

# 12<sup>TH</sup> NSCE PROGRAM BOOK

**Surveillance and Early Warning:  
Confronting Public Health Threats  
and Global Health Crisis Related to  
Climate Change**

**Yogyakarta, 22-25 Juli 2025**



# WELCOME MESSAGE



Dear Conference Participants,

Welcome to the 12<sup>th</sup> National Scientific Conference on Epidemiology (NSCE) with the theme of **“Surveillance and Early Warning: Confronting Public Health Threats and Global Health Crisis Related to Climate Change”**. This annual conference of Indonesia Field Epidemiology Training Program (FETP) to recognize and support the critical work of professional field epidemiologists in detecting and responding to disease threats.

This year, we accepted 40 oral presentations and 20 poster presentations. The selected abstracts feature investigations, research, and address diverse public health issues, such as infectious disease outbreaks, vaccine-preventable diseases, food or waterborne diseases, zoonosis, vector-borne diseases, respiratory diseases, and non-communicable diseases. Congratulations to the selected presenters, and thank you to all who submitted your work for consideration. Your work is critical in evidence-based decision making for rapid and effective disease outbreak response.

Aware that public health threats will continue to emerge, Ministry of Health Republic of Indonesia committed to supporting FETP since 1982. FETP provide the best opportunity for student/trainee to gain on-the-job training in applied epidemiology and public health. Indonesia FETP have been training disease detectives for more than 40 years. Recently, we reached more than 1,000 FETP-trained disease detectives are in the field, having gained critical skills through FETP's Advanced, Intermediate, and Frontline programs.

We are pleased to have our colleagues from the Ministry of Health, National Research and Innovation Agency (BRIN), Meteorological, Climatological, and Geophysical Agency (BMKG), Faculty of Medicine, Public Health, and Nursing Universitas Gadjah Mada, Faculty of Public Health Universitas Indonesia, Jakarta Provincial Health Office, Sikka District Health Office, KORIKA, Indonesia Epidemiological Association (PAEI), Monash University Indonesia, as speakers in plenary sessions.

A special thanks to all involved in planning the conference including the staff of Directorate of Surveillance and Health Quarantine, FETP Indonesia Secretariat, FETP Universitas Gadjah Mada, U.S. CDC Indonesia Country Office, and Health Security Partners (HSP). We hope that everyone attending the conference can take away a lesson learned, an idea generated, or a connection made that leads to innovation in your work, and ultimately, public health action.

Director for Surveillance and Health Quarantine



**Dr. Sumarjaya, SKM, MM, MFP, CFA**

*Dokumen ini telah ditandatangani secara elektronik menggunakan sertifikat elektronik yang diterbitkan oleh Balai Besar Sertifikasi Elektronik (BSrE), Badan Siber dan Sandi Negara*

# AGENDA HIGHLIGHT

Date/Time	22 July Tuesday	23 July Wednesday	24 July Thursday	25 July Friday
08:00-08:30	Registration	Registration		
08:30-09:00	Pre-Conference Workshop - 7-1-7 (Mataram Ballroom) - NCD Surveillance (WW Room) - Hazard Calendar (EW Room)	<b>Opening Ceremony</b> <i>(Mataram Ballroom)</i>	<b>Plenary Session 2: Climate Change and NCD</b> <i>(Mataram Ballroom)</i>	<b>Special Presentations Alumni FETP</b> <i>(Mataram Ballroom)</i>
09:00-09:30				
09:30-10:00				
10:00-10:15	MORNING TEA	MORNING TEA	MORNING TEA	MORNING TEA
10:15-11:00	Pre-Conference Workshop (Cont)	<b>Plenary Session 1: Impact of Climate Change and Disease Epidemiology</b> <i>(Mataram Ballroom)</i>	<b>Poster Presentation</b> <i>(Pre-function hall of Mataram Ballroom)</i>	<b>Closing &amp; Awarding Ceremony</b> <i>(Mataram Ballroom)</i>
11:00-11:30				
11:30-12:00				
12:00-13:00	LUNCH	LUNCH	LUNCH	LUNCH
13:00-13:30	Pre-Conference Workshop (Cont)	OP 1 <i>(Mataram Ballroom)</i> & OP 2 <i>(West Wing Room)</i>	OP 7 <i>(Mataram Ballroom)</i> & OP 8 <i>(West Wing Room)</i>	
13:30-14:00		OP 3 <i>(Mataram Ballroom)</i> & OP 4 <i>(West Wing Room)</i>	OP 9 <i>(Mataram Ballroom)</i> & OP 10 <i>(West Wing Room)</i>	
14:00-14:30				
14:30-15:00				
15:00-15:30	AFTERNOON TEA	AFTERNOON TEA	AFTERNOON TEA	
15:30-16:00		OP 5 <i>(Mataram Ballroom)</i> & OP 6 <i>(West Wing Room)</i>	<b>Plenary Session 3: Surveillance and Health Big Data</b> <i>(Mataram Ballroom)</i>	
16:00-16:30				
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<i>1. Public Health Emergency Operations Center Indonesia, 2. Directorate of Health Surveillance and Quarantine</i>	



# ORAL PRESENTATION



# **FOOD OR WATERBORNE DISEASES (1)**

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# Epidemiological Investigation of an Outbreak of Hepatitis A at IDN Boarding School Sukanegara Village, Jonggol District, Bogor Regency, 2024

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Wednesday, 23rd July - 13:00: (Mataram Ballroom) - Oral

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*Mr. Muhammad Nur Muslim Shidiq<sup>1</sup>, Dr. Tri Yunis Miko Wahyono<sup>1</sup>, Mr. Adang Mulyana<sup>2</sup>, Mr. Hendi Hoer Apandi<sup>2</sup>, Mrs. Renti Mahkota<sup>1</sup>*

*1. University of Indonesia, 2. Bogor Regency Health Office*

## Background

In 2024, there was a report from the Early Warning and Response System Application dated December 7, 2024, regarding an increase in cases of acute hepatitis of unknown origin, reported to be from the working area of the Sukanegara Health Center, Bogor Regency. So it is necessary to conduct an epidemiological investigation in the area, which aims to see the epidemiological description and risk factors for the hepatitis A outbreak at IDN Boarding School, Sukanegara Village, Jonggol District, Bogor Regency.

## Methods

This study is a case report. We conducted the investigation at IDN Boarding School, Sukanegara Village, in December 2024. The sample size was 33 suspected cases. We conducted a descriptive epidemiological investigation by collecting primary data (interviews, environmental observations) and reports from the Sukanegara Health Center. The analysis includes the distribution of cases based on education level, age group, location, epidemic curve, and identification of risk factors.

## Results

It was found that the first case occurred on October 21, 2024, and the highest number of cases was on November 16, 2024, followed by another increase in cases on December 2, 2024. The investigation results found that out of a total of 451 students, 33 students (AR=7.3%) experienced illness: 6 polytechnic students (attack rate 1.3%), 18 vocational school students (AR=15.5%), and 9 junior high school students (AR=4.6%). Ages under 14 years old, consisting of 14 students (54%), experienced illness. On clinical symptoms, there were students with fever (21), nausea (32), headaches (20), dark yellow urine (33), yellow sclera (33), epigastric pain (21), and abdominal pain (18). Laboratory tests showed a positive rapid HAV result of 87.5%. The results of environmental observations show poor sanitation facilities, namely the school kitchen, handwashing area, and school water reservoir. The students also like to buy food outside the school.

## Conclusions

Investigation of an outbreak of hepatitis A at IDN Boarding School, Sukanegara Village, shows the highest case distribution among vocational school students (15.5%) and those under 14 years old (54%), with the main risk factors being poor sanitation, unhygienic food handling, and the habit of buying snacks outside of school.

## Keywords

Hepatitis A, Outbreak, Epidemiological Investigation

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# Food Poisoning Outbreak Caused by Diarrheal *Bacillus Cereus* at A Private School, Sleman, Yogyakarta 2025

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Wednesday, 23rd July - 13:15: (Mataram Ballroom) - Oral

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***Ms. Arifah Alfi Maziyya*<sup>1</sup>, *Mr. Moch Thoriq Assegaf Al-Ayubi*<sup>2</sup>, *Mr. Isa Dharmawidjaja*<sup>3</sup>, *Dr. Vicka Oktaria*<sup>4</sup>**

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## Background

On February 21, 2025, the Sleman District Health Office received suspected food poisoning cases of 40 students who experienced diarrhea, nausea, and vomiting after consuming school lunch from Gamping II Public Health Center. This study aims to confirm the food poisoning outbreak, investigate the underlying cause, identify its risk factor, and provide control measures.

## Methods

A retrospective cohort study with active case finding was conducted from February 21st to 25th, 2025. Cases were defined as either students or school staff who had one or more symptoms such as abdominal pain, diarrhea, nausea, headache, vomiting, and fever after consuming lunch at school on February 18th and 19th, 2025. Environmental investigation was done by visiting food-handlers in the school kitchen and canteen. Microbiological investigation was conducted by testing food samples. We used binary logistic regression to determine the risk factors of food poisoning.

## Results

Out of 727 populations at risk, 246 people (34%) had symptoms and were confirmed as cases. Cases were dominated by women (AR=36%) and age 6-10 years old (AR=48%). The most experienced symptoms were abdominal pain (78%) and diarrhea (71%). The incubation period was 1-98 hours with an average of 15 hours and median of 12 hours. Those who ate beef *bistik* were 4.2 times (aRR 4.2; 95% CI: 2.34 – 7.36) more likely to have symptoms compared to those who were not. The clinical features and microbiological cultures from beef *bistik* confirmed positive for *Bacillus cereus* as causative agent. Further investigation revealed that the cooking process was uneven, beef *bistik* was kept at room temperature for >5 hours, and the reheating process was inadequate.

## Conclusions

We confirmed a food poisoning outbreak that was caused *B. cereus* which was due to poor food handling and safety. Continuous efforts to increase health education and training on food handlers regarding food safety are required.

## Keywords

Bacillus cereus, food poisoning, foodborne disease, school

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# Epidemiological Investigation of a Food Poisoning Outbreak during a Ramadhan Iftar in Singkil Mosque, Gunungkidul Regency, March 2025

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Wednesday, 23rd July - 13:30: (Mataram Ballroom) - Oral

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Ms. Shabrina Riskya Madjid<sup>1</sup>, Ms. Hendrika Yuniartin Ganis<sup>1</sup>, Mr. Sidig Hery Sukoco<sup>2</sup>, Dr. Riris Andono Ahmad<sup>1</sup>

1. Field Epidemiology Training Program, Gadjah Mada University, 2. Gunungkidul District Health Office, Yogyakarta

## Background

On March 9, 2025, the Gunungkidul Health Office was notified of a suspected foodborne outbreak by Tepus II Health Centre. A total of 44 residents from Singkil and Ngasem Villages reported ill after consuming food during an iftar event at the Singkil Mosque. The investigation aims to confirm the outbreak and assess the source and risk factors of the food poisoning outbreak.

## Methods

A retrospective cohort study was conducted. A case was defined as any individual who attended or consumed food from iftar event at Singkil Mosque on March 8, 2025, and subsequently experienced at least one symptom, including diarrhoea, abdominal pain, vomiting, nausea, dizziness, or lethargy. Data was gathered through structured interviews with 62 at-risk populations, in-depth interviews with food handlers, and environmental assessments carried out on the same day. Foods and water samples analyzed by Gunungkidul Laboratory. Statistical associations were assessed using binomial regression in both bivariate and multivariate analyses.

## Results

Of the 62 individuals at risk, 44 developed symptoms. Women had the highest attack rate (77.8%), and most affected individuals were aged 15–24 years (100%). Most cases were reported from Ngasem RT.04 (81.3%), while the highest attack rate occurred in RT.03 (100%). One case required hospitalisation, three received intravenous fluids, and 23 sought outpatient treatment. Symptoms appeared approximately 8 hours post-consumption, with a mean incubation of 15 hours 46 minutes and a median of 12 hours 58 minutes. Diarrhoea (90.9%) and abdominal pain (72.7%) were the most common symptoms. Consumption of chicken noodles with sambal, sauce, and sweet soy sauce had the highest attack rate (ARR = 13.24), confirmed by multivariate analysis (RR = 5.59; 95% CI: 1.98–15.75). *Citrobacter sp.*, *Proteus sp.*, *Pseudomonas sp.*, and yeast were identified from sambal samples. Preparing sambal more than six hours before serving, combined with poor storage and unhygienic kitchen conditions, led to a higher risk of contamination.

## Conclusions

Strengthening kitchen workflow promotion, enhancing food handler education, and conducting regular inspections of small-scale catering services are essential to prevent future outbreaks in Gunungkidul.

## Keywords

disease outbreak, foodborne diseases, food poisoning, epidemiology, environment and public health, food contamination

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# Meningitis *Streptococcus suis* Outbreak in Sibetan Village, Karangasem Regency, Bali, 2024

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Wednesday, 23rd July - 13:45: (Mataram Ballroom) - Oral

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*Mr. Happy Kusuma Mulya*<sup>1</sup>, *Mrs. Ni Wayan Ari Suantari*<sup>1</sup>, *Ms. Ni Gusti Ayu Mitha Yuliani*<sup>1</sup>, *Dr. Anak Agung Sagung Sawitri*<sup>1</sup>

*1. Field Epidemiology Training Program, Udayana University*

## Background

On May 13, 2024, the Bali Provincial Health Office received a report from the Karangasem Regency Health Office regarding a sudden increase of 14 suspected meningitis *Streptococcus suis* (MSS) cases following a traditional communal feast (*megibung*) held on May 10, 2024, which was attended by approximately 100 guests. Due to its high pork consumption, Bali ranks first in Indonesia for dietary habits involving pork products, placing the region at heightened risk for MSS transmission. This investigation was conducted to confirm the outbreak and assess associated risk factors in Sibetan Village, Karangasem Regency.

## Methods

A case-control study was conducted using snowball sampling, involving 14 confirmed cases and 16 controls. Cases were defined as event attendees presenting with fever (>38°C), neck stiffness, and a history of consuming pork-based dishes at the event. Controls were attendees who consumed similar foods but remained asymptomatic. Data were collected via in-depth interviews and direct observation. Food items assessed as potential risk factors included nasi, lawar, pork satay, pork broth, chicken, Balinese snacks, and non-ceremonial foods. Multivariate logistic regression was applied to determine significant associations.

## Results

Across all 30 respondents, 19 (63.3%) were male, 13 (43.3%) were aged 51–60 years, and 12 (40.0%) resided in Banjar Kreteg. Consumption of pork satay (AOR = 2.738), lawar (AOR = 2.607), and pork broth (AOR = 2.359) were significantly associated with illness. Chicken consumption appeared protective (AOR = -1.996). 3 out of 14 cases (21.4%) presented decreased consciousness. Confusion was a strong predictor of decreased consciousness (AOR = 8.532). Laboratory examination of blood samples confirmed *Streptococcus suis* infection. Symptom onset occurred 2–3 days post-consumption. The use of raw ingredients, particularly raw pork blood, was suspected to be the primary source of bacterial contamination.

## Conclusions

A laboratory-confirmed MSS outbreak occurred in Banjar Kreteg, Sibetan Village, Karangasem Regency, Bali, associated with the consumption of traditional pork dishes during a communal feast. Public health authorities should implement targeted education promoting the hygienic preparation and thorough cooking of pork products to prevent future MSS outbreaks.

## Keywords

*Streptococcus suis*, Meningitis, foodborne outbreak, pork, Bali



# **VACCINE PREVENTABLE DISEASES (1)**

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# Evaluation of Measles Surveillance System in Bogor City 2024

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Wednesday, 23rd July - 13:00: (West Wing Room) - Oral

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*Mr. Afandi Setia Apriliyan*<sup>1</sup>, *Dr. Tri Yunis Miko Wahyono*<sup>1</sup>, *Mr. Bai Kusnadi*<sup>2</sup>

*1. University of Indonesia, 2. Bogor City Health Office*

## Background

Indonesia ranks as the nine largest country of measles cases, with 3,827 cases in 2023. Measles was identified as the main Vaccine Preventable Disease (VPD) in Bogor City, where cases reached 360 in 2023, a ninefold increase from 2022. Measles surveillance in Bogor City faces challenges, particularly in data analysis and risk factor assessment across health levels. Evaluating the measles surveillance system is essential to address these issues and identify areas needing improvement.

## Methods

This evaluation of the measles surveillance system used an assessment method with a quantitative and qualitative approach, presented descriptively. Quantitative data were obtained from case reports at 25 primary health centers (PHC), 11 hospitals, and the Bogor City Health Office (DHO), while qualitative data were collected through structured interviews of 10 surveillance staff from PHC, hospitals and DHO. The evaluation referred to surveillance system components from the WHO, CDC, and the Indonesian Guidelines for Measles Surveillance, assessing system structures, core functions, support functions, and system attributes. The study was conducted from March to June 2024.

## Results

Quantitatively, most measles surveillance indicators were achieved: discarded rate  $\geq 2$  per 100,000 population,  $\geq 80\%$  timely investigation of suspected cases,  $\geq 80\%$  timely and  $\geq 90\%$  complete MR-01 reporting, and  $\geq 80\%$  IgM testing. However, only 13 of 25 health centers (52%) conducted data analysis, and just 8% of surveillance officers received VPD training in the last two years. Qualitatively, gaps included limited routine data analysis at the primary level, inadequate engagement of clinics, laboratories, and professional organizations in detection and reporting, inconsistent manual records, and delayed, aggregate-format reporting from networks. Surveillance guidelines had not been sufficiently disseminated. Despite effective response and dissemination, feedback lacked analytical documentation. The surveillance system showed strength in simplicity, usefulness, and sensitivity, but lacked representativeness due to low stakeholder involvement. These findings suggest a need to enhance workforce capacity, strengthen multisectoral networks, and promote consistent local-level data utilization in measles surveillance.

## Conclusions

The measles surveillance system in Bogor City is considered good but requires improvements in data analysis, training, and representativeness. Recommendations include individual training and implementing regular active hospital surveillance and record reviews.

## Keywords

Analysis, Evaluation, Measles, Surveillance, System, VPD

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# Timeliness and Performance of Measles Case Response Indicators – Kulon Progo, 2023–2024

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Wednesday, 23rd July - 13:15: (West Wing Room) - Oral

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*Ms. Lisandy Yunita Nababan*<sup>1</sup>, *Mr. Sugiarto Sugiarto*<sup>2</sup>, *Mrs. Siska Yulia Damayanti*<sup>2</sup>, *Mrs. Citra Indriani*<sup>1</sup>

1. FETP Universitas Gajah Mada, 2. Dinas Kesehatan Kabupaten Kulon Progo

## Background

Measles, an outbreak prone disease remains a significant public health concern in Indonesia. Prompt and effective response to suspected measles cases is critical to prevent transmission and achieve elimination targets. This study aims to describe the timeliness and performance of key response indicators for suspected measles cases in Kulon Progo District during 2023–2024.

## Methods

We conducted a descriptive study using secondary data from measles case-based surveillance. The study population included all suspected and confirmed measles cases reported in Kulon Progo District from 2023 to 2024. Timeliness indicators were assessed for six key response variables: (1) case notification within 24 hours, (2) epidemiological investigation within 48 hours, (3) specimen collection within 48 hours, (4) specimen shipment to the laboratory within 5 days, (5) laboratory result turnaround within 7 days, and (6) administration of vitamin A. Proportions, medians, and ranges were calculated to describe performance.

## Results

Of 282 notified suspected cases in January 2023 - December 2024, 57 (20.2%) were laboratory-confirmed measles cases. No outbreaks were detected during this period. The proportion of cases with timely notification (<24 hours) was 69.86% (median: 1 day; range: 0–15 days). Epidemiological investigations were conducted within 48 hours in 84.75% of cases (median: 1 day; range: 0–15 days). Specimens collected within 48 hours in 95.39% of cases (median: 1 day; range: 0–14 days). Timely specimen shipment to the laboratory ( $\leq 5$  days) was achieved in 85.82% of cases (median: 3 days; range: 0–11 days). Laboratory results were received within 7 days in 82.27% of cases (median: 3 days; range: 0–87 days). Vitamin A was administered in 72.60% of cases.

## Conclusions

Although case investigation, specimen collection, and specimen shipment were conducted in a generally timely manner, significant gaps remain in the timeliness of case notification. Strengthening early reporting mechanisms is critical to enabling rapid public health response to measles cases, thereby reducing the risk of further transmission.

## Keywords

measles, vaccine-preventable diseases, outbreak response, case management, surveillance performance, timeliness

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# Epidemiological Characteristics of Pertussis Cases in Bantul District, Indonesia, 2023–2024: A Descriptive Study

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Wednesday, 23rd July - 13:30: (West Wing Room) - Oral

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***Mr. Muhammad Reza Firdaus*<sup>1</sup>, *Mr. Samsu Aryanto*<sup>2</sup>, *Mr. Bayu Satria Wiratama*<sup>1</sup>**

*1. Field Epidemiology Training Program (FETP), Universitas Gadjah Mada, Yogyakarta, Indonesia, 2. Dinas Kesehatan Kabupaten Bantul*

## Background

Bantul District has reported the highest number of pertussis cases in Yogyakarta Province, Indonesia, from 2023 to 2024, accounting for 39.84% of all cases. Despite high immunization coverage (over 95%), pertussis transmission has not yet been successfully prevented. This study aims to determine epidemiological characteristics among pertussis cases in the Bantul District from 2023-2024.

## Methods

A descriptive study was conducted using data from the PERT-02 form at the Bantul District Health Office between 2023 and 2024. The analysis included demographics (age, sex, address), initially identified status, date of illness, transmission clusters, and pertussis infection status. A diagnostic test for pertussis was performed using a nasopharyngeal swab, which was tested using Polymerase Chain Reaction (PCR). Proportions were used for univariate analysis, and a spatial analysis was conducted to examine the distribution of cases by village.

## Results

Of 267 suspected cases recorded, 51 people (19.10%) tested positive for *Bordetella pertussis*. Among these cases, 27 (52.94%) were male, 13 (25.49%) were infants, and 13 (25.49%) were children. Among children under five years old, nine (50,00%) were unimmunized. There were 25 cases (49.00%) identified as close contacts, and 17 (68.00%) originated from family clusters. Reported symptoms among cases included coughing (75.5%), whooping (24.5%), and apnoea (22.4%). Of note, 11 cases (22.44%) were asymptomatic close contacts at initial identification. Cases were distributed across 28 villages (37.33%) within Bantul District. The first case emerged in May 2023 and continued to rise through August 2024, with the highest number of cases reported in May 2024 (13.72%).

## Conclusions

Males, infants and children, unimmunized individuals, and family clusters were the dominant characteristics among pertussis cases in Bantul District 2023-2024. Notably, nine children under five years old had not received DPT immunization. Cross-sectoral support, such as the role of *kader*, needs to be strengthened. Additionally, enhancing parental knowledge is crucial to encourage immunization uptake and reduce cases from the same family. Further research on risk factors is needed to strengthen pertussis control efforts.

## Keywords

Bantul, *Bordetella pertussis*, Epidemiology, Vaccine-Preventable Diseases, Whooping Cough

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# Mumps Outbreak Investigation - Revealing the Incidence in Semarang Regency in 2024

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Wednesday, 23rd July - 13:45: (West Wing Room) - Oral

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*Mrs. Dwi Susanti*<sup>1</sup>, *Ms. Arlyn Manggar*<sup>1</sup>, *Mr. Fauzi Muh*<sup>2</sup>, *Mrs. Dwi Sutiningsih*<sup>2</sup>, *Mr. Imam Abrori*<sup>3</sup>,  
*Mr. Satria Indra Kusuma*<sup>4</sup>, *Mrs. Ikha Zulaikha*<sup>4</sup>

1. Field Epidemiology Training Program, Master of Epidemiology, Faculty of Public Health, Diponegoro University, 2. Department of Epidemiology & Tropical Diseases, Faculty of Public Health, Diponegoro University, 3. Semarang Health Quarantine, 4. Semarang District Health Office

## Background

On November 18, 2024, the Semarang Regency Health Office received a report of three mumps cases among students at a school in Mluweh village. An epidemiological investigation was conducted to confirm the outbreak, identify risk factors, and recommend appropriate control measures to prevent future occurrences.

## Methods

An epidemiological investigation was conducted from November 20 to 28, 2024. Total of 90 students participated in the case control study. Cases were defined as students who showed typical clinical symptoms of mumps (posterior jaw pain and/or unilateral or bilateral parotid gland swelling) and/or were diagnosed with mumps by a health worker between August and November 2024. Controls were students who had contact with cases but did not show symptoms of mumps. Data were collected through interviews using questionnaires, classroom observation, and health centers case reports. The variables collected included MMR vaccination status, vitamin consumption habits, sharing eating and drinking utensils, travel history, snacking habits, hand washing habits, and classroom conditions. Bivariate analysis using the chi-square test to determine the association between each potential risk factor and mumps case, with the strength of association measured by the Odds Ratio.

## Results

During the investigation period, 45 cases of mumps were identified. The peak incidence occurred in the period of 20-26 October and 17-23 November 2024. The most commonly reported clinical symptoms were fever (100%), parotid gland enlargement (100%), and posterior jaw pain (97.8%). More than half of the cases (53%) did not seek treatment at the Puskesmas, which resulted in under-reporting. The highest Attack Rate was found in male students (14.1%), the 3-4 year age group (23.8%), and Play Group students (30.4%). Bivariate analysis identified two significant risk factors associated with mumps infection in this outbreak, not routinely taking vitamins (OR = 2.957; 95% CI 1.206 - 7.247) and sharing eating and drinking utensils (OR = 9.839; 95% CI 3.580 - 27.046).

## Conclusions

Mumps outbreak occurred among students of Mluweh Village from October 20 to November 31, 2024. Health promotion related to nutrition and hygiene practices, especially not sharing eating and drinking utensils are encouraged to prevent transmission of mumps disease.

## Keywords

Mumps, Outbreak, Vitamin Consumption, Sharing Utensils



# **ZOONOSIS AND RESPIRATORY DISEASES**

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# Environmental Risk Factor of Leptospirosis Outbreak in Sleman, Indonesia, 2025

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Wednesday, 23rd July - 14:00: (Mataram Ballroom) - Oral

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*Mr. Moch Thoriq Assegaf Al-Ayubi*<sup>1</sup>, *Ms. Yulianty Febrina Leda Malo*<sup>1</sup>, *Ms. Seruni Angreni Susila*<sup>2</sup>,  
*Mr. Agung Purnomo*<sup>2</sup>, *Mr. Isa Dharmawidjaja*<sup>3</sup>, *Dr. Vicka Oktaria*<sup>1</sup>

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## Background

On 20 January 2025, Sleman Health Office detected a fatal leptospirosis case via the Event-Based Surveillance system. This study aimed to identify environmental risk factors and recommend control measures.

## Methods

A case-control study (1:4) was conducted involving 95 respondents. Questionnaire interviews were conducted with individuals who resided within 1,000 meters away from confirmed/probable cases' hotspots between December 2024 and March 2025. Cases and controls were classified using medical diagnosis or modified WHO Faine score assessment, with scores  $\geq 20$  (cases) and  $< 20$  (controls). Spatial distribution was assessed via Nearest Neighbour Analysis, and risk factors were analysed using logistic regression with Odds Ratio and 95% Confidence interval.

## Results

A total of 19 cases (9 probable and 10 suspected) have been reported since Week 49 of 2024. Most of the cases were farmers (31.6%; OR 9.12; 95% CI: 2.01–41.25) and had puddles around their homes (63.2%; OR 7.59; 95% CI 2.53-22.75), did not use personal protective equipment (94.7%; OR 9.91; 95% CI 1.25-78.42) and had a history of water-related activities (42.1%; OR 6.18; 95% CI 1.92-19.89). Epidemiological mapping indicated rodent movement was likely influenced by environmental changes, especially surface water flow. The Nearest Neighbour Index (NNI) score of 0.800 indicates that the case distributions are clustered within an average distance of 334 meters. Key risk factors were working as farmers (AOR 27.02; 95% CI 2.04-358.03) and the presence of puddles near residences (AOR 6.05; 95% CI 1.39–26.37).

## Conclusions

Understanding the intersectoral factors affecting the leptospirosis outbreak. Collaboration through the One Health approach played a vital role in managing the leptospirosis outbreak response. Strengthening environmental surveillance and enhancing disease preparedness are crucial for preventing and responding to future outbreaks.

## Keywords

Leptospirosis, spatial, outbreak, one health, environmental health

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# Assessment of Challenges in the Implementation of the Tuberculosis Control Program in Blitar District, East Java, 2024

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Wednesday, 23rd July - 14:15: (Mataram Ballroom) - Oral

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**Ms. Widyawati Ratnasariani**<sup>1</sup>, **Mrs. Siti Shoftya Novita Sari**<sup>2</sup>, **Mr. Endro Pramono**<sup>3</sup>, **Mrs. Zulfa Okta**<sup>3</sup>,  
**Mrs. Dian Santi**<sup>3</sup>

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## Background

East Java Province has one of the highest rates of Tuberculosis (TBC) in Indonesia. In 2024, there were an estimated 12,215 suspected cases of TBC and 2,133 cases of TBC in Blitar Regency. However, in the last 5 years, the case detection rate did not reach the target ( $\geq 90\%$ ). This study aimed to analyse and identify the main problems in the TBC control programme in Blitar district.

## Methods

The study was conducted at the Blitar District Health Office from January-February 2025 using a descriptive qualitative approach supported by quantitative data from document analysis of the 2020–2024 Blitar District Health Profile data. The problem was identified using a matrix method based on seven indicators: Importance of Indicator (I), Performance Level (P), Severity of Impact (S), Rate of Improvement (RI), Social Benefit (SB), Feasibility of Improvement (T), and Resource Ability (R). The root cause was analyzed using a fishbone diagram based on in-depth interviews with the Head of the Disease Prevention and Control Sub-Coordinator, the Disease Prevention and Control Division, and the TBC Program Holder at the Blitar District Health Office.

## Results

The results showed that the TBC case finding indicator had not been optimized as a top priority (matrix score: 4,644), with an achievement in 2024 of 66.5%, which was still below the national target of  $\geq 90\%$ . This indicator was supported by the low achievement of TBC preventive therapy (66.1%) and successful treatment (79.1%). The fishbone analysis showed that this problem was influenced by various factors. Regarding human resources, low motivation, double workload, and weak internal coordination were the main obstacles. In terms of methods, there were delays in reporting and sub-optimal implementation of screening and contact investigation. Technological factors included constraints on SITB application and limited utilization of diagnostic tools. In addition, the lack of promotional media, comparative studies, low community participation due to stigma, and sub-optimal involvement of cadres and private health facilities also worsened the situation.

## Conclusions

The sub-optimal TBC case finding indicator was identified as a top priority. Recommended actions included improving coordination, reporting, health worker capacity, and community engagement.

## Keywords

Tuberculosis, Case Finding, Fishbone, Blitar

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# Epidemiological Study and Risk Factors of a Leptospirosis Outbreak Among Loggers in Mendoyo, Jembrana District, 2025

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Wednesday, 23rd July - 14:30: (Mataram Ballroom) - Oral

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**Mr. I Made Jana Darmika**<sup>1</sup>, **Mr. Sang Gede Purnama**<sup>2</sup>, **Mrs. Nyoman Suardani**<sup>3</sup>, **Ms. Wulan Kusuma Jati**<sup>4</sup>

1. Field Epidemiology Training Program, Udayana University, 2. Department of Public Health and Preventive Medicine, Udayana University, 3. Buleleng Distric Health Office, 4. Jembrana Distric Health Office

## Background

From 2023 to 2024, five cases of leptospirosis occurred sporadically in Jembrana Regency, with CFR reaching 60%. In March 2025, an increase in new cases was identified in the logger group in Mendoyo. This study aims to determine the epidemiological picture and risk factors for leptospirosis to support prevention and control efforts.

## Methods

A cross-sectional study was conducted in Banjar Sekar Kejula Kelod, Mendoyo District, Jembrana Regency in March 2025. The study subjects consisted of 20 people, namely 2 cases and 18 individuals with the same potential environmental exposure. The study variables consist of the history of flooding, the presence of rats, habits of using personal protective equipment, and activities in the river, which were collected by questionnaires and observations. Distribution data based on people, place, and time were analyzed descriptively, and risk factors were analyzed using the Fisher-Exact test.

## Results

Two probable cases of leptospirosis were found based on the results of the RDT examination. Both cases work as loggers with the same epidemiological relationship of residence and work, with the exposure period in February 2025. The results of the residential and workplace environmental surveys showed that the environment was surrounded by forests and rivers. A vector survey was conducted by setting 100 traps, and three rats (*Rattus Tanezumi*) were found in the residential area of the cases with negative results for leptospira bacteria. Risk factors that influence the incidence of leptospirosis include not using personal protective equipment when doing activities in risky environments ( $p = 0.005$ ), activities in rivers ( $p = 0.032$ ), poor hygiene ( $p = 0.005$ ), and history of wounds ( $p = 0.005$ ). The history of flooding and the presence of rats in the surrounding area did not statistically affect the incidence of leptospirosis.

## Conclusions

Both cases have an epidemiological relationship with risk factors of not using personal protective equipment, activities in rivers, poor personal hygiene, and histories of wounds. Increased education on the use of personal protective equipment, implementation of personal hygiene, and periodic environmental surveillance are needed.

## Keywords

*Leptospirosis, Zoonoses, Epidemiologic Studies, Risk Factors, Environment*

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# Geospatial Analysis of Tuberculosis Hotspots in Banyumas Regency Amid Climate Change: Exploring Spatial Autocorrelation and Environmental Links 2023

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Wednesday, 23rd July - 14:45: (Mataram Ballroom) - Oral

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***Mrs. Sabrina Daniswara*<sup>1</sup>, *Mr. Fauzi Muh*<sup>2</sup>, *Mr. Mateus Sakundarno Adi*<sup>3</sup>, *Mrs. Martini Martini*<sup>3</sup>,  
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*1. Field Epidemiology Training Program, Master of Epidemiology, Faculty of Public Health, Diponegoro University, 2. Department of Epidemiology & Tropical Diseases, Faculty of Public Health, Diponegoro University, 3. Department of Epidemiology and Tropical Disease, Faculty of Public Health, Diponegoro University, 4. Banyumas District Health Office*

## Background

In 2023, Banyumas Regency had the second highest number of TB cases in Central Java Province, with a total of 7,060 cases. The incidence of TB increased by approximately 27.27% from 2022 to 2023. This study aimed to analyze the spatial relationship between population density, healthy living behaviors, and housing conditions in relation to TB incidence. Additionally, this study was to identify tuberculosis hotspots in Banyumas Regency.

## Methods

The data was obtained from the Banyumas Tuberculosis System Information in August 2024. Total of 4,853 registered patients who sought treatment and resided in Banyumas Regency in 2023 was assessed. TB distribution patterns were analyzed using the spatial autocorrelation method through the Moran Index and Local Indicators of Spatial Associations (LISA).

## Results

The analysis revealed significant clustering of TB incidence with clean and healthy living behavior (z-value 3.64; Pseudo p-value  $0.001 < 0.005$ ;  $I>E[I]$  0.32  $>-0.04$ ) and population density (z-value 5.53; Pseudo p-value  $0.001 < 0.005$ ;  $I>E[I]$  0.52  $>-0.04$ ). The significant dispersion (z-value -2.04; Pseudo pvalue  $0.025 < 0.005$ ;  $I<E[I]$  -0.17  $<-0.04$ ) was noted with healthy houses. Notably, six out of 27 subdistricts - Kembaran, North Purwokerto, South Purwokerto, East Purwokerto, Sokaraja, and Sumbang - demonstrated significant local spatial autocorrelation.

## Conclusions

The study found TB incidence was clustered in areas with poor living conditions, and high population density, while Healthy Houses showed a dispersed pattern, highlighting the importance of prioritizing interventions, policy changes, and resource allocation in a denser population area.

## Keywords

Spatial Analysis, Hotspots, Tuberculosis, Geographic Information Systems



# **INFECTIOUS DISEASES**

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# Outbreak Investigation of Hepatitis A Outbreak Linked to Person-to-Person at Islamic Boarding School X, Bogor City, Indonesia, 2024

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Wednesday, 23rd July - 14:00: (West Wing Room) - Oral

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Ms. Tuti Alawiyah<sup>1</sup>, Dr. Helda Helda<sup>2</sup>, Mrs. Menikha Maulida<sup>3</sup>, Ms. Arifah Sarwendah<sup>1</sup>, Mrs. Khairiah Khairiah<sup>1</sup>

1. FETP Universitas Indonesia, 2. University of Indonesia, 3. Bogor City Health Office

## Background

On 12th September 2024, 6 cases of gastrointestinal and jaundice symptoms were reported at M Hospital. They came from the same school, Islamic Boarding School X. Investigation conducted to identify the source, determine risk factors, and provide control measures.

## Methods

A case-control study was conducted maintaining a 1:1 ratio. Population at risk of this study was all students, teachers, and kitchen staff at Boarding School X. A case was defined as an individual in Boarding School X who exhibited clinical signs of hepatic injury, such as anorexia, nausea, jaundice, dark-colored urine, and right upper quadrant abdominal pain. Controls were selected from among who did not meet the case definition, using consecutive sampling. Primary data collection was conducted through structured interviews. Samples of drinking and clean water were sent to the Bogor City Health Laboratory (Labkesda) for examination. Finger-prick blood samples were also obtained for hepatitis A virus (HAV) testing. Data were analyzed using logistic regression with a significance level of  $\alpha = 0.05$ .

## Results

We identified 39 cases 92 population at risk. Cases tested positive for anti-hepatitis A virus (HAV) immunoglobulin M (IgM) as marker of acute HAV infection. The main symptoms were nausea (87.17%), vomiting (71.79%), dark urine (51.28%), and jaundice (51.28%). Epidemic curve show a common source pattern. Students who shared a room with the index cases had the highest attack rate. None of the affected one had received the hepatitis A vaccine. Multivariate analysis identified a history of contact with a confirmed case ( $p = 0.001$ ; 95%CI 2.32–28.44; aOR 8.12) and not washing hands with soap before meals ( $p = 0.043$ ; 95% CI 1.08–87.52; aOR 9.69) as the most significant risk factors. Laboratory analysis identified *E.coli* and *coliform* in both drinking and clean water source.

## Conclusions

An outbreak of HAV occurred in an Islamic Boarding School. The main risk factor in this hepatitis A outbreak was close contact with infected individuals, likely through the consumption of food contaminated with HAV. Preventive measures should include case isolation, promoting hygiene sanitation practices and HAV vaccination.

## Keywords

Boarding school, case-control study, hepatitis A, outbreak investigation

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# Situation Analysis of Sexually Transmitted Infectious Diseases - Bogor City, 2024

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Wednesday, 23rd July - 14:15: (West Wing Room) - Oral

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***Mr. Wardiman Wardiman*<sup>1</sup>, *Prof. Ratna Djuwita Hatma*<sup>1</sup>, *Mr. Bai Kusnadi*<sup>2</sup>**

*1. Field Epidemiology Training Program (FETP), Faculty of Public Health, University of Indonesia, Depok, 2. Diseases Prevention and Control, Bogor City Health Office, Bogor*

## **Background**

Sexually Transmitted Infections (STIs) remain a global health challenge, including in Indonesia, particularly among the productive age group of 15–49 years. The cost of treatment for the indirect cost component of STIs is relatively high. In Bogor City, the number of STI cases has been increasing. This study aims to analyze the STI situation in depth and establish health problem priorities.

## **Methods**

Using the PAHO-adapted Hanlon method, which applies the Basic Priority Rating (BPR) system based on five criteria: A = Main problem, B = Severity, C = Intervention effectiveness, E = Inequity, and F = Institutional capacity. Conducted at the Bogor City Health Office from October 2024 to January 2025, the study employs qualitative and quantitative approaches, presented descriptively. Primary data were collected through interviews, while secondary data were sourced from health profiles, P3MS feedback reports, and SIHA reports. The assessment involved six structural officials and six STI program managers from public health centers with the highest STI cases.

## **Results**

The analysis identified six major health issues, with the highest PAHO scores recorded for HIV/AIDS (36.02), followed by syphilis and congenital syphilis (36.02), gonorrhoea (22.14), Human Papillomavirus (HPV) infection (13.16), Herpes Simplex Virus (HSV) infection (10.43), and chlamydia (7.85). HIV/AIDS was prioritized as the Fast Track 95-95-95 target has not been met, with only 82% of people living with HIV (PLHIV) aware of their status, 31% receiving treatment, and 67% having suppressed viral loads.

## **Conclusions**

There is a need to strengthen the capacity of healthcare workers and HIV/AIDS counselors, conduct regular training on Care, Support, and Treatment (CST), implement community-based mass education campaigns to reduce stigma and discrimination, and increase the number of contact tracers by involving more NGOs and local organizations.

## **Keywords**

Bogor City, Health Priorities, HIV/AIDS, PAHO adapted Hanlon, Sexually Transmitted Infections.

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# Legionellosis in a Health Care Worker and Its Potential Sources in Bali 2025: an Epidemiologic Investigation

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Wednesday, 23rd July - 14:30: (West Wing Room) - Oral

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**Ms. Ida Ayu Candrika Widyasari Laksana<sup>1</sup>, Mrs. Dona Sri Pratiwiningtyas<sup>1</sup>, Dr. Putu Ayu Swandewi Astuti<sup>2</sup>, Mr. Putu Dwi Adi<sup>3</sup>, Mr. I Wayan Sugihana Aradea<sup>3</sup>**

1. Field Epidemiology Training Program, Udayana University, 2. Department of Public Health and Preventive Medicine, Udayana University, 3. Bali Provincial Health Office

## Background

Legionellosis is an acute infectious disease caused by *Legionella pneumophila*, which can lead to severe pneumonia. A confirmed case was identified in a healthcare worker at Hospital X, Bali Province. This investigation aimed to identify the likely source of transmission.

## Methods

This study was a descriptive observational study based on a case report, employing primary data from field epidemiological investigations and structured interviews. The investigation included assessing individual risk factors, tracing similar symptoms among household members and coworkers at Hospital X, and an environmental risk assessment at the patient's residence and workplace. The investigation was conducted at Hospital X and the patient's residence from February 20 to March 5, 2025. Symptom tracing was carried out among four other family members living in the same household and 84 healthcare workers who shared similar environmental risk factors with the patient.

## Results

A 37-year-old female healthcare worker tested positive for *Legionella pneumophila* via a sputum pneumonia panel on February 19, 2025, after developing initial symptoms on February 5. The patient had no international travel history or exposure to lodging-related risk factors within 10 days before symptom onset. All four household members reported mild respiratory symptoms and recovered within one week. Among 84 healthcare workers at Hospital X with shared environmental exposure, 27% reported flu-like symptoms during the same incubation period. Environmental assessments at Hospital X in December 2024 and during the investigation confirmed the presence of *Legionella sp.*

and *Legionella pneumophila* in water and swab samples. Similar findings were detected in the patient's home, particularly from the water filter and water heater, suggesting potential environmental exposure at both sites.

## Conclusions

The investigation identified *Legionella pneumophila* as the causative agent, with potential environmental sources detected at home and the workplace. The presence of similar symptoms among the household members and coworkers, along with positive environmental samples, indicated a possible common source of exposure. These findings highlight the importance of routine environmental monitoring and control to prevent legionellosis.

## Keywords

Legionellosis, *Legionella pneumophila*, Waterborne diseases, Environmental health

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# Risk Factors of Hepatitis B in Pregnant Women in Purbalingga District: Case Control Study

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Wednesday, 23rd July - 14:45: (West Wing Room) - Oral

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**Ms. Zulfa Shalsabilla**<sup>1</sup>, **Prof. Suhartono Suhartono**<sup>2</sup>, **Mr. Fauzi Muh**<sup>3</sup>, **Mrs. Bekti Aribawanti Rini**<sup>4</sup>

*1. Field Epidemiology Training Program, Diponegoro University, 2. Department of Environmental Health, Faculty of Public Health, Diponegoro University, 3. Department of Epidemiology & Tropical Diseases, Faculty of Public Health, Diponegoro University, 4. Purbalingga District Health Office*

## Background

Hepatitis B is a liver infection that has potential to become a chronic disease and can cause death. The prevalence of Hepatitis B in pregnant women in Purbalingga Regency in 2022 was 0,75%; this prevalence is still above the target set in the 2020-2024 RPJMN and SDGs 3.3.4, which aimed to reduce the incidence of Hepatitis B to 0,1% by 2030. This study analyzes the risk factors for Hepatitis B in pregnant women in Purbalingga Regency.

## Methods

This study used a case-control design with an accessible population. The accessible population was all pregnant women, both HBsAg reactive and non-reactive, recorded in the SIHEPI application of the Purbalingga Regency Health Office from January 2023 to September 2024, total 112 reactive and 112 non-reactive pregnant women, were involved. Data were analyzed using the Chi-Square test and logistic regression.

## Results

This study identified four variables that were significantly associated with the incidence of Hepatitis B in pregnant women: pregnant women have poor knowledge (p-value 0,019, aOR 2,5 [1,16-5,34]), pregnant women having a family history of Hepatitis B (p-value 0,001, aOR 34,04 [9,73-119,03]), pregnant women shared nail clipper (p-value 0,016, aOR 2,43 [1,18-5,01]), and pregnant women shared razor (p-value 0,016 aOR 2,32 [1,17-4,59]).

## Conclusions

A family history of Hepatitis B is the most influential risk factor for the incidence of Hepatitis B in pregnant women in Purbalingga Regency, so early detection of the family is needed to prevent Hepatitis B transmission.

## Keywords

Hepatitis B; pregnant woman; risk factor; Purbalingga.



# **FETP INTERMEDIATE**

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# Neonatal Tetanus Still Exist in Pamekasan: A Case Series

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Wednesday, 23rd July - 15:30: (Mataram Ballroom) - Oral

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*Ms. Alya Hanifa Rasyidi<sup>1</sup>, Mrs. Risma Dian Anggraini<sup>2</sup>*

*1. FETP Intermediate BBPK Ciloto, 2. Bangkalan District Health Office*

## Background

Neonatal Tetanus (NT) is a rare disease but it has started to occur again in Pamekasan since 2023. In 2024, NT reported in Pamekasan, involving three cases with a Case Fatality Rate (CFR) of 100%. The average Tetanus Toxoid (TT) immunization coverage over the past five years was relatively low at 59.3%. The aim of this research is to describe the NT cases in Pamekasan District in 2024.

## Methods

We conducted a case series study using case-based surveillance at Pamekasan District Health Office in 2024, carried out in March-July 2024. NT is a disease in newborn babies caused by tetanus bacteria which enters through the umbilical cord wound, unsterile instrument, or potion. Potion is a mixture of ingredients used to treat umbilical cord care.

## Results

The 1<sup>st</sup> case happened in Palengaan, was born at the Public Health Center. The family provides a potion with the ingredients is thinly cut garlic using a kitchen knife for caring the case's umbilical cord. The mother received T1 immunization, the case died in 7 days old. The 2<sup>nd</sup> case reported in Teja, was born at the Public Health Center, maternal Td immunization status is unclear, and the midwife provides gauze and Betadine/Yodium for umbilical cord care. The case died in 13 days old. The 3<sup>rd</sup> case happened in Panaguan, gave birth at a shaman, mother did not receive Td immunization, and umbilical cord treatment using alcohol. The case died in 8 days old. All NT cases underwent hospital treatment, confirmed NT by a pediatrician.

## Conclusions

Low maternal immunization coverage, unsafe births and umbilical cord care, and strong culture. The results of the NT cases analysis in Pamekasan District show that Pamekasan District is at a high risk of experiencing a NT outbreak. The Pamekasan District Health Office and Public Health Centers should improve their surveillance performance, health education in increasing immunization coverage and Vaccine-Preventable Diseases (VPD) alerts, and training for midwives and shamans.

## Keywords

Neonatal Tetanus, Surveillance, Outbreaks

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# Risk Factors For Low Birth Weight in Manggarai District in 2022

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Wednesday, 23rd July - 15:45: (Mataram Ballroom) - Oral

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***Ms. Hanifa Mustafa<sup>1</sup>, Mr. Kunigunda Albert Da<sup>2</sup>***

*1. FETP Intermediate BBPK Ciloto, 2. Dinas Kesehatan Kabupaten Manggarai*

## **Background**

In 2022, LBW is the leading cause of death in the neonatal period, in addition LBW also increases the risk of stunting and the emergence of non-communicable diseases later in life. Manggarai Regency is one of the regencies that contributes greatly to the number of LBW in the Province and nationally.

## **Methods**

We conducted a retrospective cohort study using secondary data from the manual register of the KIA cohort of pregnant women in all health centers in Manggarai Regency in 2022 totaling 5132 pregnant women. The LBW category according to WHO criteria, if the baby is born weighing less than 2500 grams, regardless of gestational age. The independent variables studied were Age, Education, Occupation, Pregnancy History, Pregnancy Spacing, ANC History, Nutritional Status, and Hepatitis B Status. Multivariate logistic regression data analysis was performed to test the risk factors for LBW.

## **Results**

It was recorded that 5132 pregnant women gave birth throughout 2022. Mothers who were at risk were 21.9%, mothers with chronic energy deficiency were 12.4%, a history of primigravida pregnancy was 31.8%, hepatitis B infection was 5.1%. The proportion of babies born with LBW was 4.8%. Age, pregnancy history, nutritional status and hepatitis B status were associated with low birth weight in babies ( $p < 0.05$ ). Significant risk factors for the incidence of LBW were age (RR: 1.352 95%CI 1.013-1.805) and hepatitis B status (RR: 2.882 95%CI 1.920-4.327).

## **Conclusions**

Risk factors for LBW are age and hepatitis B status. We recommend providing antiviral therapy to pregnant women with hepatitis B and education related to hepatitis B prevention and pregnancy planning.

## **Keywords**

Risk factors, Pregnant women, Hepatitis B, LBW

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# Sentinel Surveillance Influenza Like Illness (ILI) At the Makassar Health Quarantine Center, South Sulawesi in 2024

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Wednesday, 23rd July - 16:00: (Mataram Ballroom) - Oral

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*Mrs. Nurhayati Manda*<sup>1</sup>, *Mrs. Juniarty Naim*<sup>1</sup>, *Mr. Rajunitrigo Sukirman*<sup>2</sup>

*1. Makassar Health Quarantine Center, 2. Riau Provincial Health Service*

## Background

To increase awareness of the potential entry of new variants of the influenza virus through international travelers, the Makassar Health Quarantine Center (BBKK) is implementing sentinel surveillance Influenza Like Illness (ILI) since March 2024, especially during the Hajj and Umrah pilgrim seasons. This surveillance aims to identify the distribution of cases based on time of return, age group, sex and laboratory results in order to detect disease risk patterns entering through international ports of entry

## Methods

This research is a descriptive study using secondary data from the ILI sentinel surveillance report at BBKK Makassar for the period January – December 2024. ILI cases are defined as cases of fever (temperature  $\geq 38.5^{\circ}\text{C}$ ) accompanied by cough, with symptom onset no more than 10 days. Data were analyzed descriptively based on person characteristics (age, sex, laboratory results), place (Sultan Hasanudin International Airport), and time (month of return).

## Results

There are 80 cases of ILI with positivity rate (PR) of 61.3%. All positive cases have a history of travel to Saudi Arabia (hajj and umrah pilgrims). The peak of cases occurred in July with 29 cases (36.3%), coinciding with the scheduled return of Hajj pilgrims. Meanwhile, the lowest case occurred in May with 1 case (1.3%). Laboratory results showed that the majority of cases were influenza (27 cases; 33.75%) and a combination of influenza and COVID-19 (5 cases; 6.3%). The highest cases occurred in the 57-69 year age group with 27 cases (33.75%) and men with 47 cases (59%), while the lowest cases were in the 18 - 30 year age group with 2 cases (2.5%).

## Conclusions

These findings identify an increase in ILI cases in Hajj and Umrah pilgrims, especially in July, in the elderly group. These results show the importance of strengthening ILI surveillance during the return of pilgrims and the period of increasing influenza cases in Asia, through increasing health screening at entry points, laboratory capacity, and health education for international travelers.

## Keywords

Surveillance sentinel ILL, international travelers, point of entry

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# Outbreak Hantavirus in Bantul Regency, 2025

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Wednesday, 23rd July - 16:15: (Mataram Ballroom) - Oral

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***Ms. Siska Rohman*<sup>1</sup>, *Mrs. Defi Amalia*<sup>2</sup>, *Mrs. Anandi Iedha Retnani*<sup>3</sup>**

*1. FETP Intermediate BBPK Ciloto, 2. Balai Besar Pelatihan Kesehatan Ciloto, Kementerian Kesehatan RI, 3. Dinas Kesehatan Kota Yogyakarta*

## **Background**

On January 31, 2025, the Bantul Regency Health Office received a report of a confirmed PCR Hanta and MAT positive Leptospirosis from dr. Sarjito Hospital. This is the first confirmed case of hantavirus in Bantul Regency. An epidemiological investigation was conducted to confirm the outbreak, identify rodent reservoir of hantavirus and sequencing of hantavirus.

## **Methods**

A Case report study was conducted from January 31-11 April 2025 in Camden Bantul. A confirmed case of hantavirus is defined as person with acute fever accompanied by at least 2 symptoms of headache, fatigue, icteric, malaise, oliguria/anuria, nausea, vomiting and positive hantavirus PCR result. Data was collected from interviews with the community around confirmed hantavirus case (235 people), questions consisted of symptoms and trapping in the reservoir at 50 houses, we settled a total of two trap-night. Hantavirus examination in humans using serum sent to BBLabkesmas Yogyakarta. Hantavirus examination in rats using lung spesimens sent to BBLKL Salatiga. Leptospirosis examination in rats using kidney spesimens sent to BBLabkesmas Yogyakarta. BBLKL Salatiga doing sequencing on rat and human confirm hantavirus. The data from result rat trapping were subjected to spatial analysis.

## **Results**

First confirmed case was 79-year-old female, symptoms appeared on January 14, 2025. Second case discovered was 31-year-old male, symptoms appeared on February 10, 2025. The first and second cases have an epidemiological relationship in terms of activities in the same environment (Beran, Camden). Of 24 trapped rats in the case environment, 11 were PCR positive Hantavirus (45,8%), 4 were PCR positive Leptospirosis (20%), 3 were PCR positive Hantavirus and Leptospirosis (15%). Result partial sequencing human serum is closely related to the Seoul Virus which is the cause of Hemorrhagic Fever with Renal Syndrome (HFRS). Result partial sequencing from four rat, two is closely related to the Seoul Virus which is the cause of Hemorrhagic Fever with Renal Syndrome (HFRS).

## **Conclusions**

There was an outbreak of hantavirus in Bantul Regency with the same serovars found in humans and rats. Strengthening cross-sectoral collaboration with one health approach so that cases do not become endemic like leptospirosis cases in Bantul Regency.

## **Keywords**

Outbreak, Hantavirus, Leptospirosis



# **FOOD OR WATERBORNE DISEASES (2)**

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# Outbreak of Food Poisoning at a Pre-Wedding Event in Sukabumi District in 2024

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Wednesday, 23rd July - 15:30: (West Wing Room) - Oral

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***Ms. Sadiyah Nurul Falah*<sup>1</sup>, *Mrs. Helda* - <sup>1</sup>, *Mrs. Purnama Magdalena Simanullang*<sup>2</sup>**

*1. FETP Universitas Indonesia, 2. Dinkes Provinsi Jawa Barat*

## Background

On Sunday, June 10, 2024, RSUD Sagaranten and Curugkembar Health Center reported two cases of suspected food poisoning with symptoms of nausea, vomiting, diarrhea, and dizziness. The number of cases increased to 10 people who experienced similar symptoms and were brought to the hospital. This investigation was conducted to identify the magnitude of the problem, the source, assess the risk factors of food poisoning, and how to control it.

## Methods

This study used a cohort retrospective design. To analyze the data, descriptive analysis, case distribution mapping, and bivariate analysis were conducted. Cases were defined as individuals experiencing symptoms such as dizziness, abdominal pain, nausea, or vomiting. Data were collected through interviews, observation, and laboratory testing of food samples.

## Results

Of the 202 at-risk population, 192 cases were found. There was 1 death (CFR = 0.5%). The most common clinical symptoms were nausea (161 cases or 83.4%), vomiting (75.6%), diarrhea (74.1%), and dizziness (74.1%). Other symptoms included seizures (54.9%) and mucous diarrhea (1%). Most cases were female (50.8%). The attack rate ranged from 86.4% to 100%. The incubation period was 3 to 27 hours. People who ate yellow chicken and chickpeas had a 1.4 times higher risk of food poisoning. Laboratory examinations showed the presence of *Staphylococcus sp.*, *Candida albicans*, *Salmonella sp.*, *Proteus mirabilis*, and other pathogens in the food.

## Conclusions

This food poisoning incident was likely caused by pathogens originating from food handlers and prolonged food storage. Education on food sanitation and personal hygiene, training in food safety and health promotion, as well as proper and timely food preparation and storage practices, are essential measures to prevent such incidents. Furthermore, as part of prevention and preparedness efforts, communities organizing large-scale events should be encouraged to report to local urban village authorities and seek assistance from public health centers.

## Keywords

*Investigation, Food poisoning, Staphylococcus*

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# Uncovering the Source: Foodborne Illness Outbreak Traced to Contaminated Water in Ngloro Village, Gunungkidul

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Wednesday, 23rd July - 15:45: (West Wing Room) - Oral

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*Mr. Muhamad Imam Utama*<sup>1</sup>, *Ms. Sri Purwanti*<sup>1</sup>, *Mr. Denis Oxy Handika*<sup>2</sup>, *Mr. Andri Setyo Dwi Nugroho*<sup>3</sup>, *Mr. Ahmad Watsiq Maula*<sup>4</sup>

1. FETP Universitas Gajah Mada, 2. Field Epidemiology Training Program, Gadjah Mada University, 3. Special Region of Yogyakarta Health Office, 4. Field Epidemiology Training Program, Universitas Gadjah Mada

## Background

On July 7, 2024, the Gunungkidul District Health Office (DHO) was notified of a suspected mass food poisoning incident. Saptosari Primary Health Care (PHC) reported 45 cases with symptoms of nausea, vomiting, and diarrhea. The incident followed a communal prayer event (Rasulan) held on July 5 in five Neighborhood Association (RT). A team from Saptosari PHC, Gunungkidul DHO, and FETP UGM residents conducted an epidemiological investigation to confirm the outbreak, identify risk factors, and develop recommendations to prevent similar cases in the future.

## Methods

Active case finding and risk factor analysis were conducted using a retrospective cohort study. Cases were defined as individuals with symptoms (nausea, vomiting, diarrhea, stomach pain, fever, headache) after eating at Rasulan on July 5, 2024. Environmental observation and water sampling were performed at four affected houses.

## Results

A total of 112 cases were identified, spread across five RT with most cases found in RT 1 (45,5%) and RT 2 (42%), female (59,8%), aged between 46 - 60 years old (25,6%). Common symptoms were vomiting (71,4%), nausea (62,5%), and diarrhea (42,8%). The attack rate ratio of Rawisan (raw vegetable salad) was found to be the highest attack rate ratio. The epidemic curve shows the common source pattern, with an average incubation time of 34 hours. Water contamination was suspected during the process of making Rawisan, as the outbreak occurred at different locations with a high attack rate ratio, despite being prepared by different cooks. Statistical and laboratory tests conducted to evaluate water as a risk factor. Observations on community custom's found that rainwater was the main source for consumption. The result from logistic regression, consuming rainwater was associated with the illness (OR: 1,78; CI 95%: 1,069 - 2,967). Laboratory tests of water samples resulted in a high number of total coliform above the threshold value in all four houses.

## Conclusions

Food poisoning occurred in Ngloro Village, Gunungkidul District on July 7, 2024 and was caused by contamination of coliform in water. Ensuring regular cleaning of storage systems, promoting household water treatment, and monitoring diarrhea cases after heavy rain should be promoted.

## Keywords

outbreak, food poisoning, rainwater, coliform

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# Epidemiological Investigation of a Food Poisoning Outbreak in SDN 03 Dukuh Sukoharjo, 2025

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Wednesday, 23rd July - 16:00: (West Wing Room) - Oral

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*Ms. Nyai Harifah Akbar*<sup>1</sup>, *Mrs. Nanang Yuliana*<sup>1</sup>, *Mrs. Rina Hidayani*<sup>2</sup>, *Dr. Bayu Satria Wiratama*<sup>3</sup>

*1. Field Epidemiology Training Program, Universitas Gadjah Mada, 2. Dinas Kesehatan Kabupaten Sukoharjo, 3. FETP Universitas Gajah Mada*

## Background

On January 16, 2025, the Sukoharjo District Health Office received a report of a suspected food poisoning incident among students at SDN 03 Dukuh who consumed meals provided by Free Nutritious Meal (MBG) program. An outbreak investigation was conducted to determine the cause, risk factors, and measures.

## Methods

An Active case finding followed by a retrospective cohort study was conducted from January 16 to 17, 2025, and involved all students who consumed MBG meals on the incident day. Cases were defined as a student who has one or more main symptoms such as abdomen pain, headache, nausea, and additional symptoms such as weakness, vomiting, fever, and diarrhea on 16 January 2025 after consuming MBG meal. Data were collected through interviews using structured questionnaires and environmental assessments. Food samples underwent bacteriological analysis. Attack rates (AR) and attack rate ratios (ARR) were calculated for analysis.

## Results

Seventy-five cases were identified among 173 students (AR = 43.35%), with higher attack rates among females (43.62%) and students aged 8–9 years (53.85%). The most common symptoms were abdominal pain (80%) and headache (62%). The epidemic curve indicated a common source outbreak with a mean incubation period of 60 minutes. Consumption of crispy chicken was associated with the highest risk (ARR = 2.06). Epidemiological and clinical findings suggested *Staphylococcus aureus* food poisoning as the most likely etiology, based on the short incubation period, predominant gastrointestinal symptoms, and involvement of high-risk food items (especially chicken). Contributing risk factors included inadequate cold chain management, insufficient cooking at low temperatures, prolonged food exposure at room temperature, poor kitchen hygiene with fly infestation, and the lack of separation between raw and cooked foods.

## Conclusions

There was food poisoning in SDN 03 Dukuh caused by crispy chicken contaminated with *Staphylococcus* sp. These findings highlight the urgent need for regular monitoring of food and water safety, enhanced supervision and training of food handlers, improved health surveillance among MBG recipients, and stricter enforcement of food safety protocols through coordinated intersectoral efforts.

## Keywords

Food Poisoning; outbreak investigation; food contaminated; Sukoharjo

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# Investigation of a Foodborne Outbreak in Purwokerto Village, Lamongan Regency, East Jawa

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Wednesday, 23rd July - 16:15: (West Wing Room) - Oral

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**Ms. Endang Sukara**<sup>1</sup>, **Ms. Arina Mufida Ersanti**<sup>1</sup>, **Ms. Risma Anggraini**<sup>2</sup>, **Mrs. Atik Choirul Hidajah**<sup>3</sup>

1. FETP Universitas Airlangga, 2. Dinas Kesehatan Bangkalan, 3. Department of Epidemiology, Biostatistics, Population Studies, and Health Promotion Faculty of Public Health Universitas Airlangga

## Background

The Lamongan Regency Health Office received a report from the Puskesmas Purwokerto that on November 30, 2024 there were 3 people coming to the puskesmas and 1 person to the local hospital with the same symptoms, namely, diarrhea, nausea, dizziness and weakness after consuming food at the proposal event in Purwokerto Village, Lamongan Regency. On December 2, 1 case of death was reported with similar symptoms after consuming food at the event. Based on the report, the Lamongan District Health Office decided to conduct a joint outbreak investigation with FETP Universitas Airlangga with the aim of identifying the cause and recommending preventive measures.

## Methods

This study used a retrospective cohort design. Data collection involved interviews with patients at hospitals and puskesmas, the event host, and neighbors who attended or received food parcels. A total 110 individuals were included in the investigation. Environmental observation was conducted on November 29, 2024, focusing on food preparation practices and sanitation conditions. Food samples, specifically fruit-ice, were collected on December 1, 2024, and sent to BBLK Surabaya for laboratory testing on December 4.

## Results

52 out of 110 people, experienced food poisoning symptoms, with one fatality (Attack Rate [AR] = 47.2%; Case Fatality Rate [CFR] = 1.9%). The incubation period ranged from 3.5 to 14 hours, and the epidemic curve indicated a common source outbreak. The most frequent symptoms were diarrhea (96.15%), dizziness (88.46%), and nausea (67.31%). Children aged 0–12 years had the highest attack rate (100%), followed by males (48%) and adults aged 20–59 (45%). Fruit-ice had the highest risk, with an attack rate of 85% and a relative risk (RR) of 40.8. Laboratory results confirmed the presence of *Salmonella spp.* in the fruit ice. Environmental findings showed the kitchen was adjacent to a chicken coop, used untreated well water, and had a dirt floor—posing a contamination risk.

## Conclusions

There was an outbreak of food poisoning in Purwokerto village, Lamongan district (AR=47.27% and CFR=1.92%). The causative agent was *Salmonella spp.* The source of infection was contaminated fruit ice. It's recommended to conduct socialization in the community related to the importance of processing food ingredients properly and correctly.

## Keywords

Food poisoning, Outbreak, *Salmonella spp.*, Sanitation



**VACCINE  
PREVENTABLE  
DISEASES (2)**

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# Increase in Pertussis Cases in DKI Jakarta: Analysis of Surveillance Data 2022-2024

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Thursday, 24th July - 13:00: (Mataram Ballroom) - Oral

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*Mr. Firdaus Firdaus*<sup>1</sup>, *Mr. Mirsal Picasso*<sup>2</sup>, *Mrs. Rosiana Risqi*<sup>2</sup>, *Dr. Trisari Anggondowati*<sup>1</sup>

*1. FETP Universitas Indonesia, 2. DKI Jakarta Province Health Office*

## Background

Pertussis cases in DKI Jakarta have risen sharply over the past three years—from 8 in 2022 to 65 in 2023, and 107 in 2024—despite consistently high DPT-HB-Hib immunization coverage above 90%. This surge warrants investigation, as it may be influenced by waning immunity in older age groups, imported cases, environmental factors, and enhanced surveillance. The study aims to describe the epidemiological patterns by demographic and geographic factors and identify contributors to the rise, providing evidence for targeted prevention and control efforts.

## Methods

A cross-sectional study was conducted using pertussis surveillance data from all cities in DKI Jakarta for the period 2022–2024. Confirmed cases were identified through PCR testing of nasopharyngeal swabs from suspected pertussis cases. The distribution of cases was analyzed by demographic (age, sex) and geographic (administrative area) characteristics. Bivariate analysis using the Chi-Square test assessed associations between variables. Simple logistic regression was employed to calculate unadjusted Prevalence Ratios (PRs) and 95% confidence intervals (CIs) for evaluating the relationship between vaccination status, residential environmental factors, and pertussis incidence.

## Results

From 2022 to 2024, a total of 276 suspected pertussis cases were recorded in DKI Jakarta, with 180 (65%) confirmed by PCR. Among confirmed cases, 58% were female, and the most affected age group was infants under 1 year (37%). Geographically, the highest number of cases occurred in North Jakarta (29%). Regarding immunization status, 58% of cases were unvaccinated. Both vaccination status and residential environmental conditions were significantly associated with pertussis incidence. Unvaccinated individuals had 1.43 times higher prevalence odds (POR 1.43; 95% CI: 1.05–1.95) than vaccinated individuals, while those living in poor residential environments had twice the odds of infection (POR 2.01; 95% CI: 1.71–2.36) compared to those in better environments.

## Conclusions

Findings from this study emphasize the need for complete immunization and improvement of residential environmental conditions to prevent pertussis control cases. An integrated approach through optimizing immunization programs, community education, environmental revitalization and strengthening active surveillance in areas with high incidence cases can be used as a prevention strategy for sustainable pertussis control.

## Keywords

demography, geography, pertussis, pertussis vaccine, surveillance

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# Patterns and Determinants of Measles Among Suspected Cases in Jakarta, 2022-2024: Insights from Surveillance Data

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Thursday, 24th July - 13:15: (Mataram Ballroom) - Oral

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*Ms. Widya Inayah*<sup>1</sup>, *Prof. Nurhayati Adnan*<sup>2</sup>, *Mrs. Retno Henderiawati*<sup>3</sup>, *Mrs. Oktaviana Nugraheni*<sup>3</sup>

*1. FETP Universitas Indonesia, 2. University of Indonesia, 3. DKI Jakarta Province Health Office*

## Background

Measles cases have resurged globally, with Indonesia remaining a hotspot and Jakarta contributing a sizable share of the nation's burden. Persistent transmission during 2022-2024, despite a long-standing elimination campaign and reported vaccine coverage above 90%, suggests the presence of susceptible groups and potential surveillance gaps. This study aims to describe epidemiological patterns and identify determinants associated with measles in Jakarta.

## Methods

A cross-sectional study analyzed surveillance records of all individuals reported as suspected measles to the Jakarta Province Health Office from 2022 to 2024, with inclusion limited to those with complete data on vaccination status and laboratory testing results. Confirmed and non-confirmed cases were compared to identify factors associated with laboratory-confirmed cases. Extracted variables included age, sex, measles-vaccine completeness and recent travel history. Descriptive statistics were used to summarize case distributions, followed by bivariate tests to assess crude associations. Variables with a p-value less than 0.25 were included in a multivariable logistic-regression model to identify determinants of laboratory confirmed measles, expressed as adjusted odds ratios (aORs) with 95% Confidence Intervals (CIs).

## Results

Among 4,194 suspected measles cases reported from 2022 to 2024, 22.8% were laboratory confirmed. Children younger than five represented 74.4% of confirmed cases, compared to 68.1% of non-cases, while sex distribution did not differ significantly. Unvaccinated individuals accounted for 30.5% of cases but only 13.5% of non-cases. Multivariable logistic regression showed age under five years had higher odds of measles (aOR 1.36; 95% CI 1.16-1.61), and unvaccinated individuals had 2.53 times higher odds of measles compared to those fully vaccinated (aOR 2.53; 95% CI 2.09-3.06). Sex and recent travel history were not significant predictors.

## Conclusions

Measles continues to circulate in Jakarta, primarily affecting children under five and individuals who have not received any vaccine doses. The findings emphasize the importance of targeted catch-up immunization and improved surveillance strategies to detect and respond outbreaks promptly. These insights are essential to progress toward national measles-rubella elimination goals.

## Keywords

measles, risk factors, surveillance, vaccine-preventable disease

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# Spatio- temporal Analysis of Measles Cases and Risk Factor in Sleman, 2022- 2024

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Thursday, 24th July - 13:30: (Mataram Ballroom) - Oral

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**Ms. Yulianty Febrina Leda Malo<sup>1</sup>, Mr. Moch Thoriq Assegaf Al-Ayubi<sup>2</sup>, Mrs. Khoirunnisa Laksono<sup>3</sup>,  
Mr. Isa Dharmawidjaja<sup>4</sup>, Dr. Vicka Oktaria<sup>1</sup>**

*1. Field Epidemiology Training Program, Universitas Gadjah Mada, 2. Field Epidemiology Training Program (FETP) Universitas Gadjah Mada, DI Yogyakarta, 3. Sleman District Health office, Sleman, DI Yogyakarta, 4. Gamedika 10 Hospital, Sleman, DI Yogyakarta*

## Background

Measles outbreak remains a significant public health concern in Sleman District, despite the district has consistently reported high measles vaccine coverage above national target (95%) from 2022 to 2024. This study aimed to analyze the spatio-temporal distribution of suspected and confirmed measles cases including information on immunization coverage, and positivity rates across primary health centers in Sleman district.

## Methods

We conducted a descriptive study utilizing secondary surveillance data from the MR02 database from the year of 2022 to 2024. Spatio-temporal analysis was conducted to identify the distribution of suspected and confirmed measles cases, evaluate immunization coverage, and determine positivity rates at the *PHC* level over years. Nearest Neighbor Analysis in Quantum GIS was used to assess the spatial pattern of disease distribution among suspects and cases.

## Results

All public health center consistently have immunization coverage surpassed 95% across the three years. In 2022, all 272 clinically suspected measles cases were tested using PCR, with 23 (8.45%) confirmed positive. In 2023, all 411 suspected cases were PCR-tested, with 60 (14.60%) confirmed positive. In 2024, all 385 suspected cases were tested using PCR, with 46 (12%) confirmed positive. At sub-district level, the highest positivity rate was observed in Depok 3 (41% in 2022), Godean 1 (50% in 2023) and Pakem (28% in 2024). Spatial analysis revealed that certain areas repeatedly showed high positivity rates despite adequate coverage and localized transmission. Spatio temporal analysis shows the hotspot of measles cases identification was in the Center of Sleman District which were Mlati and Depok sub-district. Nearest Neighbor Analysis showed a highly dispersed spatial pattern, indicating that cases were widely spread and not clustered.

## Conclusions

Despite achieving high immunization coverage, clusters of measles cases and high positivity rates were still found in certain areas. This highlights the importance of strengthening case-based surveillance, investigating immunity gaps, and ensuring equitable vaccine coverage to prevent localized outbreaks.

## Keywords

Spatiotemporal Analysis; Nearest neighbor analysis; measles; vaccination; Sleman;

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# Epidemiology of Measles Based on Immunization History- Kebumen District, 2022-2024: A Case Study

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Thursday, 24th July - 13:45: (Mataram Ballroom) - Oral

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*Mrs. Yuniarti* <sup>1</sup>, *Mr. Akhmad Mukhibin* <sup>2</sup>, *Mr. Ahmad Watsiq Maula* <sup>3</sup>

1. Field Epidemiology Training Program, Universitas Gadjah Mada, 2. Kebumen Regency Health Office, Kebumen, Central Java, 3. Field Epidemiology Training Program, Universitas Gadjah Mada

## Background

Post-COVID-19 pandemic in Indonesia, the number of suspected cases of measles-rubella increased rapidly from 17,829 in 2022 to 25,893 in 2023, indicating a possible surge in disease incidence. Immunization is essential in protecting individuals against measles infection. Measles immunization performance in the Kebumen district was relatively high (97.1% in 2022 and 98.8% in 2023). This study aims to describe the epidemiology of measles cases based on immunization status to support the effectiveness of prevention programs in the Kebumen District.

## Methods

This study used descriptive epidemiologic methods. The secondary data were obtained from reports of MR02 and positive laboratory confirmation results. Cases in this study were patients with a positive IgM test result. They were categorized as immunized if they had received at least one dose of the MR immunization. The data analysis was performed in Microsoft Excel, including disease trends, proportion results by sex, stratification of cases by age, and immunization status analysis.

## Results

This study found that measles cases have fluctuated over the past three years, with 1 case in 2022, increasing to 39 cases in 2023, and decreasing to 11 cases in 2024. Of all cases, 68.6% were concentrated in January to April, indicating a seasonal pattern. Of the 51 cases recorded, most occurred in females (58.5%). The distribution of cases by age group showed that the 5-9 years age group had the highest proportion (31%), followed by 1-4 years, under 1 year, 10-19 years, 20-39 years, and 40 years and above. Regarding immunization status, 38.0% of cases had received at least one dose of MR immunization, 46.0% had not received immunization, 8.0% were not yet eligible because they had not reached the minimum age, and 8.0% did not know their immunization status.

## Conclusions

The analysis shows a relatively small difference in the proportion of measles cases between immunized and unimmunized individuals. This finding indicates that although immunization remains the primary strategy in preventing measles, several factors may affect vaccine effectiveness, including vaccine cold chain quality, timeliness of administration, and completeness of immunization doses, which need to be strengthened to achieve optimal elimination of measles.

## Keywords

Measles; Immunization; Epidemiology; Kebumen-district



**FETP  
FRONTLINE**

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# Food Poisoning in Cadre Training Lemahwungkuk District, Cirebon City, October 2024

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Thursday, 24th July - 13:00: (West Wing Room) - Oral

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***Mrs. Diyan Siti Mawaddah*<sup>1</sup>, *Mrs. Ade Nurlina*<sup>2</sup>**

*1. Frontline FETP, BBPK Ciloto, Indonesia Ministry of Health, 2. frontline FETP mentor*

## **Background**

Events that prepare food for participants are very susceptible to food poisoning. On October 26, 2024, Health Center received food poisoning information during cadre training held by campus. Investigation conducted to confirm the outbreak, providing an epidemiological descriptive, risk factors, and recommendations for prevention.

## **Methods**

Investigation used retrospective cohort study. Cases were cadres, students, health center employees who attended the meeting on October 25 and their families who experienced symptoms of diarrhea, dizziness, nausea, vomiting, stomach cramps, and fever after consuming snacks. Structure questionnaire used for interview. Field visits were conducted to production site. Snacks were collected for laboratory tests.

## **Results**

There were 56 participants. Snacks were brought home and eaten with family. We identified 64 cases from 70 people ate snacks (AR: 91.4%), the majority of cases are women (78.1%) age range of 1-70 years. The main symptoms were diarrhea (79.7%), dizziness (54.7%), and nausea (39.1%). Incubation period ranged from 2-50 hours, the highest was 8 hours. Statistic analysis showed highest Risk Ratio in fried bread (RR: 1.4; 95%CI: 1.1-1.9) and lemper (RR: 1.2; 95%CI: 1.1-1.3). Fried bread positive *Salmonella* and *Bacillus Cereus*, while lemper, and bolu kukus positive *Bacillus Cereus*. Field visit found that production room looked damp, hand washing far from production area, storage of cooking utensils and food ingredients not in the right place and there were cockroaches. Risk factors in fried bread filled chicken, vegetables and mayonnaise which very susceptible to *Salmonella* contamination if not cooked properly. The laboratory results shows that contamination likely food was stored improperly after being produced.

## **Conclusions**

There has been food poisoning after consuming snacks contaminated with *salmonella* and *Bacillus Cereus*. We recommended to conduct regular food sanitation inspections during the production permit period, educate entrepreneurs to ensure food cooked properly, pay attention to cleanliness in the production process and food storage.

## **Keywords**

Food Poisoning, cadre training, *salmonella* and *Bacillus Cereus*, Cirebon City

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# Bacillus cereus and Salmonella spp Food Poisoning Outbreak Following Breakfast at Hotel X – West Jakarta, December 2024

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Thursday, 24th July - 13:15: (West Wing Room) - Oral

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*Ms. Ira Candra Kirana*<sup>1</sup>, *Ms. Zuliya Mega Sari*<sup>1</sup>, *Ms. Danti Haryuni*<sup>2</sup>, *Ms. Nadia Talia*<sup>1</sup>, *Mr. Rendy Novianto*<sup>1</sup>, *Mr. Dwie Estu Saputro*<sup>1</sup>

1. Grogol Petamburan Community Health Center, Jakarta, 2. West Jakarta City Health Office

## Background

On December 8, 2024, the Grogol Petamburan Community Health Center received a report from a hotel regarding a potential food poisoning outbreak among guests who had consumed breakfast between 6:00-10:00 a.m. An investigation was conducted to confirm the outbreak, identify the causative agents and sources, and determine the risk factors and preventive measures.

## Methods

A retrospective cohort study was conducted. Cases were defined as individuals who experienced one or more of the following symptoms, including nausea, vomiting, or diarrhea, after consuming breakfast at restaurant hotels. Data were collected through interviews, online surveys and hospital records. An environmental investigation was also carried out, including observations of the kitchen and food storage areas. High-risk food samples were tested at the Jakarta Health Laboratory.

## Results

Based on interviews, the hotel mentioned there were 260 guests who had breakfast packages. Of those, 44 individuals responded to interviews (response rate: 16,9%), 30 cases were identified (AR = 68.18%). The highest attack rates were observed among women 74.19% and elderly 100%, with an average age of 36 years (range 2–70 years). The primary symptoms were nausea 90.00%, vomiting 90.00%, and diarrhea 70.00%. The epidemic curve indicated a common-source pattern. The average incubation period was 2:54 hours (range: 1–5 hours). Fried rice was the food most strongly associated with illness (RR = 13.53 (95% CI 2.05-89.57; PAR 94%). Among the 50 food items served, five food samples were tested. Laboratory testing confirmed the presence of *Bacillus cereus* ( $7.1 \times 10^3$  CFU/g) and *Salmonella* spp., in the fried rice suggesting both as the causative agents. Some guests reported that the fried rice tasted stale. An environmental investigation revealed improper food storage.

## Conclusions

The food poisoning outbreak that occurred at Hotel X on December 8, 2024, was most likely caused by consuming contaminated fried rice. The presence of *Bacillus cereus* and *Salmonella* spp., as well as poor storage practices, contributed to the incident. This underscores the importance of enhanced hygiene and food handling practices.

## Keywords

Food Poisoning, Fried Rice, *Bacillus cereus*, *Salmonella* spp., Hotel

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# Investigation of Legionellosis Case in Bandung Regency, Indonesia, 2024

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Thursday, 24th July - 13:30: (West Wing Room) - Oral

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***Mrs. Ni Luh Armini***<sup>1</sup>, ***Mrs. Ni Putu Eka Purnama Dewi***<sup>2</sup>, ***Mrs. Hesteria Friska Armynia Subratha***<sup>3</sup>

*1. Frontline Field Epidemiology Training Programs 2Mangusada Hospital, 2. Mangusada Hospital, 3. Fakultas Kedokteran Universitas Pendidikan Ganesha*

## **Background**

The Badung District Health Office received multiple notifications from the Ministry of Health regarding foreign tourists diagnosed with legionellosis after visiting Bali. On June 10, 2024, the first case in an Indonesian citizen was identified. An investigation was conducted on June 12, 2024, to examine the case, determine risk factors, and provide recommendations for prevention.

## **Methods**

A descriptive study was conducted through patient interviews, medical record reviews, and environmental testing. Sputum samples were analyzed at Labkesmas Kemenkes Surabaya using conventional PCR to detect *Legionella* sp. (gen ls) and *Legionella pneumophila* (gen lp). Environmental samples were collected from the patient's house and hospital. Close contacts were traced and monitored for symptoms.

## **Results**

The patient, an 82-year-old retired military officer from Desa Kekeran Mengwi, Badung Regency, tested positive for *Legionella pneumophila* in sputum samples. He presented with weakness, fatigue, high fever, dry cough, headache, muscle pain, nausea, vomiting, chest pain, and shortness of breath. He had a history of pneumonia and COPD and no travel history. Symptoms began on February 9, 2024, and he passed away on May 27, 2024, before laboratory results were reported.

Environmental samples from the house and hospital tested negative for *Legionella*, and no additional cases were identified. Three close contacts were monitored, but none developed symptoms. Identified risk factors included advanced age, COPD, and a history of heavy smoking.

## **Conclusions**

Although clinically confirmed, the infection source remains unclear. The patient's underlying conditions likely increased his susceptibility. Further investigation is needed to identify potential infection sources, including local water systems. Health education should target high-risk groups, particularly those with COPD and smoking history. Healthcare facilities must enhance surveillance for pneumonia cases unresponsive to standard antibiotics and strengthen infection prevention measures.

## **Keywords**

*Legionellosis, Case investigation, Environmental sampling, Sputum sample*

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# Investigation of Dengue Hemorrhagic Fever in Karanganyar, Cigugur Village, Pangandaran Regency, West Java, 2025

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Thursday, 24th July - 13:45: (West Wing Room) - Oral

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*Ms. Tresna Ayu Lestari*<sup>1</sup>, *Mr. Fajar Nurzaman*<sup>1</sup>

*1. Cigugur Public Health Center*

## Background

Dengue Hemorrhagic Fever (DHF) remains a significant public health challenge in Indonesia. A cluster of five DHF cases was found in Karanganyar. This investigation aims to identify risk factors, analyze transmission patterns, and provide recommendations for prevention.

## Methods

A descriptive case series study was conducted in Karanganyar from March to April 2025. Data were collected through direct interviews with the five DHF cases using the dengue epidemiological investigation form provided by the Ministry of Health. Environmental observations and mosquito larvae inspections were carried out within a 100-meter radius of the cases' residences. A case was defined as acute onset of fever with two or more of the following symptoms: nausea, vomiting, rash, headache, retro-orbital pain, myalgia, accompanied by a positive NS1 antigen test or positive IgM/IgG antibody test. Data were analyzed using univariate methods and presented as frequencies and percentages.

## Results

Among five confirmed cases, the majority were male (N=3, 60%) and within the 20-44 year age group (N=3, 60%). All patients presented with fever, headache, and myalgia (N=5, 100%), rash (N=4, 80%), nausea (N=3, 60%), and symptoms such as vomiting, retro-orbital pain, abdominal pain, dyspnea, gingival bleeding, and epistaxis (N=1, 20%). Larvae inspections in 23 houses revealed a House Index of 34.8%, Container Index of 21.1%, and Breteau Index of 52.2%. These elevated indices suggest a high risk of dengue transmission in the area. The Larvae-Free Index (LFI) was only 65.2%, indicating a lack of community awareness regarding mosquito breeding site eradication. Environmental observations identified that scrap collectors and tire repairmen were storing unused materials and old tires in open spaces, providing potential breeding sites for mosquitoes.

## Conclusions

The findings indicate that Karanganyar is highly vulnerable to dengue transmission, as evidenced by elevated mosquito larvae density indices and LFI below 95%. Environmental factors significantly contribute to mosquito breeding and dengue transmission. Although education and fogging have been implemented, sustained interventions are essential. The study recommends maintaining environmental hygiene, regularly draining water containers, covering water storage, recycling used items, and avoiding mosquito bites to prevent DHF.

## Keywords

Dengue Hemorrhagic Fever, Environmental Health, Epidemiology, Vector-Borne Diseases



# **SURVEILLANCE SYSTEM**

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# Readiness of Acute Encephalitis Syndrome Surveillance in the Post-Mass Immunization Campaign for Japanese Encephalitis – Bantul, 2024

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Thursday, 24th July - 14:00: (Mataram Ballroom) - Oral

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***Mrs. Nilna Sa'adatar Rohmah*<sup>1</sup>, *Mr. Samsu Aryanto*<sup>2</sup>, *Mr. Bayu Satria Wiratama*<sup>1</sup>**

*1. Field Epidemiology Training Program (FETP), Universitas Gadjah Mada, Yogyakarta, Indonesia, 2. Dinas Kesehatan Kabupaten Bantul*

## **Background**

In 2024, a mass immunization campaign for Japanese Encephalitis (JE) was conducted in Yogyakarta Province, including Bantul District. Effective surveillance for Acute Encephalitis Syndrome (AES) is crucial to detect breakthrough infections and assess vaccine effectiveness. However, AES surveillance readiness in Bantul has not been evaluated. This study evaluates the preparedness of AES surveillance systems post-immunization.

## **Methods**

The qualitative descriptive study utilized secondary data from 2024 and key informant interviews with surveillance officers from the Bantul District Health Office (BDHO) and the sentinel surveillance unit at Panembahan Senopati Hospital (PSH). Purposive sampling was employed to select informants involved in AES surveillance activities. The study followed the WHO surveillance framework, evaluating systems structure (networking and collaboration), core functions (detection, registration, reporting, feedback), data quality (completeness and accuracy), and supporting functions (training, supervision, monitoring). Thematic coding was used for qualitative data analysis to identify patterns and gaps, with data triangulated from both secondary sources and interviews to enhance validity.

## **Results**

Interviews with 2 surveillance officers from RSPS and BDHO revealed significant deficiencies in the AES team at RSPS, and coordination between RSPS, the Public Health Center Laboratory Yogyakarta (BBlabkesmas), and BDHO was limited. In 30% of cases, the Early Warning Hospital Surveillance form was incomplete or delayed. For 12 patients, immunization dates were missing in 50% of cases, and 12.5% of symptom data was incomplete. Patient identification discrepancies were found in 33.3% of records, and 66.67% of reports were delayed. Reports from BBlabkesmas were not actively collected, and 90% of lab results took over 2 weeks. The absence of SOPs and official appointment letters for AES surveillance hindered timely detection, vaccine monitoring, and disease control.

## **Conclusions**

AES surveillance in Bantul was underdeveloped, limiting its capacity to monitor vaccine effectiveness or detect breakthrough JE cases. The absence of operational guidelines, trained personnel, and integrated data systems highlights a critical gap in post-campaign disease control efforts. Strengthening AES surveillance with standardized protocols, better data integration, and active post-immunization monitoring is essential to support JE elimination strategies in climate-sensitive regions.

## **Keywords**

Japanese Encephalitis, Acute Encephalitis Syndrome, Sentinel Surveillance, Public Health Systems

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# Implementing Early Warning and Response Systems for Pertussis Outbreak Preparedness: A Mixed-Methods Study in Yogyakarta, 2024

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Thursday, 24th July - 14:15: (Mataram Ballroom) - Oral

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***Ms. Sri Purwanti*<sup>1</sup>, *Mr. Ahmad Watsiq Maula*<sup>2</sup>, *Mr. Andri Setyo Dwi Nugroho*<sup>3</sup>**

*1. FETP Universitas Gajah Mada, 2. Field Epidemiology Training Program, Universitas Gadjah Mada, 3. Special Region of Yogyakarta Health Office*

## **Background**

The Early Warning and Response System (EWARS) has a crucial role in the detection and control of infectious disease outbreaks. Although the system demonstrates considerable potential and consistently strong performance (achieving 95.8% timeliness and 98% completeness), its implementation in pertussis outbreak preparedness and response in Yogyakarta remains insufficiently explored. This mixed-methods study aims to evaluate the core functions of EWARS and to identify the challenges related to its utilization in enhancing preparedness and response to pertussis outbreaks.

## **Methods**

A sequential explanatory design was employed, beginning with quantitative analysis of secondary data obtained from EWARS, followed by qualitative interviews with key informants from five district health offices and the provincial health office. Quantitative data were analyzed using Stata 17, while qualitative data were processed using Microsoft Excel

## **Results**

A total of 84 alerts were detected, of which 82 (97.5%) were successfully verified within less than 24 hours by 16 hospitals (21%) and 29 primary health centers (24%). However, a notable disparity in case detection was observed across districts. Compared to healthcare facilities in Sleman, those in Gunungkidul and Yogyakarta City had significantly lower odds of detecting pertussis cases, with odds ratios of 0.07 (95% CI: 0.016–0.36) and 0.09 (95% CI: 0.02–0.40), respectively. The use of three separate reporting systems for pertussis has increased the workload of healthcare personnel, limiting data validation efforts and centralizing case confirmation on a single platform. Although all districts have produced feedback bulletins, their publication is not consistently carried out on a weekly basis. Information dissemination remains largely internal, with only a few districts publishing updates on official health office websites as part of preparedness efforts. While case investigations are routinely performed, the implementation of prophylaxis, Rapid Convenience Assessment (RCA), and catch-up immunization remains suboptimal.

## **Conclusions**

To improve EWARS' effectiveness, enhancing the capacity of healthcare workers in case detection, particularly in low-reporting districts, is essential. Broader dissemination of case trend information through official communication platforms is expected to raise awareness among both healthcare providers and the general public. Strengthened monitoring is also necessary to ensure timely and comprehensive outbreak response implementation.

## **Keywords**

EWARS, Pertussis, Outbreak, Preparedness

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# Enhancing Epidemiological Information Availability through an Integrated Dengue Surveillance Dashboard: Experience from Sumenep Regency, 2024

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Thursday, 24th July - 14:30: (Mataram Ballroom) - Oral

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*Ms. Cahya Yuliani*<sup>1</sup>, *Mrs. Atik Choirul Hidajah*<sup>2</sup>, *Mrs. Fransisca Susilastuti*<sup>3</sup>, *Mr. Mohammad Agus Suryadinata*<sup>4</sup>, *Mr. Mohammad Sufyan*<sup>4</sup>

1. FETP Universitas Airlangga, 2. Department of Epidemiology, Biostatistics, Population Studies, and Health Promotion Faculty of Public Health Universitas Airlangga, 3. The Public Health Laboratory Center of Surabaya, 4. Sumenep Regency Health Office

## Background

Effective dengue surveillance requires the presence of epidemiological information based on person, place, and time. An assessment in Sumenep Regency found that such information was inconsistently available across public health centers (puskesmas), and the existing system lacked the capability to generate the information automatically. This study aimed to develop the automated availability of epidemiological information in the dengue surveillance system at the puskesmas level by developing an integrated dashboard.

## Methods

A development study was conducted in Sumenep Regency in 2024. An accessible dashboard was created using Google Sheets and Google Sites, integrating the SIARVI and K-DBD reporting formats. The dashboard was designed to automatically visualize key program indicators, including incidence rate (IR), case fatality rate (CFR), investigation coverage, and case distributions by age, sex, dengue infection type, village, and month.

## Results

The *Dashboard Sistem Informasi Pencatatan dan Pelaporan Dengue (Dasi Pak De)* was developed to streamline data entry and visualization. It allows single data input through the SIARVI form, which is automatically transformed into the K-DBD format. The dashboard visualizes key epidemiological indicators such as IR, CFR, investigation coverage, dengue infection type, along with case distribution by sex, age group, village, and month. Before implementation, only 73.33% (22/30) of puskesmas processed dengue data, with 22.72% (5/22) lacked information by sex and age, 27.27% (6/22) lacked temporal trend information, and 31.81% (7/22) lacked geographic information. After implementation, all puskesmas were able to automatically generate comprehensive epidemiological information based on person, place, and time without manual processing. Testimonials from dengue program managers confirmed that the dashboard significantly facilitated data management and improved the availability and quality of epidemiological information in puskesmas level.

## Conclusions

The integrated dashboard enhanced the availability and visualization of dengue epidemiological information at the puskesmas level, enabling more responsive early detection of case surges through the village level. Continued monitoring and evaluation are crucial to ensure system sustainability and to explore its potential for replication in other areas.

## Keywords

dengue, public health, surveillance system, data management

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# Evaluation of Leprosy Health Surveillance System in Polewali Mandar District in 2025

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Thursday, 24th July - 14:45: (Mataram Ballroom) - Oral

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*Mr. Muhammad Hamdan Sirih<sup>1</sup>, Prof. A. Arsunan Arsin<sup>1</sup>, Mr. Jamaluddin Jamaluddin<sup>2</sup>*

*1. Hasanuddin University, 2. Dinas Kesehatan Kabupaten Polman*

## **Background**

Leprosy is still a health problem in Polewali Mandar Regency, with a prevalence in 2024 (1.45 per 10,000 population) still above the national target of <1 per 10,000 population. To identify cases quickly, increase control efforts, and support leprosy control strategies, an accurate and effective surveillance system is needed. This study aimed to evaluate the implementation of the leprosy surveillance system at the Polewali Mandar Regency Health Office in 2025

## **Methods**

This research is descriptive and was conducted in April-May 2025. This research involved 20 leprosy program managers at health centers who conducted interviews and reviewed documents to obtain data. information on the implementation of the leprosy surveillance system from the aspect of structure, function, and surveillance attributes. Data were analyzed using a system presented in the form of tables and narratives

## **Results**

Based on the results of the study, it shows that the recording and reporting system is by existing standards in leprosy control management, but there are still delays in reporting and have not reached the target from year to year. The evaluation results show that the surveillance system has the attributes of simplicity (90%), sensitivity (25%), representativeness (100%), flexibility (75%), acceptability (57.5%), and timeliness (25%). The limitations of leprosy program managers and the dual tasks of the program are the main obstacles to the effectiveness of the surveillance system

## **Conclusions**

The implementation of the leprosy surveillance system based on the surveillance attribute aspects of simplicity, flexibility and representativeness is good, but sensitivity, acceptability and timeliness are still lacking, so that efforts are needed to improve the sensitivity attribute aspects of increasing capacity, the acceptability aspect of increasing cross-program and cross-sector cooperation, and the timeliness aspect to emphasize the time for collecting reports and recommend the use of the sitasia application

## **Keywords**

*Evaluation, Surveillance, Leprosy, Polewali Mandar*



# **MISCELLANEOUS DISEASES**

# Hypertension Surveillance Quality in Primary Health Centers Using SMARTHEALTH Innovation in Sleman District, 2024

Thursday, 24th July - 14:00: (West Wing Room) - Oral

*Ms. Andi Ratu Boelqiah Assaad*<sup>1</sup>, *Dr. Bayu Satria Wiratama*<sup>2</sup>, *Dr. Anggoro Budi Hartopo*<sup>3</sup>, *Mr. Isa Dharmawidjaja*<sup>4</sup>

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## Background

Hypertension is a leading non-communicable disease in Indonesia, with high prevalence and a significant risk of complications. A robust surveillance system is essential for monitoring patient conditions, evaluating service effectiveness, and guiding intervention strategies. In Sleman District, the surveillance system is supported by SMARTHEALTH, a digital innovation designed to facilitate data collection and reporting. This study aims to evaluate the quality of the hypertension surveillance system based on key attributes.

## Methods

A descriptive quantitative study was conducted in February-March 2025 involving hypertension program managers from all 25 primary health centers (PHC). Data were obtained through interviews using a structured questionnaire and a review of 2024 SMARTHEALTH records. Six surveillance attributes: completeness, timeliness, usefulness, simplicity, acceptability, and flexibility were evaluated using standardized indicators. Each attribute was assessed based on the quality of data entry and reporting in SMARTHEALTH, aligned with surveillance standards set by the district and national health authorities.

## Results

The evaluation revealed variability in the performance of the six surveillance attributes. Usefulness was the strongest, with 100% of PHCs meeting good criteria by reporting that SMARTHEALTH effectively supports hypertension management. Completeness followed, with 85% meeting good standards. However, simplicity and timeliness required improvement. Only 50% of PHCs rated the system as simple (insufficient), citing a complex interface and excessive data entry steps. Similarly, 46% reported insufficient timeliness due to delays in both data entry and reporting, primarily caused by system instability and frequent loading issues. Flexibility and acceptability were rated sufficient, with 62% and 68% of PHCs meeting the criteria, respectively. Respondents noted that the system lacked adaptability to reporting needs and was constrained by limited technical support and training, affecting acceptability.

## Conclusions

The SMARTHEALTH surveillance system is valuable for hypertension management, especially in completeness and usefulness. However, improvements are needed in simplicity, timeliness, flexibility, and acceptability. Addressing interface issues, reducing data entry steps, and improving reporting speed will enhance performance. Additionally, increasing flexibility and providing better training and support will boost acceptability. Ongoing development and engagement are key to optimizing the system's role in hypertension surveillance. Hypertension, Surveillance, Quality, SMARTHEALTH, Primary Health Centers

## Keywords

Hypertension, Surveillance, SMARTHEALTH, Primary Health Centers

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# Epidemiology of Attempted Suicide in Kulon Progo District, Indonesia: A Case Study from 2022 to 2024

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Thursday, 24th July - 14:15: (West Wing Room) - Oral

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*Ms. Ezmeyralda Putri*<sup>1</sup>, *Mrs. Th Baning Rahayujati*<sup>2</sup>, *Mrs. Citra Indriani*<sup>3</sup>

1. Field Epidemiology Training Program, Universitas Gadjah Mada, 2. The Kulon Progo District Health Office, Yogyakarta, 3. FETP Universitas Gajah Mada

## Background

Suicide are a health problem that became the third leading cause of death among people aged 15–29 globally in 2021. In Indonesia, the number of suicides in 2023 increased by 49% compared to 2021. Attempted suicide surveillance was started on 2018 in Kulon Progo District in Yogyakarta, and experienced a twofold increase in 2024 compared to 2023. This study aims to understand the situation of suicide attempts in Kulon Progo District.

## Methods

Descriptive analysis of surveillance data from 21 public health centers in Kulon Progo District from 2022 to 2024. This study involves a descriptive analysis based on epidemiological variables and spatial analysis using QGIS, focusing on geographical areas, poverty areas, and population density.

## Results

Over a three years period, a total of 33 attempted suicides cases were reported in Kulon Progo District, showing an upward trend: 5 cases in 2022, 9 cases in 2023, and 19 cases in 2024. Among these, 13 cases (39%) resulted in death. No re-attempted suicides were documented in this period. The proportion of fatal cases were 20% in 2022, 67% in 2023 and 32% in 2024. The majority of cases were found in individuals aged 20-29 years (30%) and were predominantly males (68%). The most commonly reported triggers were depression (10 cases; 30%) and domestic issues (8 cases ;24%). Methods of attempted suicide included hanging (42%), drowning (15%), sharp objects injuries (12%), poisoning with hazardous substances (12%), use of firearm (3%) and unknown methods (15%). Hanging has the highest fatality rate, with 71% of self-hanging resulted in death. Among these 21% were linked to depression. Attempted suicides were initially concentrated in areas with high-density urban area, in 2024, they began to spread across different geographic regions including areas with higher poverty levels.

## Conclusions

An increasing trend in attempted suicides has been observed, although the prevalence remains lower than the national average. The number of cases among males is twice that of females, and incidents are more frequently reported in densely populated areas. This finding highlights the need for targeted area-based mental health intervention to address local risk pattern effectively.

## Keywords

classification, education, history, statistics and numerical data

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# Epidemiological Analysis and Gaps Identification in Food Poisoning Outbreaks Investigations in Special Region of Yogyakarta 2024

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Thursday, 24th July - 14:30: (West Wing Room) - Oral

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***Ms. Hendrika Yuniartin Ganis*<sup>1</sup>, *Mrs. Nining Puji Lestari*<sup>2</sup>, *Mr. Andri Setyo Dwi Nugroho*<sup>2</sup>, *Mr. Ahmad Watsiq Maula*<sup>3</sup>**

*1. FETP Universitas Gajah Mada, 2. Special Region of Yogyakarta Health Office, 3. Field Epidemiology Training Program, Universitas Gadjah Mada*

## **Background**

According to the 2024 public health surveillance report of the Special Region of Yogyakarta, food poisoning was the most frequently reported outbreak, accounting for 66 of 155 total events. Understanding the epidemiological profile of food poisoning outbreaks is crucial for developing effective prevention strategies. This study aims to describe foodborne poisoning outbreaks in the Special Region of Yogyakarta in 2024, focusing on vulnerable groups, geographical distribution, food processing sites, microbiological findings, and investigation challenges.

## **Methods**

A descriptive analysis was conducted using secondary data of outbreak validation forms collected from all districts in the Special Region of Yogyakarta in 2024. Variables analyzed included characteristics of the affected population, temporal and geographical distribution of outbreaks, and laboratory performance (including specimen collection and agent identification). Data were summarized using descriptive statistics and visualized using Microsoft Excel.

## **Results**

In 2024, a total of 3,491 cases were reported, with the majority being female (51%) and young adults aged 20–44 (36.6%). Sleman District contributed the highest number of outbreaks, accounting for 21 events and 29.5% of total cases. Outbreaks mainly occurred in households and schools, with 409 and 602 cases, respectively. Food sources were predominantly linked to home-cooked meals (55.9%) and catering services (27.1%). The highest number of outbreak events occurred in September, with 12 outbreaks, and the highest number of cases was recorded in October, 901 cases. Only 66.7% of outbreaks reported specimen collection with bacterial agents as the leading cause of food poisoning (52%), highlighting challenges in timely specimen collection and laboratory confirmation during investigations.

## **Conclusions**

Prevention efforts should prioritize enhanced food safety monitoring in households and catering services. Strengthening outbreak preparedness through clear guidelines on leftover food storage can improve specimen collection and pathogen identification.

## **Keywords**

Foodborne Diseases; Disease Outbreaks; Epidemiologic Methods; Public Health Surveillance; Microbiological Techniques; Yogyakarta

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# Outbreak of Food Poisoning in Ungasan Village, Badung Regency, Bali Province

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Thursday, 24th July - 14:45: (West Wing Room) - Oral

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**Mr. I Gusti Ngurah Bagus Sindunatha<sup>1</sup>, Mr. Happy Kusuma Mulya<sup>1</sup>, Mr. I Wayan Darsana<sup>1</sup>, Ms. Ari Suantari<sup>1</sup>, Ms. Ni Gusti Ayu Mitha Yuliani<sup>1</sup>, Ms. Ni Luh Putu Pradnya Paramitha Erlangga<sup>1</sup>**

*1. Field Epidemiology Training Program, Udayana University*

## Background

A suspected food poisoning reported in Ungasan Village, Badung Regency, Bali Province on the 1st of March 2024. The main symptoms were nausea, vomiting, dizziness and diarrhea within few hours after consuming food that was served in a piodalan ceremony at Puseh Temple in Ungasan Village. The investigation of this outbreak aimed to confirm, find new cases, and determine the food suspected as the cause of the outbreak.

## Methods

The outbreak investigation was conducted with descriptive epidemiology and 1:1 case-control design with 27 cases and 27 controls. Cases were individuals experiencing symptoms after eating in Piodalan, while the controls were individuals who were not experiencing the symptoms. The investigation was conducted through interview and laboratory examination of food samples that had been secured by the Ungasan Sub-Health Center on the 1st of March 2024. Chi-square bivariate analysis was applied.

## Results

A total of 27 cases were identified (attack rate: 27/54; 50.0%), with no reported fatalities. The most common symptoms were nausea (88.9%), vomiting (85.2%), dizziness (70.4%), and diarrhea (66.7%). Male individuals constituted 62.9% of cases. The highest attack rate occurred in the 50–59 years age group (33.3%). The foods associated with this outbreak were sambal (OR 2,80 CI 1,86-4,20), noodles (OR 2,35 CI 1,68-3,27), eggs (OR 2,80 CI 1,86-4,20), and nuts (OR 2,42 CI 1,71-3,41). The laboratory examination of food samples, tap water, and frying equipments were tested positive for *Escherichia Coli*.

## Conclusions

A food poisoning outbreak was occurred in Ungasan Village, Badung Regency, Bali Province caused by food served in Piodalan which were contaminated with *Escherichia Coli*.

## Keywords

Outbreak, Food poisoning, *Escherichia Coli*, Bali, foodborne outbreak



# POSTER PRESENTATION



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# Investigation of Food Poisoning Outbreak at X High School, Cipayung, East Jakarta, 2024

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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***Mrs. Suci Fatimah Kendarti*<sup>1</sup>, *Prof. Nurhayati Adnan*<sup>2</sup>, *Ms. Retno Henderiawati*<sup>3</sup>, *Mrs. Inggariwati Inggariwati*<sup>3</sup>**

*1. FETP Universitas Indonesia, 2. University of Indonesia, 3. DKI Jakarta Province Health Office*

## **Background**

Foodborne diseases remain a major public health concern. On November 8, 2024, multiple students and staff at X High School in Cipayung, East Jakarta. This investigation aimed to confirm the food poisoning outbreak, identifying the causative agent of the food poisoning and contribution factors.

## **Methods**

A retrospective cohort study was conducted involving 159 respondents who had consumed breakfast that morning. Cases were defined as a person who presented symptoms such as nausea, vomiting, and diarrhea after consuming breakfast provided by a catering service. Epidemiological data were collected through interviews, a structured e-questionnaire via Google form, environmental observations and food sampling for laboratory testing.

## **Results**

Of the 159 respondents, 66 (41.5%) experienced symptoms consistent with foodborne illness. The most common symptoms were nausea (61.9%), abdominal pain (52.5%), and dizziness (45.9%). The incubation period (average 3.5 hours). Risk ratio analysis showed that respondents who ate shredded chicken and yellow broth were more likely to develop symptoms, with RR values of 7.02 (95% CI 1,81-27,14) and 2.98 (95% CI 1,18-7,52), respectively. Laboratory results revealed high levels of *Bacillus cereus* and *Staphylococcus aureus* in samples of porridge, and *Bacillus cereus* in chicken broth. Observations of the catering facility found poor hygiene, untrained food handlers, and evidence of pest infestation.

## **Conclusions**

The investigation identified shredded chicken and yellow broth as likely sources of contamination. The incubation period (average 3.5 hours) and symptoms were consistent with toxin-producing bacteria such as *B. cereus* and *S. aureus*. Environmental factors, including poor sanitation and lack of food safety practices, likely contributed to the outbreak. This case underscores the importance of training food handlers and enforcing food hygiene regulations to prevent future outbreaks.

## **Keywords**

*Bacillus cereus*, Foodborne diseases, Investigation, Outbreaks, *Staphylococcus aureus*

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# Strengthening Integrated One Health Surveillance for Rabies Control in Bali Province: A Pilot Initiative for Enhanced Bite Management

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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***Mr. I Wayan Darsana***<sup>1</sup>

*1. Field Epidemiology Training Program, Udayana University*

## **Background**

Rabies remains a significant public health concern in Bali Province, Indonesia. Community Health Centres (Puskesmas) and Animal Health Centres (Puskesmaswan), as frontline health facilities, are critical for effective prevention, preparedness, and response. However, suboptimal bite management across these sectors presents a key challenge. To address this, the Australia Indonesia Health Security Partnership (AIHSP) and Bali Province Government created a pilot initiative to strengthen One Health-based bite management in Bali.

## **Methods**

This action-oriented project was conducted between April and July 2024 in two trial sub-districts: Abang and Sawan. The methodology comprised four iterative meeting sessions in each location: (1) a joint group discussion involving Puskesmas and Puskesmaswan personnel, (2 & 3) two field trial sessions focused on collaborative surveillance and response activities, and (4) a dissemination session to share findings and lessons learned.

## **Results**

During this initiative, the following outcomes were achieved: the development of a One Health-based case data collection form with potential for broader regional application, and the active participation of 4 primary healthcare surveillance officers and 4 veterinary practitioners in the pilot implementation. Another outcome demonstrated that during the presentation sessions, with the implementation of joint surveillance, information received was processed collaboratively, and mitigation actions were taken through joint coordination and deliberation.

## **Conclusions**

This pilot initiative underscores the crucial role of integrated collaboration between Community Health Centers (Puskesmas) and Animal Health Centers (Puskesmaswan) in Bali for strengthening the prevention and response to zoonotic diseases like rabies. The development of a One Health-based data collection form and the demonstrated improvements in intersectoral coordination in surveillance and response highlight the potential of this approach for enhancing bite management and ultimately contributing to rabies control efforts in Bali and potentially other regions.

## **Keywords**

Integrated Surveillance, One Health, Rabies, Community Health Centres (Puskesmas), Animal Health Centers (Puskesmaswan)

# Trend and Spatial Analysis of Mumps Cases in Kulon Progo Regency During 2023-2025

Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

*Ms. Ainun Sunaini*<sup>1</sup>, *Mr. Samsul Askhori*<sup>2</sup>, *Mr. Arif Budiman*<sup>3</sup>, *Mr. Sugiarto Sugiarto*<sup>4</sup>, *Mrs. Citra Indriani*<sup>5</sup>

1. Ainun Sunaini, 2. Field Epidemiology Training Program, Universitas Gadjah Mada, 3. Public Health Center Temon II, 4. Dinas Kesehatan Kabupaten Kulon Progo, 5. FETP Universitas Gajah Mada

## Background

Centers for Disease Control and Prevention (CDC) reported 375 cases in 2024 and 106 cases in 2025 of mumps across the U.S. Indonesia has a significant increase, 6,593 cases in 2024. Mumps is a viral infection that is highly contagious, which can cause serious complications, particularly in children. This study aims to analyze the epidemiological characteristics and spatiotemporal distribution of mumps in Kulon Progo Regency in 2023 to April 2025.

## Methods

We conducted a descriptive study design, utilizing surveillance data from the Early Alert and Response System (SKDR) at district level from 2023 to April 2025 and reviewing outbreak investigation reports. A case defined as individual with swollen parotid glands. Data were analyzed based on characteristics of person, time and places, presented in the form of tables, graphs, and spatial maps the distribution of cases.

## Results

In total there are 2,451 cases, with an increasing number of cases in each year, 138 cases in 2023, 1,303 cases in 2024 and 1,010 cases per January to April 2025. The increased cases began to be detected in August 2024 with a peak in November 2024. Temon sub-district had highest incidence rate, with 10 cases per 10,000 population, followed by Wates (7 cases), and Nanggulan (5 cases). The majority of cases occurred among school-aged children 6-10 years (40%). Cases were distributed equally between females (50.9%). Spatial analysis showed a cluster of cases in Temon sub-district, particularly in 16 schools in the area. Jangkaran Elementary School was the highest number of cases (60 cases), MIN 1 Kulon Progo (37 cases) and Ma'Arif Nurul Jannah (31 cases). Transmission in schools driven by close contact without using mask and poor hygiene practice. The absence of quarantine regulations for infected children, facilitating the spread of mumps within in school.

## Conclusions

This study highlights a significant rise in mumps cases in Kulon Progo Regency during 2023–2025, with elementary school children aged 6–10 years being the most affected group. Strengthening early detection, enhancing surveillance systems, and implementing preventive measures such as health education and isolation protocols at schools are critical to control the transmission.

## Keywords

Mumps, Epidemiology, Spatial.

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# Evaluation of The Surveillance System for International Travelers (PPLN) at Sultan Hasanuddin International Airport, BBKK Makassar, 2025

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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*Mrs. Asniya Asniya<sup>1</sup>, Prof. Ridwan Amiruddin<sup>1</sup>, Mr. Tubianto Anang Zulfikar<sup>2</sup>*

*1. Hasanuddin University, 2. Balai Besar Kekejarantinaan Kesehatan Makassar*

## **Background**

In response to the WHO's mpox global health emergency in august 2024, Indonesia implemented the Satu Sehat Health Pass (SSHP) for international travelers. Reinforced by the Ministry of Transportation, this protocol aimed for early detection at entry points like Sultan Hasanuddin International Airport in Makassar. This study intends to describe SSHP usage, analyze its effectiveness and attributes, and recommend improvements for the Makassar Health Quarantine Center's surveillance system

## **Methods**

This mixed methods study evaluates surveillance attributes at Sultan Hasanuddin International Airport, Makassar Health Quarantine Center, from February to April 2025. Secondary data from the SSHP application was analyzed descriptively while primary data was collected through indepth interviews (5 participant), and Focus Discussion Group (17 participants). Qualitative data was analyzed using content analysis and triangulation.

## **Results**

The study found that the total number of international travelers from September 2024 to April 2025 was 114.309 (15%). A total of 88 notifications were received by the Maros District Health Officer and Makassar City Health Office. Follow-up actions were conducted for most cases, with only verified suspect case, which tested negative. The system were satisfactory, but data accuracy, system stability, and limited access to the application at the regional level were major challenges

## **Conclusions**

the Satu Sehat Health Pass (SSHP) surveillance system supports early detection of infectious diseases among international travelers, but its effectiveness is limited by low data accuracy and a low Predictive Positive Value (PPV). Strengthening data validation processes is needed to improve the system's reliability

## **Keywords**

*SSHP, Surveillance, international traveler's, Points of entry*

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# Investigation of Chikungunya Outbreak in Kemiri Village, 2024

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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*Ms. Dian Mutia Zahiyati*<sup>1</sup>, *Mrs. Misti Rahayu*<sup>1</sup>

*1. Banyumas District Health Office*

## Background

The Banyumas District Health Office received a report regarding 16 suspected Chikungunya cases in Kemiri Village on June 12, 2024. Previously, there had never been a report of Chikungunya cases in Kemiri Village. An investigation was conducted to confirm the outbreak and to identify the risk factors.

## Methods

This study was conducted in June 2024 and used a case-control study (1:1) with a total of 46 cases and 46 controls. Cases were people with fever accompanied by myalgia or arthralgia. Controls were neighbors of families who lived in the same house with cases and did not show symptoms of fever or myalgia or arthralgia. Data were collected by interviews using an epidemiological investigation form. Risk factors observed were presence of mosquito larvae, the mosquito repellent and living in the same house as the case.

## Results

Most symptoms of Chikungunya in Kemiri Village are fever 100%, myalgia 97,28%, headache 32,61%, rash 17,39%, and nausea 6,52%. Most Chikungunya cases occurred in females 56,52% and those aged 48 to 63 30,95%. The distribution of Chikungunya transmission was still within a radius of 200 meters from the index case. The variables that are risk factors for Chikungunya transmission in Kemiri Village are the presence of mosquito larvae with OR 4,14 and the mosquito repellent with OR 1,40. In contrast, the variable of living in the same house as the case is not a risk factor with OR 0,38.

## Conclusions

There was a Chikungunya outbreak in Kemiri Village on May 29 - June 23, 2024. Based on observation of risk factors in the field, the breeding sites of *Aedes sp.* were found. It was also known that the Mosquito Larvae-Free Number (ABJ) was still below the indicator target. The local government needs to increase the capacity of cadre larvae monitoring to be more optimal in the elimination of mosquito nests.

## Keywords

Outbreak, Chikungunya, Vector-borne, Mosquito, *Aedes sp*

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# Epidemiological Profile and Treatment Outcomes of Tuberculosis in Children (0–14 Years) in Salatiga City, Central Java, 2020–2024

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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*Ms. Arumsari Wulandari*<sup>1</sup>, *Mr. Wahyu Hudoyoko*<sup>2</sup>, *Dr. Bayu Satria Wiratama*<sup>3</sup>

1. Field Epidemiology Training Program, Gadjah Mada University, 2. Salatiga District Health Office, 3. FETP Universitas Gajah Mada

## Background

Indonesia has the second-highest number of tuberculosis (TB) cases in the world. In 2022, the notification rate of childhood TB cases reached 158.5% (exceeding the target of  $\geq 90\%$ ). However, in 2023, the notification rate dropped to 67% of the target. This study aims to determine the proportion of successful treatment outcomes and identify childhood TB's epidemiological characteristics in Salatiga City.

## Methods

This descriptive study used secondary data from the Tuberculosis Information System (SITB) in Salatiga from 2020 to 2024. Data were analyzed descriptively to examine trends in case numbers by region, sex, year, and treatment success rate.

## Results

The number of childhood TB cases increased by 9.3% (40 cases) in 2020, 23.3% (279 cases) in 2022, and 25.5% (281 cases) in 2024. The treatment success rate declined from 97.5% in 2020 to 93.15% in 2024 but remained above the national target of 90%. TB cases were more common among children aged <5 years (64.3%, 598 cases) and in males (51.55%, 481 cases). Regionally, most TB cases occurred in the Argomulyo sub-district (13.04%), followed by Tingkir (10.69%), Sidorejo (9.99%), and Sidomukti (8.34%), with the remainder spread across areas outside Salatiga City. Of the 934 patients, 96.47% had pulmonary TB. The proportion of treatment failure was higher among children with extrapulmonary TB (12.1%) than among those with pulmonary TB (4.4%).

## Conclusions

From 2020 to 2024, there was an increasing trend in childhood TB cases. Most cases occurred in children under five years old and in males. Treatment failure was higher among children with extrapulmonary TB. Strengthening early detection through contact tracing, raising public awareness, improving case management for extrapulmonary TB, and integrating TB control with maternal and child health programs are recommended to improve childhood TB outcomes in Salatiga.

## Keywords

tuberculosis, childhood, epidemiology, treatment

# Analysis of the Implementation of the Integrated Disease Prevention and Control Analysis Information System (SAILENDRA) Website in Improving the Quality of Early Warning and Response System Data in Blitar City in 2024

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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***Mr. Hanien Firmansyah***<sup>1</sup>

*1. Dinas Kesehatan Kota Blitar*

## **Background**

Blitar City has a website-based city-level SKDR reporting system through the Integrated Disease Prevention and Control Information Analysis System (SAILENDRA). This study aimed to analyze the implementation of SAILENDRA in improving the quality of SKDR data in Blitar City.

## **Methods**

This study uses a qualitative approach. The study was conducted in Blitar City in April 2025. The informants in this study consisted of 12 people, namely the Head of the Disease Prevention and Control Division of the Blitar City Health Office, 1 Health Office Surveillance Officer, 3 surveillance officers from 3 health centers, 1 clinical surveillance officer, and 6 surveillance officers from 6 hospitals in Blitar City. The data used are primary and secondary. Primary data was obtained from interviews, while secondary data was obtained from data input results in SAILENDRA. The instrument used was a structured questionnaire. The indicators used in this study were convenience, usefulness, and limitations.

## **Results**

The study's results based on the convenience indicator showed that officers found it easy to input data through SAILENDRA, even though they experienced several obstacles initially, because they were still adjusting to the latest reporting format that displays data from each patient. Based on the usefulness indicator, it shows that SAILENDRA makes it easier for heads of departments, heads of divisions, heads of health centers, and officers to monitor disease trends every week, disease alerts, and disease mapping to the sub-district level in Blitar City. Based on the limitations indicator, it shows that there are several limitations, such as patient data can be input twice, data input is done twice, namely the national SKDR and SAILENDRA, and the need to adjust the information system in each health facility to the reporting format from SAILENDRA. Even so, based on the results of each indicator, it shows that SAILENDRA has improved the quality of SDKR data in Blitar City.

## **Conclusions**

SAILENDRA, based on the indicators of convenience, usefulness, and limitations, shows that it can improve the quality of SKDR data in Blitar City. It can also provide information on disease trends and disease distribution to the sub-district level in Blitar City.

## **Keywords**

*Surveillance, SAILENDRA, SKDR, Reporting*

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# Risk Factors Behind the Increase in Mumps Cases Attacking Students at Elementary School 4 Magelang – Magelang City, 2024

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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*Ms. Arlyn Manggar*<sup>1</sup>, *Mrs. Dwi Susanti*<sup>1</sup>, *Mr. Fauzi Muh*<sup>2</sup>, *Mr. Yudhy Dharmawan*<sup>3</sup>, *Mrs. Bhekti Noor F*<sup>4</sup>

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## Background

Mumps is a contagious disease that causes pain and discomfort due to swelling of the parotid glands. The Magelang City Health Office received reports of an increase in mumps cases on November 4, 2024, through the Early Warning and Response System (SKDR). Transmission occurred in students in the Elementary School 4 Magelang cluster, so an epidemiological investigation was immediately carried out to determine the extent of the problem and its risk factors.

## Methods

This 1:4 case-control study involved 60 students, selected from the total population of 114 students of Elementary School 4 Magelang. The case definition was students who experienced clinical symptoms of mumps, such as back jaw pain and/or parotid gland swelling or who were diagnosed with mumps by medical doctor. Data collection was conducted on November 11-12, 2024 through interviews, observations, and secondary data from case reports. Data were analyzed univariately and bivariately.

## Results

The first case appeared in Elementary School 4 Magelang on August 25, 2024, then increased to a total of 12 cases, with the peak cases occurred on November 5–11, 2024. The highest Attack Rate was found in male students (14.06%), aged 6-7 years (19.23%), and first grade (20%). The most common symptom was back jaw pain (100%) with the most common risk factors were history of contact with sufferers (66.7%) and travel history (33.3%). The results of statistical tests showed that sharing cutlery and travel history were associated with the incidence of mumps ( $p < 0,005$ ). However, travel history significantly increased the risk of mumps 11.5 times (95% CI: 1.79-73.58) compared to students without travel history. The factors of MMR vaccination status, history of contact with sufferers, and immunodeficiency status were not significantly associated.

## Conclusions

There was an increase in mumps cases at Elementary School 4 Magelang in the period from August to November, 2024. Data analysis identified travel history as a significant risk factor that increased occurrence of mumps in students by 11.5 times. Other factors still need to be monitored as an effort to control infectious diseases in the school environment of Magelang City.

## Keywords

Mumps, Epidemiological Investigation, Elementary School, Travel History

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# Epidemiological Response to a Suspected Diphtheria Outbreak in Yogyakarta City, 2025: A Descriptive Analysis

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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**Mrs. Ignasia Raisha Rizky Oktaviomelinda<sup>1</sup>, Ms. Hendrika Yuniartin Ganis<sup>2</sup>, Mr. Solikhin Dwi Ramtana<sup>3</sup>, Mrs. Risalia Reni Arisanti<sup>4</sup>**

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## Background

Diphtheria is a contagious infectious disease that has the potential to cause an outbreak. On January 14, 2025, the district health office of Yogyakarta received notification from Kotagede I Health Center a six-year-old child with suspected diphtheria. An investigation was conducted to confirm the potential outbreak, identify the transmission source and prevent further spread.

## Methods

The descriptive observational study examined the distribution of clinical symptoms, age, laboratory results, and prevention measures. The index case involved a P Kindergarten student residing in Kotagede Subdistrict. Close contacts included household members and schoolmates interviewed. Oropharyngeal specimens were collected from the index case and symptomatic close contacts for laboratory testing. Control measures included early case notification, specimen collection, contact tracing, immunization coverage assessment through Rapid Convenience Assessment (RCA) and Outbreak Response Immunization (ORI) at the school.

## Results

A total of 101 individuals were identified as at-risk, including four household members, 77 school students, and 20 children assessed through a rapid convenience assessment around the index case's house. The most commonly reported symptoms were sore throat (8.9%) and swollen neck (4.9%). The majority of close contacts were aged over 5 years (53.5%). Laboratory testing for the index case and four symptomatic contacts was negative for *Corynebacterium diphtheriae*. High parental mobility, overcrowded living environments with poor ventilation, and close physical interactions among students were identified as risk factors for transmission. The outbreak response immunization revealed that most (57.1%) of the students had completed DPT immunization, and from the rapid convenience immunization (100%) children who have complete basic immunization. Although there is no outbreak was confirmed, the timely and coordinated cross-sectoral response reflected strong surveillance system preparedness and capacity for early containment.

## Conclusions

This investigation highlights the importance of rapid response, cross-sectoral coordination and implementation of outbreak response immunization in preventing the diphtheria transmission. Strengthening complete immunization coverage, active surveillance, improved sanitation and ventilation, and providing community education, particularly for highly mobile populations, is essential for effective disease control.

## Keywords

Diphtheria, Outbreak Investigation, Disease outbreak, Immunization

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# Investigation of Food Poisoning Outbreak at Oil Palm Company - East Kutai, 2025

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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***Mr. Fatur Rahman*<sup>1</sup>, *Mr. Ahmad Musyafa*<sup>2</sup>**

*1. FETP Intermediate BBPK Ciloto, 2. Balai Kekarantinaan Kesehatan Kelas I Samarinda*

## **Background**

On January 30th 2025, a surveillance officer at Kaubun Health Center, East Kutai, reported 8 workers presenting with nausea, vomiting, diarrhea, dizziness, abdominal pain, headache after breakfast at Palm Oil Company X. An investigation aimed to identify the source, transmission mode of the outbreak, additional cases and conduct control measures.

## **Methods**

A retrospective cohort study was conducted from January 31st to February 5th 2025. Cases were defined as workers who ate breakfast and experienced at least one symptom, such as nausea, vomiting, diarrhea, dizziness, abdominal pain, headache on January 30th, 2025. Exposures included fried rice, omelette, shredded chicken, crackers, and drinking water with illness as the outcome. Data were collected through interviews and analyzed using Relative Risk (RR) value. An environmental investigation was also conducted to identify potential risk factors associated with the outbreak however laboratory analysis could not be performed due to the unavailability of food and biological samples.

## **Results**

A total of 32 workers met the case definition (AR = 8.82%). The most frequently reported symptoms were abdominal pain (N=28; 87.5%) and nausea (N=27; 84.4%). No deaths or hospitalizations occurred. The highest attack rate was observed in the 53–57 age group (AR = 12.5%) and among females (AR = 25.81%). Fried rice and shredded chicken were the most strongly associated with illness (RR = 3.53). The clinical and epidemiological analysis suggested contamination with *Bacillus cereus* and *Staphylococcus aureus*. Environmental investigation revealed poor food handling and an extended duration between cooking and consumption, which may have contributed to bacterial growth and toxin production.

## **Conclusions**

The outbreak at Palm Oil Company X was likely caused by *Bacillus cereus* and *Staphylococcus aureus* contamination in fried rice and shredded chicken. The most affected were women aged 53–57 years, exhibiting abdominal pain and nausea. To prevent future outbreaks, food should be consumed immediately after cooking or stored below 5°C and consumed within two hours. Avoid storing food at room temperature for more than two hours to inhibit bacterial growth and toxin production.

## **Keywords**

Outbreak, *Bacillus cereus*, *Staphylococcus aureus*

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# Determinants of Tuberculosis Success Treatment: A Retrospective Cohort Study at Bangko Kanan Health Center, Rokan Hilir District-Riau Province, 2022-2024

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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*1. FETP Frontline Alumni, BBPK Ciloto, Ministry of Health, 2. Riau Provincial Health Service*

## Background

Tuberculosis is one of the infectious diseases that remains a global and national health issue with high morbidity and mortality rates. *Rokan Hilir* District is one of the areas with a relatively high burden of tuberculosis, but data related to the factors influencing the success of treatment in primary care facilities such as public health centers are still limited. This study aims to analyze the risk factors associated with tuberculosis treatment success at the *Bangko Kanan* Public Health Center, *Rokan Hilir* District.

## Methods

This study used a retrospective cohort design by analyzing all positive tuberculosis cases recorded in the Tuberculosis Information System (SITB) of *Bangko Kanan* Public Health Center that completed treatment during 2022–2024. Treatment success was defined as patients who were cured or completed treatment, with or without final laboratory confirmation. The variables analyzed include age group, sex, smoking status, employment status, comorbidities and distance to health facilities. The relationships between the variables were analyzed using chi-square tests and logistic regression for bivariate and multivariate analysis.

## Results

A total of 84 tuberculosis cases, 65 (77.4%) were successfully treated. The majority of patients were male (N:59, 70.2%), productive age (N:66, 78.6%), active smokers (N:46, 54.8%), employed (N:64, 76.2%), without comorbidities (N:71, 84.5%), and living more than 5 km from health facilities (N:48, 57.1%). Bivariate analysis results showed that only age group and comorbidities had a significant relationship with treatment success ( $p < 0.05$ ). Multivariate analysis results indicated that patients of productive age had 5.6 times higher risk of treatment success compared to the elderly (RR=5.62; 95% CI: 1.24-25.65;  $p: 0.025$ ), and patients without comorbidities had 5.5 times higher risk of treatment success compared to those with comorbidities (RR=5.46; 95% CI: 1.27-23.20;  $p: 0.022$ ).

## Conclusions

Productive age and the absence of comorbidities were identified as protective factors. Interventions should be focused on the elderly and/or patients with comorbidities through strengthening the role of volunteers and the support of medication adherence (PMO). Aiming for a minimum treatment success increase of 10% within 12 months, with periodic evaluations every quarter.

## Keywords

Tuberculosis, Treatment Success, Productive Age, Comorbidities, Retrospective Cohort Study

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# Spatial Analysis of Pneumococcal Vaccination Coverage and Pediatric Pneumonia Incidence – Banyumas District, 2024

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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*Mrs. Palupi Ayuni*<sup>1</sup>, *Mrs. Misti Rahayu*<sup>2</sup>, *Mrs. Citra Indriani*<sup>1</sup>, *Mr. Moch Thoriq Assegaf Al-Ayubi*<sup>1</sup>,  
*Ms. Riana Fatmawati*<sup>2</sup>, *Mrs. Laily Arimbawati*<sup>2</sup>

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## Background

Pneumonia remains a leading cause of morbidity and mortality among children under five in Indonesia, including Banyumas District. The pneumococcal conjugate vaccine (PCV) has been shown to effectively reduce the incidence of community-acquired pneumonia; however, vaccination coverage and disease burden may vary across health centers. This study aimed to assess the spatial relationship between PCV coverage and under-five pneumonia incidence in Banyumas District in 2024

## Methods

We conducted an ecological spatial analysis using aggregated data on under-five population and clinically defined pneumonia cases—per Ministry of Health guidelines—reported in 2024 from 40 public health centers (PHC) that cover village. PCV1–3 coverage data were obtained from routine immunization records. Incidence rates were calculated per 1,000 children. The unit analysis for spatial analysis is village. Nearest neighbour index (NNI) were used to evaluate spatial distribution

## Results

Average PCV3 coverage ranged 44 %–100 % across puskesmas, with IR varying from 0.3 to 35.6 per 1,000 for each puskesmas. GIS maps revealed that areas with high coverage ( $\geq 90\%$ ) generally exhibited low IR ( $< 5/1,000$ ), whereas low coverage ( $< 70\%$ ) overlapped with puskesmas showing high IR ( $> 20/1,000$ ). This finding indicates that, besides vaccination coverage, other factors may also influence the incidence rate. A nearest neighbour index (0.625) indicated a clustered pattern of individual cases with average distance between cases 334 meters

## Conclusions

High PCV coverage is associated with a reduction of childhood pneumonia incidence, emphasizing the importance of targeted, area-specific microplanning. While individual cases are geographically dispersed, substantial variation in incidence rate across PHC indicates priority areas for intensified immunization strategies and control efforts in Banyumas District

## Keywords

vaccines, PCV, Pneumococcal Conjugate Vaccine, pneumonia, immunization programs, GIS, Geographic Information Systems

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# Evaluation of Medical Waste Management in Healthcare Facilities in West Sumatra, 2024

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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*Ms. Salsabila Syafni Aulia*<sup>1</sup>, *Mr. Ratno Widoyo*<sup>2</sup>, *Ms. Meilisa Meilisa*<sup>3</sup>

*1. Field Epidemiology Training Program, Andalas University, 2. Department of Public Health, Andalas University, 3. West Sumatra Provincial Health Office*

## Background

Medical waste is one of the environmental pollutants that can contribute to the spread of environmentally transmitted diseases. In 2024, only 63% of healthcare facilities in West Sumatra reported their medical waste management activities. This study aims to evaluate the implementation of medical waste management in healthcare facilities across West Sumatra in 2024.

## Methods

This study employed a qualitative approach using triangulation. Primary data were collected through in-depth interviews with nine informants selected via purposive sampling. The informants included program managers and responsible employees for medical waste at the provincial and district/city health offices in West Sumatra. Secondary data were obtained from the Medical Waste Management Information System known as SIKELIM and the provincial health office's profile data.

## Results

The study found that 226 healthcare facilities met the standard requirements for medical waste management, comprising 162 out of 280 community health centers (Puskesmas) and 62 out of 72 hospitals. Compliance rates for each stage of waste management were as follows: segregation (85.71%), containment (64.57%), transportation (40.29%), storage (66.86%), processing (45.71%), and overall management (22%). A major barrier to SIKELIM reporting was the lack of policy output adjustments in terms of technical, operational, and budgetary support, as well as the absence of sanctions or incentives for reporting. Facilities that did not report medical waste management often did not prioritize the issue, a situation exacerbated by the absence of dedicated personnel for medical waste management and reporting. Additionally, the existing staff lacked a uniform understanding of the SIKELIM application, particularly regarding the operational definitions, which are not clearly outlined in the system.

## Conclusions

The low percentage of healthcare facilities that meet medical waste management standards is primarily due to insufficient commitment and human resources. The government needs to provide adequate training and enforce regulations related to the use of the SIKELIM system to improve the compliance rate and the quality of medical waste management reporting.

## Keywords

Medical Waste, SIKELIM, Compliance, Evaluation

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# Investigation of Food Poisoning Outbreak in Labuadago Village, Lage District, Poso Regency, Indonesia, 2025

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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***Mr. Rudi Gunawan***<sup>1</sup>

*1. FETP Intermediate BBPK Ciloto cohort 2*

## **Background**

On February 7, 2025, the Tagolu Health Center reported that 78 out of 125 residents of Labuadago Village, Lage District, experienced symptoms of nausea, vomiting, headache, dizziness, diarrhea, and fever after consuming food served by a family during a condolence ceremony. The event occurred at 5:30 PM. This investigation aimed to identify risk factors, determine the cause of the outbreak, and provide prevention recommendations.

## **Methods**

All individuals who attended the event were interviewed, and food providers were observed. An analytical study with a retrospective cohort design compared disease occurrence between the exposed and unexposed groups. The relative risk (RR) was calculated to determine which foods were most likely to cause the illness. A case was defined as any person experiencing one or more symptoms after consuming food on February 7, 2025. Food samples, including rice, chicken meat, red bean soup, and mixed noodles, were collected and sent to the Regional Health Laboratory for examination.

## **Results**

Out of 125 individuals, 78 (60.93%) developed symptoms. The most common symptoms were diarrhea (100%), headache (98%), fever (97%), vomiting (96%), and nausea (93%). The attack rate was higher among females (65%; 50/78) than among males (35%; 8/78). The most common incubation periods were 18 hours (10%), 3 hours (9%), 14 hours (9%), and 17 hours (8%). The analysis using a cohort study design showed that the RR of rice and chicken meat  $\infty$  (infinite). Laboratory results identified Salmonella bacteria in the chicken used in the meal preparation.

## **Conclusions**

The food poisoning outbreak was caused by Salmonella bacteria in the chicken that was not correctly stored in the freezer before cooking. We recommend risk communication and training for food handlers, risk communication on Clean and Healthy Living Behavior, tight surveillance to detect additional cases, and coordination with laboratories for food sample testing.

## **Keywords**

Salmonellosis, Food Poisoning, Outbreak, Retrospective Cohort

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# Epidemiological Descriptive of Leptospirosis in Kulon Progo District, Indonesia, 2022-2024

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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***Mr. Samsul Askhori*<sup>1</sup>, *Mrs. Theodola Baning Rahayujati*<sup>2</sup>, *Mrs. Citra Indriani*<sup>3</sup>**

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## **Background**

Leptospirosis remains a significant public health problem, particularly in Kulon Progo District, where it is considered an endemic disease. This study aimed to describe the epidemiological characteristics of leptospirosis in Kulon Progo District based on person, place, and time variables.

## **Methods**

We conducted a descriptive study using secondary data obtained from the leptospirosis surveillance database managed by the District Health Office, which includes case notifications from hospitals and public health centers. The dataset comprised demographic and clinical information, including age, sex, occupation, and geographic location of each reported case. Cases were analyzed according to the standard epidemiological variables: "person" (age, sex, and occupation), "place" (geographic distribution across subdistricts), and "time" (annual data collected from 2022 to 2024). Descriptive statistical methods were applied to summarize the data. Results were presented in the form of tables, graphs, and spatial maps to facilitate a clearer understanding of the distribution and patterns of leptospirosis cases.

## **Results**

From 2022 to 2024, 115 leptospirosis cases were reported with an overall CFR of 15%, showing a fluctuating trend, 24 cases (17% CFR) in 2022, 63 (17% CFR) in 2023, and 28 (7% CFR) in 2024. The majority of cases occurring in males (86%). The highest number of cases were found among adults aged 18-59 years, totaling 71 cases (62%), followed by the elderly (60+ years) with 44 cases. In terms of occupation, farmers were the most affected group with 76 cases (66%). Geographically, the highest number of cases were reported in the sub districts of Girimulyo (22 cases), Nanggulan (21 cases), and Samigaluh (17 cases).

## **Conclusions**

The findings of this study show that leptospirosis cases in Kulon Progo District are predominantly concentrated among adult males living in agricultural areas, particularly in the sub-districts of Girimulyo and Nanggulan. The findings highlight the need for targeted prevention efforts, especially for farming communities and the elderly. Addressing environmental and occupational risk factors through improved awareness and health infrastructure is crucial to reducing leptospirosis cases in the district.

## **Keywords**

Leptospirosis, Epidemiology, Zoonosis, Public health.

# Transmission Pattern of Dengue Hemorrhagic Fever in, Salam Hamlet, Banjarhario, Kalibawang, Kulon progo, Yogyakarta, 2025

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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***Mrs. Kartika Puspitasari***<sup>1</sup>

1. Alumni Frontline FETP, BBPK Ciloto, Indonesia Ministry of Health

## **Background**

*Dengue Hemorrhagic Fever* is viral infection caused by the *Dengue* virus, which is transmitted to humans through the bite of an infected mosquito. On April 12, 2025 Kalibawang Health Centre diagnosed 2 people cluster as *Dengue Hemorrhagic Fever*. Investigation was done by Rapid Response Team to find additional cases, determine transmission patterns and control measures.

## **Methods**

Investigation used Form from the Ministry of Health was done on March 18– May 13, 2025. Laboratory examination with NS1 test. ArcGIS 10.2 analysis was done to describe buffering distribution of cases.

## **Results**

Recorded as many as 17 cases had main symptom fever, headache and muscle pain 100 %, ptechiaie 35%. Characteristics of age > 15 years old 59% and 53% male. Indeks case occurred on March 18, 2025. NS1 test positive 42%. *Dengue* cases was recorded at the area with distance between 100m – 200m from places other case. House indeks vector *Aedes* in this area 56,5%.

## **Conclusions**

**Conclusion:** Density population and existence mosquito influence pattern transmission *Dengue Hemorrhagic Fever*. Eradication breeding place *Aedes* must done to prevent transmission. Research about count of risk transmission required.

## **Keywords**

**Keywords:** Investigation, *Dengue Hemorrhagic Fever*, Transmission, Kalibawang

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# Surveillance System Evaluation of Risk-Based Assessment (RBA) of Ship Arrival from Abroad in The Health Quarantine Information System (Sinkarkes) Health Quarantine Center, Medan, 2024

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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***Mr. Zakirman Zakirman*<sup>1</sup>, *Mr. Bangun Hot Pandapotan Lumban Gaol*<sup>2</sup>**

*1. BBKK Medan, Ministry Of Health, 2. North Sumatra Provincial Health Office*

## **Background**

The Health Quarantine Information System (Sinkarkes) is the only format for recording and reporting health quarantine services in Indonesia, and the Risk-Based Assessment (RBA) system is used for monitoring and determining risk factors for ship traffic at the entry point. This study aims to evaluate the implementation of the RBA system in surveillance reporting in Sinkarkes at the Health Quarantine Center (BBKK) Medan in 2024.

## **Methods**

This study uses a descriptive study design. We collected primary data by conducting direct interviews with health quarantine center officers using a standardized questionnaire about the RBA system implementation in the Sinkarkes and observation when officers input data into the system. The attributes used to evaluate the surveillance system are simplicity, flexibility, acceptability, and stability. The result is presented in narrative form.

## **Results**

Of the 15 officers, ten were interviewed. In the Simplicity attribute, account creation that must be done by service users in each application is a major problem. There are at least 3 integrated applications at the Port providing services to ship owner companies or agencies. The interconnection between Sinkarkes and SSm Pengangkut has not been running optimally. However, the implementation of data input is quite simple. In the Stability attribute, there are frequent problems with the network and server, and errors occur that cause service users to have to input data 2-3 times in each service request. From the Flexibility attribute, Sinkarkes can be used with minimal changes that do not disrupt the system as a whole and do not change the costs, time, and existing human resources. The Acceptability attribute is fulfilled because the socialization of the new RBA system in Sinkarkes is running well and can be implemented by service users as a whole.

## **Conclusions**

We conclude that the RBA system is still not simple and stable enough. We recommend simplifying the system so that it is comfortable to use for service users and officers by adding several automatic features, linking a link containing a list of infected countries, and improving the network and server systems used.

## **Keywords**

health quarantine, surveillance system evaluation, risk-based assessment, entry point

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# A Descriptive and Spatial Analysis of Typhoid Fever Incidence in Bantul, 2024

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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*Ms. Theresia Angelina Kewa Hayon*<sup>1</sup>, *Mr. Samsu Aryanto*<sup>2</sup>, *Dr. Bayu Satria Wiratama*<sup>1</sup>

*1. FETP Universitas Gajah Mada, 2. Dinas Kesehatan Kabupaten Bantul*

## Background

The number of typhoid cases in Bantul Regency increased from 451 in 2021 to 881 in 2022, 1,504 in 2023, and 1,781 in 2024. This study aims to describe the characteristics of typhoid fever cases and map their spatial distribution in the Bantul Regency.

## Methods

This descriptive study uses secondary data from 122 cases of typhoid fever recorded as new patients who were first recorded as having typhoid fever at the Primary Health Center in Bantul Regency in 2024. The variables analyzed included sex, age group, clinical symptoms, and patient follow-up. Spatial analysis was also conducted to map the distribution of cases at the sub-district level using QGIS software.

## Results

We found that 54.1% of patients were female and 56.6% were aged 18-59 years. The most frequently reported symptoms included fever (77.9%), headache (33.6%), and body aches (14.7%), along with gastrointestinal symptoms such as vomiting (15.5%), nausea (14.7%), abdominal pain (13.9%), and diarrhea (8.1%). The majority of patients were outpatients (73.8%). Spatial analysis showed that typhoid cases were highest in Imogiri sub-district (13.9%) as well as in Pandak and Banguntapan sub-districts (13.1%), which represent a mix of semi-urban, urban, and rural settings. In contrast, fewer cases were reported in rural sub-districts such as Kretek and Sanden (each 0.82%).

## Conclusions

Typhoid fever cases in Bantul Regency in 2024 were more prevalent in the adult age group and tended to be concentrated in certain sub-districts. These findings indicate that the high number of cases does not always correlate directly with urban or rural status but is also influenced by other factors such as population density, sanitation, and community hygiene behaviour. Therefore, focused public health interventions are needed, including increased early detection, health education, and improved sanitation in areas with high case numbers.

## Keywords

Typhoid fever, Descriptive analysis, Spatial analysis, Bantul Regency

# Epidemiological Investigation of Suspected Diphtheria Cases in Bade Village - Mappi Regency, 2025

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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***Mr. Muhammad Afandi***<sup>1</sup>

*1. FETP Frontline Alumni, BBPK Ciloto, Ministry of Health*

## **Background**

On February 2, 2025, one suspected diphtheria case was reported at the Bade Health Center. An investigation was conducted to assess the epidemiological characteristics of the diphtheria cases and the response measures implemented.

## **Methods**

Qualitative descriptive study with a case study approach. The definition of a case is a person with symptoms of fever, sore throat, swelling in the neck and pseudomembranes. Data were collected through interviews using the DF-01 questionnaire and observation. Specimen collection was conducted for 10 suspected cases out of 11 total cases for laboratory examination. Risk factors observed included contact history, travel history, and immunization status.

## **Results**

Diphtheria Outbreak (KLB) occurred with a total of 11 suspected diphtheria cases, 54.54% of the cases were individuals over the age of 15, with the majority of the patients being female, accounting for 63.63%. None of the eleven patients had a history of travel or direct contact with a diphtheria patient. A total of 54.55% of the patients received complete immunization. Laboratory tests conducted on 10 specimens from the 11 cases, which were taken after a minimum of three days of prophylactic treatment, yielded negative results.

## **Conclusions**

diphtheria outbreak occurred in Bade Village, Edera District, Mappi Regency, from February 2, 2025, to February 18, 2025, with an Asri case index. Transmission occurred through contact with the first case within the household environment. Prophylaxis was administered for strengthening and prevention. The delay in sample collection affected the laboratory test results.

## **Keywords**

Epidemiological Investigation, Diphtheria, Outbreak, Bade, Mappi

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# Epidemiological Investigation Outbreak of Chikungunya in Muktisari Village, Kebumen

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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## **Background**

On April 19, 2025, the surveillance officer of Puskesmas Kebumen 1 received information from the village midwife that several residents had experienced symptoms of fever and joint pain, which led to chikungunya disease. Investigations were conducted to confirm the possibility of a chikungunya outbreak, determine the characteristics of sufferers, and identify risk factors.

## **Methods**

Investigations were carried out by visiting the patient's home, conducting interviews using questionnaires, and conducting larval surveys around the patient's home.

## **Results**

The first chikungunya case appeared in the fifth week of 2025, with a total of 3 cases. The highest number of cases occurred in week 11, with a total of 30 cases. The total number of chikungunya cases in Muktisari Village as of April 21, 2025, was 97 cases. Delayed case reports from health facilities occurred during this outbreak event. The highest cases occurred in the age group 46-45 years and women, with 41 cases (42.3%) and 65 cases (67%), respectively. The distribution of symptoms were 97 (100%) joint pain, 96 (99%) fever, 94 (97%) back pain, 62 (64%) headache, 43 (44%) rash, 40 (41.24%) nausea/vomiting, 19 (20%) photophobia, 17 (18%) red eyes. Of all cases, 67 (69%) had a history of treatment by midwives / practical nurses. The results of laboratory tests showed that 17 (94.44%) people were positive for chikungunya out of 18 people examined. The result of the larva survey was a free index of 92.78 %.

## **Conclusions**

There is an outbreak of chikungunya in Muktisari Village, with a possible factor of larva-free rate being less than the national target. It is necessary to eradicate mosquito breeding sites regularly. Another important step is to improve the surveillance network of health facilities in the reporting system of disease cases that have the potential for disease outbreak.

## **Keywords**

Chikungunya, Outbreak, Larva free index , Kebumen

# Achievements of Community-Based Surveillance Implementation in Banten, West Java, and Central Java Provinces in the First Year

Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

*Mrs. Endah Kusumowardani*<sup>1</sup>, *Mrs. Irma Gusmi*<sup>1</sup>, *Mrs. Eka Muhiriyah*<sup>1</sup>, *Mrs. Septian Nisa*<sup>1</sup>, *Mr. Bambang Heryanto*<sup>2</sup>

1. Directorate of Health Surveillance and Quarantine, 2. The Task Force for Global Health, Global Fund

## Background

The Directorate of Surveillance and Health Quarantine supported by the Global Fund, is implementing Community-Based Surveillance (CBS) starting in 2024 in nine selected regencies/cities across West Java and Central Java, and all eight cities in Banten. The CBS activities are intended to support the strengthening of the national early warning surveillance system for the prevention of diseases with the potential for outbreaks, involving all community components. Monitoring in December 2024 and supervision in May 2025 conducted to determine the achievements of CBS implementation

## Methods

Three months after the workshop involving Public Health Centre (Puskesmas) officers and cadres/volunteers, monitoring was conducted via zoom from all 78 Puskesmas across the three provinces with focused on cross-program and sectoral coordination, outreach, cadres/volunteers capacity in detecting potential outbreaks, and local government supports. Supervision was conducted at three selected Puskesmas across the three provinces. Discussions were held during the visit to the respective District Health Office (DHO) and the Puskesmas. Data from the monitoring and supervision were subjected to semi-quantitative analysis using descriptive statistics.

## Results

Monitoring results indicated all Puskesmas have coordinated across programs and sectors to implement CBS. The Puskesmas have successfully developed the networks involving cadres, health facilities, and schools within the Puskesmas' CBS implementation areas. However, most Puskesmas (Banten 79% N=24; West Java 81% N=27; and Central Java 52% N=27) stated that the capacity of CBS cadres remains limited. More than 60% of all Puskesmas assessed that the community remains reluctant to report illnesses of their family. Supervision visits noted an increase in the number of cadres and village, community involvement, local government support, and Puskesmas' innovations to expand CBS activities. It was agreed that cadre capacity building would be implemented gradually by Puskesmas with guidance from DHO and PHO. Many Puskesmas Surveillance Officers' concurrent activities and inadequate surveillance data management limited the implementation of CBS.

## Conclusions

The implementation of CBS has shown promising developments. Policy support and technical guidance are needed by Puskesmas to expand the coverage and sustain the CBS.

## Keywords

CBS, Monitoring, Supervision, Puskesmas, Community Involvement

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# Readiness to Implement Community-Based Surveillance (CBS) in West Java and Central Java Provinces

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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*Mrs. Endah Kusumowardani*<sup>1</sup>, *Mrs. Irma Gusmi*<sup>1</sup>, *Mrs. Eka Muhiriyah*<sup>1</sup>, *Mrs. Septian Nisa*<sup>1</sup>, *Mr. Bambang Heryanto*<sup>2</sup>

1. Directorate of Health Surveillance and Quarantine, 2. The Task Force for Global Health, Global Fund

## Background

Considering the potential of community involvement in improving early detection and response to an outbreak or disease, community-based surveillance (CBS) workshop were developed in other districts in West Java and Central Java. This study explores the knowledge and attitudes of surveillance officers working in puskesmas in two SBM pilot provinces: West Java and Central Java.

## Methods

In June-July 2025, data and information were collected through a profiling questionnaire distributed online to 53 surveillance officers at puskesmas to obtain officers understanding of CBS and their experiences including involving the community in surveillance activities. The data collected were qualitative and quantitative and analyzed using descriptive statistics and deductive thematic methods.

## Results

The study results show that the readiness of puskesmas surveillance officers to implement SBM still needs to be improved. The majority of surveillance officers still have limited experience or active involvement in planning and implementing CBS activities by involving the community. The findings concluded the importance of training/workshop for sustainable and measurable CBS capacity building by involving the community as part of efforts to strengthen the national early warning and response system.

## Conclusions

The study results show that the readiness of puskesmas surveillance officers to implement CBS still needs to be improved. The majority of puskesmas surveillance officers still have limited experience or active involvement in planning and implementing CBS activities involving the community. The findings conclude the importance of training/workshops for sustainable and measurable capacity building on CBS by involving communities as part of efforts to strengthen the national early warning alert and response system.

## Keywords

Community Based Surveillance, Early Detection, Puskesmas

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# A Descriptive Epidemiological Study of A Malaria Outbreak in Pohuwato District 2025: Case Distribution, Vector Breeding Sites And Environmental Risk Factors

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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*Mr. Abuchori Abuchori*<sup>1</sup>, *Mrs. Soitawati Soitawati*<sup>2</sup>, *Ms. Septian Nisa*<sup>2</sup>, *Ms. Anisa Febriana*<sup>1</sup>, *Mrs. Nangsih Pooe*<sup>3</sup>, *Mrs. Lastry Qodriany*<sup>3</sup>, *Mrs. Rey Resty Putri Haras*<sup>4</sup>, *Mrs. Tri Amelia Saud*<sup>4</sup>, *Mrs. Monalisa Muchlis*<sup>4</sup>

1. PHEOC Ministry of Health, 2. Directorate of Surveillance and Health Quarantine, 3. Gorontalo Provincial Health Office, 4. Pohuwato District Health Office

## Background

Malaria is an acute life-threatening disease and remains a major global health concern. In 2023, an estimated 263 million malaria cases have been reported globally with 597.000 malaria deaths in 83 countries. It is caused by protozoan parasites of the genus *Plasmodium*, transmitted to humans by infected *Anopheles* mosquitoes, with endemic transmission primarily occurring in tropical and subtropical countries, including Indonesia. An emergency response status for a malaria outbreak was declared in Pohuwato District, Gorontalo, on February 10, 2025, following a continuous increase in malaria cases since December 2024. This study aims to overview distribution of cases, vector breeding sites and environmental risk factors from the outbreak that occurred in Pohuwato.

## Methods

The study was conducted in Pohuwato District, Gorontalo, on March 3<sup>th</sup> – 6<sup>th</sup>, 2025. Data were collected through Early Warning Alert and Response System (EWARS), data from Pohuwato District Health Office, vector survey and environmental assessment. Data analysis was performed using descriptive statistical methods, including frequency distribution and spatial analyses.

## Results

Findings revealed 168 confirmed malaria cases reported from December 23, 2024 to February 28, 2025. Epidemic curves showed fluctuating case trends with notable three peaks observed. Most of the cases occurred in males (96%), predominantly in the 19–59 age group, with mining workers comprising most of the affected population. Vector surveys identified several *Anopheles* breeding sites, including mining pits and household waste areas, highlighting the environmental contribution to disease transmission.

## Conclusions

Strengthening cross-sectoral collaboration for vector control and environmental management, along with enhancing surveillance systems through both passive and active case detection, is essential to prevent further increases in malaria cases and mitigate the risk of future outbreaks.

## Keywords

Malaria, Outbreak Investigation, Surveillance, Vector Control

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# Improving The Capacity of Health Workers Through Data Management and Analysis Workshops In 16 Provinces In Indonesia By 2024

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Thursday, 24th July - 10:30: (Pre-Function Hall of Mataram Ballroom) - Poster

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***Mr. Rendy Manuhutu*<sup>1</sup>, *Mrs. Endah Kusumowardani*<sup>2</sup>, *Mrs. Irma Gusmi*<sup>2</sup>, *Mrs. Eka Muhiriyah*<sup>2</sup>, *Mrs. Septian Nisa*<sup>2</sup>**

*1. Public Health Emergency Operations Center Indonesia, 2. Directorate of Health Surveillance and Quarantine*

## **Background**

The 2023 Joint External Evaluation (JEE) of disease surveillance implementation in Indonesia revealed a gap in the limited use of data to support policy development and communication across programs and sectors, particularly in the dissemination of information on managing potential outbreaks. Considering this, a capacity building program is needed for the Health Office in the context of surveillance data management and analysis. The Ministry of Health, through the Directorate of Health Surveillance and Quarantine, has developed a Data Management and Analysis curriculum.

## **Methods**

The workshop was attended by one surveillance officer and two disease program officers from 16 provinces in Sumatra and Java, representing provincial and district health offices. The workshop included training sessions, group discussions, and hands-on practice using health data. The material focused on data management, simple analysis, and data use to support decision-making. Capacity building for officers was assessed using descriptive statistics with percentages, central measures and inferential statistics with paired t test.

## **Results**

Our finding show there are increasing average of test value. For national level, average pre-test is 70.73 +- 15.71 and average post-test is 93.36 +- 9.32. region with highest average is DI Yogyakarta and DK Jakarta with 80.30 +- 10.19 for pre-test and 94.63 +- 6.67 for post-test. Statistical test show there are significant different between pretest value and posttest value, at national level or breakdown by regional events. There was an increase in SKDR performance indicator reports in the 16 provinces where the workshops were conducted. The percentage of alerts increased both before and after the training.

## **Conclusions**

Data management and analysis workshops are crucial. Surveillance officers and health program officers can analyze existing data, which leaders can use to formulate the best policies for the community.

## **Keywords**

data analysis, skdr, ewars, surveillance

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