = 'black') +  
 labs(title = 'Time from Infection to Hospitalization', x = 'Days', y = 'Number of Cases') +  
 theme\_minimal()



# Hospital Stay Duration  
linelist\_data <- linelist\_data %>%  
 mutate(hospital\_stay\_duration = as.numeric(date\_outcome - date\_hospitalisation))  
  
ggplot(linelist\_data, aes(x = hospital\_stay\_duration)) +  
 geom\_histogram(binwidth = 1, fill = 'green', color = 'black') +  
 labs(title = 'Hospital Stay Duration', x = 'Days', y = 'Number of Cases') +  
 theme\_minimal()

## Warning: Removed 936 rows containing non-finite values (`stat\_bin()`).

