

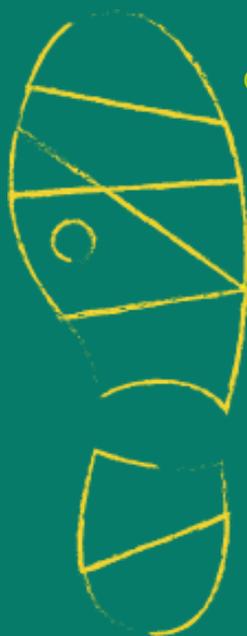


U.S. CENTERS FOR DISEASE  
CONTROL AND PREVENTION



HEALTH SECURITY  
PARTNERS

National Scientific Conference on Epidemiology

A stylized yellow virus particle with a circular head and a segmented tail, positioned to the left of the main title.

# 11<sup>th</sup> NSCE PROGRAM BOOK

Epidemic Intelligence to Strengthen  
Health Resilience

Bandung, August 20-23, 2024



## WELCOME MESSAGE

Dear Conference Participants,

Greetings and welcome to the 11<sup>th</sup> National Scientific Conference on Epidemiology (NSCE) with the theme of “**Epidemic Intelligence to Strengthen Health Resilience**”. This year, we have selected 48 oral presentations and 42 poster presentations. The selected abstracts feature a range of public health issues from communicable and non-communicable diseases from Field Epidemiology Training Program (FETP) Advanced, FETP-Intermediate, FETP-Frontline, PHEOC, Surveillance Team MoH Republic of Indonesia field works.

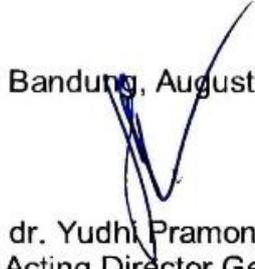
The conference will be held from 21 to 23 August 2024 at HARRIS Hotel & Conventions Ciumbuleuit located in the vibrant city of Bandung. NSCE is an opportunity for the field epidemiology community to share and celebrate the remarkable work of students/trainees and graduates to detect and respond to public health threats. This event continues the tradition of FETP and the Directorate of Surveillance and Health Quarantine collaborating to recognize and support the critical work of students/trainees and recent graduates towards rapid and effective disease surveillance and outbreak response, non-communicable diseases, and other public health priorities.

The Ministry of Health Republic of Indonesia remains committed to supporting and building FETP national network. FETP-Advanced was hosted in 7 universities (Universitas Indonesia, Universitas Gadjah Mada, Universitas Airlangga, Universitas Udayana, Universitas Hasanuddin, Universitas Diponegoro, and Universitas Andalas), and FETP-Intermediate and FETP-Frontline in Balai Besar Pelatihan Kesehatan Ciloto. Since 1982, FETP trained more than 1,000 graduates across the three levels of FETPs.

We are pleased to have our colleagues from the Ministry of Health, Ministry of Agriculture, National Research and Innovation Agency (BRIN), Meteorological, Climatological, and Geophysical Agency (BMKG), National Agency for Disaster Management (BNPB), ASEAN BioDiaspora Virtual Center (ABVC), Faculty of Public Health Universitas Indonesia, US-CDC Indonesia Country Office, World Health Organization (WHO), and National Institute of Infectious Diseases (NIID) as speakers in plenary sessions.

My gratitude to the Organizing Committee from the Surveillance Team, Directorate Surveillance and Health Quarantine, FETP Indonesia Secretariat, FETP Universitas Indonesia, U.S. CDC Indonesia Country Office, and Health Security Partners (HSP) who are working hard to host this conference. I congratulate all the participants for their commitment to public health. Thank you for supporting us and please enjoy the 11<sup>th</sup> NSCE.

Bandung, August 20, 2024

  
dr. Yudhi Pramono, MARS  
Acting Director General for Disease Prevention and Control

## Conference Agenda

Date/Time	20 August Tuesday	21 August Wednesday	22 August Thursday	23 August Friday
8:00-8:30	Registration	Registration		
8:30-9:00	Pre-Conference Workshop <i>(Bright 1 Room, Bright 2 Room, Bright 3 Room)</i>	<b>Opening Ceremony (Bright Ballroom)</b>	<b>Plenary Session 2: One Health (Bright Ballroom)</b>	<b>Special Presentations (Bright Ballroom)</b>
9:00-9:30				
9:30-10:00				
10:00-10:15	MORNING TEA	MORNING TEA	MORNING TEA	MORNING TEA
10:15-11:00	Pre-Conference Workshop <i>(Bright 1 Room, Bright 2 Room, Bright 3 Room)</i>	<b>Plenary Session 1: Multi Source Surveillance (Bright Ballroom)</b>	<b>Poster Presentation (Pre-function hall of Bright Ballroom)</b>	<b>Closing &amp; Awarding Ceremony (Bright Ballroom)</b>
11:00-11:30				
11:30-12:00				
12:00-13:00	LUNCH	LUNCH	LUNCH	LUNCH
13:00-13:30	Pre-Conference Workshop <i>(Bright 1 Room, Bright 2 Room, Bright 3 Room)</i>	OP 1 (Bright Ballroom) & OP 2 (Bright 3 Room )	OP 9 (Bright Ballroom) & OP 10 (Bright 3 Room)	
13:30-14:00				
14:00-14:30		OP 3 (Bright Ballroom) & OP 4 (Bright 3 Room)	OP 11 (Bright Ballroom) & OP 12 (Bright 3 Room)	
14:30-15:00				
15:00-15:30	AFTERNOON TEA	AFTERNOON TEA	AFTERNOON TEA	
15:30-16:00		OP 5 (Bright Ballroom) & OP 6 (Bright 3 Room)	<b>Plenary Session 3: Data Integration (Bright Ballroom)</b>	
16:00-16:30				
16:30-17:00		OP 7 (Bright Ballroom) & OP 8 (Bright 3 Room)		
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 Ms. Abuchori Abuchori<sup>1</sup>, Mrs. Triya Novita Dinihari<sup>2</sup>, Mrs. Eka Muhiriyah<sup>2</sup>, Mrs. Irma Gusmi Ratih<sup>2</sup>, Ms. Megawati Aslina<sup>2</sup>, Mr. Fadjar Silalahi<sup>3</sup>, Mr. Moch Al-Ayubi<sup>4</sup>, Mrs. Aisyah Mela Dwinia Putri<sup>1</sup>, Ms. Anisa Febriana<sup>1</sup>, Mr. Muhamad Taufik<sup>1</sup>, Mr. Pra Setiadi<sup>1</sup>, Mr. Rama Hesa Oktovionil<sup>1</sup>, Mr. Rendy Manuhutu<sup>1</sup>  
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# ORAL PRESENTATIONS



# Food or Waterborne Diseases (1)



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# Food Poisoning Outbreak Among Annual Memorial Day (Haul) in Bogor City in 2024

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Oral

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## Background

On June 3, 2024, at 12:07 PM, the Bogor City Health Office was notified of suspected food poisoning cases with symptoms like diarrhea, nausea, vomiting, weakness, and fever from Cipaku Public Health Center. All cases had consumed food at an Annual Memorial Day event on June 1, 2024, at 6:30 PM in Cipaku Urban Village. The investigation aims to confirm the outbreak and assess the risk factors of food poisoning in Cipaku Urban Village.

## Methods

The study used a cohort retrospective, recording all individuals who attended and consumed the food as the at-risk population. Cases were those with symptoms like nausea, vomiting, or diarrhea. Additional case findings (June 4-6, 2024) and source identification were made via interviews, observations, literature review, and laboratory testing. Data analysis uses chi-square and logistic regression with Stata software.

## Results

The reported at-risk population was 107, with 94 cases of illness (87.2%). Statistical analysis showed Yellow Rice had a Relative Risk (RR) of 2.25 ( $p < 0.05$ ) and Balado Eggs had a RR of 1.40 ( $p < 0.05$ ), while the snack box had a protective effect RR 0.87, ( $p < 0.05$ ). Logistic regression indicated Balado Eggs had an Odds Ratio (OR) of 3.4 ( $p > 0.05$ ) and Yellow Rice had an OR of 2.8 ( $p > 0.05$ ). Laboratory results found *Salmonella Enterica* and *Salmonella* spp in Yellow Rice and Egg. Stool and gastric fluid samples from four patients confirmed similar pathogens. The investigation identified the greatest risk factor as eggs, due to prolonged storage before the second cooking and between cooking before consumption, as well as packaging food together without separate containers.

## Conclusions

A food poisoning outbreak in Cipaku Urban Village was linked to salmonella contaminated in yellow rice and balado eggs. Recommendations include health promotion on food safety, proper processing, personal hygiene, and reporting to urban village authorities for public health center assistance when hosting large events.

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# Bacillus Cereus Food Poisoning Outbreak at Umbulharjo - Yogyakarta City, 2024

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Oral

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*Mr. Boy Shandy*<sup>1</sup>, *Ms. Noorkhalisah Noorkhalisah*<sup>1</sup>, *Mr. Solikhin Dwi Ramtana*<sup>2</sup>, *Mrs. Risalia Reni Arisanti*<sup>1</sup>

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## Background

On January 23, 2024, the Yogyakarta City Health Office received a report of six digestive disorder cases after attending the meeting at the Umbulharjo II Public Health Center the previous day. We investigated to confirm the outbreak, identify the possible sources, and control measures.

## Methods

We conducted an unmatched case-control study. A case was a person who attended the meeting or had consumed the food provided at the Umbulharjo II Public Health Center on January 22, 2024, and experienced the following symptoms: nausea, vomiting, diarrhoea, or abdominal pain. The control was a person who attended the meeting or had consumed the food at the same event but did not experience any symptoms. The cooking process and food preparation were assessed. Food samples consisting of rice, chicken with sambal, fried tempe, galantin, and sautéed beans, were examined by BLKK Yogyakarta Laboratory.

## Results

Out of the 66 at-risk populations, 55 people were interviewed (response rate was 83%) and found 32 cases (attack rate was 58.2%). Most cases were women (65.5%), and the age group of 40 – 59 years old (37.5%). One person was hospitalized. The most common symptoms were abdominal pain (90.6%) and diarrhoea (78.1%). The incubation period is 1.5 – 13.5 hours with an average of 8 hours 53 minutes. The analysis indicated that the chicken with sambal was suspected as the source of poisoning (aOR 5.37, 95% CI 0.49 – 58.73). *Bacillus cereus* was detected in the rice and galantin. In the refrigerator, new food ingredients were stored mixed with old ingredients, with no date labels, and use of unhygienic storage containers.

## Conclusions

A food poisoning outbreak caused by *Bacillus cereus* occurred at Umbulharjo II Public Health Center on January 22, 2024, possibly due to unsafe food handling practices. Food safety education for food handlers is necessary to prevent future incidents.

# Gummy Candy Poisoning in an Elementary School Students, Sukorejo, Blitar City, East Java Province, 2022

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Oral

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## **Background**

On August 22, 2022, 4 students of an elementary school in Sukorejo sub district were admitted to public health center for acute vomit and abdominal pain after consuming gummy candy "X". Investigation was done by FETP Universitas Airlangga Surabaya and Blitar City Health Office to find additional cases, to describe the outbreak, to identify source and risk factors, and to prevent future outbreak.

## **Methods**

A cohort study was conducted. Interview with students using structured questionnaire were done to find students who had at least one symptom (nausea, stomachache, dizzy, diarrhea, vomit, metal feel in mouth) after consuming gummy candy in school on August 22. Chemical laboratory test by BBPOM Surabaya was done to identify formalin, lead, cadmium, and arsenic. No coloring and flavoring test because of minimum gummy candy sample and no microbiological test because gummy candy was in hygienic plastic packaging. Data were analyzed with Chi Square.

## **Results**

Among 113 students attended school, we identified 25 cases (attack rate= 73,5%), 59,65% was female, 58.8% had nausea and 55,9 % had abdominal pain. The median incubation time was 30 minutes. The epidemic curve was common source. Students who consumed gummy candy were likely to develop food-borne illness at statistically significant levels (RR=29,41, 95% CI= 7.37-117.29). There were minor amounts of lead (0,115 mg/kg, serving standart:  $\leq 1$  mg/kg), cadmium (0,005 mg/kg, serving standart:  $\leq 0,5$  mg/kg), and arsenic (0,015 mg/kg, serving standart:  $\leq 1$  mg/kg) in one piece gummy candy weighing 25 mg.

## **Conclusions**

This outbreak was associated with consumption of gummy candy "X" contained chemical ingredients. Chemical exposure is especially dangerous to children. Further laboratory test is needed to find another chemical ingredients from the coloring and flavoring agents. We recommend to raise students awareness about the potential presence of chemical ingredients in gummy candy and other foods, and the overall dangers of chemical poisoning.

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# Investigation of Food Poisoning Outbreak in Gentan Village, Bendosari Subdistrict, Sukoharjo District, 2024

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Oral

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***Ms. Chronika Kesya Sirait*<sup>1</sup>, *Mr. M. Sakundarno Adi*<sup>2</sup>, *Mr. Fauzi Muh*<sup>2</sup>, *Mrs. Dwi Sutningsih*<sup>3</sup>, *Mrs. Rina Hudayani*<sup>4</sup>**

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## **Background**

On March 9, 2024, report was received that 49 people were sick after consuming food from a housewarming event in Gentan village and 29 of them were hospitalized. Investigations were carried out to determine risk factors, identify sources and causes of food poisoning.

## **Methods**

Case control study design was applied for investigation. Total 124 participants of case and control groups were involved. The case groups were people who were clinically sick and consumed food. Whilst, control groups were selected in matched-ratio 1:1 with case group who were healthy. Interviews were conducted to both participants and food handlers. Food and patient's vomit samples were sent to referenced-laboratory (Labkesda). The statistical association test was conducted using chi-square and multiple regression tests.

## **Results**

The more cases were men (51.6%) at age 31-40 years (35.4%). The epidemiological curve showed that the incubation period was 1 to 36 hours. The statistical analysis showed that consuming of chili sauce (OR=6.5, 95%CI=2.970-14.25, p=0.000), grilled chicken (OR=4.12, 95%CI=1.52-11.21, p=0.006), fresh vegetables (OR= 3.9, 95%CI=1.75-8.72, p=0.001), rice (OR=3.9, 95%CI=1.86-8.51, p=0.000), and banana (OR=2.26, 95%CI=1.09-4.72, p=0.044) were significantly associated with poisoning. However, consuming chili sauce (OR=4.97, 95%CI=2.07-11.91, p=0.000) was the most associated factor when other factors were controled. The laboratory test found *Escherichia coli* contamination in chili sauce and grilled chicken, *Salmonella spp* in fresh vegetables, *Bacillus sp* in chili sauce and vomit samples (result= 134;177, NAV= <100). Food processing sanitation inspection results are unqualified and the catering does not have a hygiene certificate.

## **Conclusions**

This investigation revealed that bacterial contamination in foods were the necessary cause of the food poisoning. Increasing the awareness of food hygiene in every community level is very important to prevent the similar incidence to occur.



# Non-Communicable Diseases & Other



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# Mix Methods Study: Analysis of Determinants of Mental Health Care Non-Compliance in Patients with Mental Disorders in 2023

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Oral

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## Background

Non-compliance with mental health care poses a significant challenge for patients with mental disorders, affecting treatment outcomes and overall well-being. This study aims to analyze the determinants of non-compliance in mental health care among these patients using a mixed methods approach.

## Methods

This study employed a mixed methods design, combining quantitative and qualitative approaches. The quantitative component involved a cross-sectional survey of mental health service recipients, while the qualitative component included in-depth interviews with caregivers. Data analysis was focused on identifying factors associated with non-compliance with mental health care.

## Results

The quantitative analysis revealed significant associations between non-compliance and several factors: patient satisfaction (aPR 1.35, 95%CI 1.05-1.75), stigma (aPR 1.52, 95%CI 1.04-2.22), mental health literacy regarding disorder development (aPR 1.52, 95% CI 1.13-2.05), family support (aPR 1.69, 95% CI 1.27-2.23), and quality of service delivery (aPR 0.45, 95% CI 0.47-0.83). Family support emerged as the most influential factor. The qualitative analysis identified several recurring themes: the role of family support, community support, patient satisfaction with services, quality of service delivery, managing stigma, acceptance of the condition, medication therapy adjustments, and job responsibilities.

## Conclusions

Family support is the most significant determinant of non-compliance with mental health care among patients with mental disorders. Other critical factors include patient satisfaction, stigma, mental health literacy, and quality of service delivery. These findings highlight the need for comprehensive strategies that address these determinants to improve compliance with mental health care. Enhanced family and community support, alongside improved service delivery, can play a crucial role in addressing non-compliance issues.

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# Assessment of Hajj Health Surveillance System in Polewali Mandar, 2024: Challenges and Solutions

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Oral

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## Background

Every year Indonesia sends about 200,000 pilgrims, most of whom are high-risk pilgrims. The number of deaths of pilgrims in Saudi Arabia in the last 5 years reached 2,349 cases of death. Data for the last 5 years Polewali Mandar Regency dispatched 2,313 pilgrims 62% were at high risk. Post-hajj health surveillance monitoring activities aim to prevent the entry and exit of infectious diseases that may be carried by pilgrims to Indonesia and to determine the distribution of risk factors and deaths.

## Methods

The purpose of this study was to obtain an overview of the implementation and evaluation based on surveillance attributes and weaknesses in the implementation of the Hajj health epidemiological surveillance system in Polewali Mandar Regency. This evaluation used a descriptive observational design, data collection using a questionnaire instrument. Respondents in this study were Hajj health managers and surveillance managers at the Puskesmas level, totaling 26 respondents. Data and information were analyzed descriptively using Stata, presented through tables and narratives.

## Results

This study found that of the 20 surveillance managers serving less than 1 year as much as 30%, surveillance managers and Hajj health managers who have not participated in socialization and technical training of Hajj health 88.46% so that the component of monitoring activities of pilgrims 96.15% is not done. Attribute surveillance acceptability 100% of the data has not been used by other programs and attribute flexibility input SSKOHATKES is not done 100%.

## Conclusions

The weakness of the Hajj health surveillance system in Polewali Mandar Regency is that the surveillance component of monitoring after the return of pilgrims has not been actively carried out. Weaknesses from the aspects of manpower, facilities, and funding. Surveillance attributes of data processing and understanding of Hajj health guidelines need training.

# The Effect of Health Promotion Through Audio-Visual Media and Leaflet on the Behavior Giving Tuberculosis Prevention Therapy to Toddlers in the Majene District

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Oral

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*1. Hasanuddin University*

## **Background**

Latent TB infection in children under five requires the provision of tuberculosis preventive therapy (TPT), as they are at high risk of developing active TB. However, there are still several problems in the provision of TPT, such as low compliance and lack of motivation in carrying out treatment.

## **Methods**

The study used a pre-test-post-test control group design and was a pseudo-experimental investigation. This study included 74 moms of toddlers who shared a home with someone who had tuberculosis. The mothers were divided into two groups: 37 individuals used audio-visual media for the intervention group and 37 individuals used leaflet media for the control group. Questionnaires were used to gather information on differences between the two groups' pre-test and post-test scores in terms of knowledge, attitudes, and behaviors. Mann-Whitney and Wilcoxon tests were used to evaluate the data

## **Results**

The results of the Wilcoxon test analysis showed that there were differences in knowledge, attitudes, and actions before and after the intervention on the behavior of providing TPT in toddlers, both in the intervention group and the control group ( $p < 0.05$ ), and based on the Mann-Whitney test showed that there were differences in knowledge and attitudes towards providing TPT in toddlers between the intervention group and the control group ( $p < 0.05$ ), but there were no differences in actions towards providing TPT in toddlers between the intervention group and the control group ( $p > 0.05$ ).

## **Conclusions**

The intervention group has seen a greater increase in values for the knowledge, attitudes, and behaviors variables. It is advised that audio-visual materials be used in health promotion to attain the best possible behavior change.

# Evaluation of Diabetes Mellitus Surveillance System in Semarang Health Office

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Oral

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## Background

Indonesia's is facing the burden of triple burden health problems, in addition to the incidence of infectious diseases, the increase of non-communicable diseases and the re-emergence of diseases are inevitable. The Semarang City Health Profile states that the incidence of diabetes mellitus at Semarang Community Health Center in 2020 was 44.492, in 2021 was 45.168, in 2022 was 55.075 and in 2023 was 44.056. The purpose of this study is to know the implementation of the diabetes mellitus surveillance system in Semarang City in 2023

## Methods

This study used a descriptive observation approach. We involved 16 surveillance staffs at 16 Community Health Center across Semarang City. A structured-questionnaire was used to evaluate human resources, funding, materials, machinery or tools, data collection, data processing, data analysis, information dissemination and reports

## Results

The findings showed that the obstacles in the diabetes mellitus surveillance system are the lack of human resources, insufficient training related to surveillance or integrated services for non-communicable diseases (68.8%%), the inactive network in 16 Community Health Center in reporting cases (75%). These identified-problems caused the delay in reporting, to the Semarang Health Office. The role of the Community Health Center is only to collect and report data and has not been analyzer epidemiologically,

## Conclusions

It is necessary to give or to refresh the surveillance training in integrated services for non-communicable diseases for surveillance staffs. The training should include not only how to record and to report, but also practice how to analyse, to interpret and to disseminate the data.



# Vaccine Preventable Diseases (1)



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# Evaluation of Measles Surveillance System in DKI Jakarta Province 2023

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Oral

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## **Background**

Measles is one of the preventable diseases by immunization that can cause an outbreak. Data from 2021-2023 there was an elevated cases in DKI Jakarta from 82 cases in 2021 to 405 in 2022 and 858 in 2023. This study aims to evaluate measles surveillance system based on World Health Organization (WHO) framework (surveillance structure, core functions, support function, and surveillance quality/ attributes)

## **Methods**

Evaluation of measles surveillance system was held in March-April 2023 in DKI Jakarta Province. The design of this research was descriptive study with qualitative and quantitative approach through observation and depth interview with structured questions. Data was collected from 5 Officer Public Health Center (*Puskesmas*) and 5 Officer City Health Office in each City in DKI Jakarta and 1 Officer Provincial Health Office, total 11 respondents. The sampling technique was used cluster sampling in each City to determine PHC. This evaluation method was based on World Health Organization (WHO) framework (surveillance structure, core functions, support function, and surveillance quality/ attributes).

## **Results**

Surveillance structures such as networking had not been implemented optimally. The government hospital (except hospital below DKI Jakarta Province) and private clinic or hospitals rarely reported the measles suspect cases. The core functions based on analysis and data interpretation had not been run optimally because not all PHC carried out data analysis due to additional work. Support function based on resources, guidelines, supervision monitoring and evaluation, training had been run optimally. The surveillance quality/ attributes based on simplicity, completeness, timeliness, acceptability, and sensitivity had been run optimally except representativeness, 10 to 11 respondents believed that the cases in their area could be greater than now.

## **Conclusions**

Overall, evaluation of measles surveillance system in DKI Jakarta had run optimally. It is important to expand the networking to government hospitals and other private clinic/ hospitals in DKI Jakarta.

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# Investigation of Circulating Vaccine Derived Poliovirus (cVDPV) Type 2 Outbreak in Klaten, Central Java, Indonesia – December 2023

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Oral

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## Background

On 18 December 2023, the national disease surveillance program received notification that a VDPV2 was detected from an acute flaccid paralysis (AFP) case involving a six-year-old female child from the Klaten district health office. The investigation aims to determine the cause, risk factor and control measures.

## Methods

World Health Organization (WHO) standard operating procedures were used to investigate cVDPV. Active case finding to evaluate the case and vaccination status. The Indonesia Health Ministry's community survey form was used to screen 198 homes for vaccination coverage and collect stool samples from impacted populations with children under five. Genetic sequencing for intratypic differentiation determined poliovirus sample relatedness. For additional AFP cases, thirteen private/government hospitals and two primary healthcare centres (PHS) in Klaten were conducted.

## Results

The case was a six-year-old female in Klaten District, Central Java, with the symptoms of fever and acute paralysis. There was a history of incompleting vaccine and travel within 21 days of before onset to Sampang, East Java. Poliovirus strains, in this case, were genetically linked to the Bangkalan case, East Java. Of the 30 healthy children, stool samples were negative. Environmental polio surveillance was not conducted in Klaten because no locations corresponded to the criteria. Immunization coverage for first-through-fourth-dose OPV (Oral Poliovirus Vaccine) and first-dose IPV (Inactivated Poliovirus Vaccine) in Klaten District >95%. However, the second IPV dose immunization coverage is < 95% due to the new program in 2023. Hospital Record Review (HRR) and Register Record Review (RRR) were found in one case not reported.

## Conclusions

Risk factors for the cVDPV2 outbreak in Klaten, Central Java, included incomplete immunizations and close contact with the Bangkalan case. Mass Immunization Campaigns using Novel OPV2 vaccination in Central Java and East Java were needed. Future recommendations included AFP and environmental surveillance improvements.

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# Epidemiological Overview of Measles Cases After Detection of Measles Virus Genotype B3 – Sumenep Regency, East Java Province, 2022 – 2023

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Oral

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## **Background**

Since the end of 2022, Sumenep Regency has seen a surge in Measles cases due to the Measles Virus genotype B3 being detected. This genotype is more transmissible than other genotypes (G2, G3, D8, and D9) previously identified in Indonesia. This genotype was first discovered in Indonesia in 2022. This study aims to provide an epidemiological overview of Measles cases in the Sumenep Regency after detecting Measles Virus genotype B3.

## **Methods**

This descriptive study uses secondary data from the Sumenep Regency Health Office. Data analysis was conducted by describing the distribution of Measles cases based on case classification, time trend, affected area, report source, age, sex, and Measles immunization history.

## **Results**

Between January and October 2022, 31 Measles cases have been reported in Sumenep Regency. This number increased after the Measles Virus genotype B3 were identified in November 2022, with 5 out of 7 cases tested for viral genotype. Cases with the B3 genotype were aged 2 - 7 years, and 80% had never received Measles immunization. Following its discovery, 1.538 cases have been detected from November 2022 – December 2023, including 108 laboratory-confirmed and 1.430 clinically compatible and epidemiological-linked cases. It was distributed across all public health centers. 49% of the cases were found in hospitals. Most cases (50%) affect children aged 1-4 years, with almost equal between males (51%) and females (49%). Only 4% of cases were too young to be immunized against Measles, and 55% had no known immunization history. Of the 41% of cases with immunization history, 77% had never received Measles immunization.

## **Conclusions**

Measles cases increased after detecting the Measles Virus genotype B3 in Sumenep Regency. Most cases involve children under five who are not immunized against Measles. High and equitable immunization coverage must be improved and followed by comprehensive case investigation for better Measles control and prevention.

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# Epidemiological Insights into the Measles Outbreak in Sinjai District: Risk Factors and Health Responses

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Oral

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## Background

Based on the W1 report from the Sinjai District Health Office on July 18, 2023, there had been a laboratory-confirmed measles outbreak in the South Sinjai sub-district. On further investigation, 2 children with clinical symptoms of measles were found in the Middle Sinjai sub-district. An investigation was conducted with the aim of confirming an outbreak, identifying risk factors, and controlling the outbreak.

## Methods

The research was conducted through active case findings and a 1:2 case-control study. Cases were people with symptoms of fever and rash, accompanied by one or more of the symptoms of cough, runny nose, red eyes, and diarrhea. Controls were asymptomatic neighbors/families. The total sample was 39 (13 cases and 26 controls). Data were collected through interviews and observations. The serum sample was sent to a laboratory to be tested for measles IgM. The research variables were age, sex, Measles Rubella (MR) immunization status, nutritional status, parental knowledge of measles, and parent's education. Data were analyzed univariately using the frequency distribution table, bivariately using the Chi-Square test, and multivariately using the logistic regression test.

## Results

The cases consist of 2 confirmed and 11 clinically compatible cases. Most cases were 5–9 years old (AR 22.85/100.000), male (AR 3.74/100.000), and did not get the MR2 vaccine (92.3%). Patients were spread across 3 subdistricts, where the majority of cases were in the North Sinjai Sub-district (46.15%). The result of the bivariate analysis showed that the incidence of measles outbreaks in Sinjai District was associated with incomplete measles immunization status; MR1(OR=12.37; 95% CI, 2.93-81.77) and MR2 (OR=27; 95% CI, 2.81–1216).

## Conclusions

A measles outbreak occurred in Sinjai District from June 15 to August 27, 2023, primarily as a result of low MR vaccination rates. RCA and selected ORI were conducted. However, it needs to be improved to increase the coverage of complete basic immunization.



# Maternal and Child Health



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# Evaluation of Maternal Perinatal Death Notification Surveillance in Banyumas 2023

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Oral

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## **Background**

Maternal Perinatal Death Notification (MPDN) is an electronic surveillance system that started to be used in 2022 but there is no evaluation of the attributes of the surveillance. This study aims to evaluate the performance of MPDN surveillance in Banyumas Regency regarding the completeness, timeliness, and simplicity.

## **Methods**

The evaluation used secondary data from MPDN Surveillance System of Banyumas District Health Office. Data completeness is assessed by the proportion of filled data. The timeliness is measured by the interval between the time of death and the report time. The simplicity was assessed by evaluating the data flowchart and interviewing the MPDN Surveillance Officer and Head of Public Health Division in the District Health Office.

## **Results**

A total of 263 perinatal deaths and 19 maternal deaths data were entered into the MPDN surveillance system in 2023. There were 35 items that should be filled in for perinatal death notification and 21 items for maternal death notification. The completeness of perinatal data was 89,7% while maternal data was 97%. The lowest 3 items in perinatal death were diagnosis (33,1%), mode of delivery (12,2%), and helper (0%). While maternal deaths data were facility health care death place (89,5%), type of facility (89,5%), and diagnosis (57,9%). The median timeliness for the surveillance system of perinatal and maternal were 11 (0 – 289) and 10 (1 – 232) days, respectively. Based on the interview conducted to two health officers, they stated that the MPDN surveillance system was not simple because the flow is quite complicated.

## **Conclusions**

The completeness of MPDN was under 100% and timeliness was 11 and 10 days. The MPDN surveillance system was not simple. There is a need to improve completeness, timeliness, and simplicity to increase the usefulness of the MPDN surveillance system. Banyumas District Health Office should conduct socialization more and create simple instructions.

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# Quality of Integrated Antenatal Care and Associated Factors in Public Health Centers in Bantul, Indonesia: A Cross-sectional Study

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Oral

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## Background

Antenatal care (ANC) is an evidence-based intervention aimed at improving mothers' and newborns' health, but its effectiveness depends on service quality at each visit. The aim of this study is to assess the quality of integrated antenatal care and associated factors in public health centers (PHCs) in Bantul, Indonesia.

## Methods

A facility-based cross-sectional study was conducted from February to April 2024. A total of 444 study participants out of 17 PHCs were selected using a cluster random sampling technique. Data on service quality inputs, processes, and outputs is collected. We analyzed visit time, visit initiation, waiting time, consultation duration, and satisfaction with the quality of integrated antenatal care. Data were collected through observation and interviews with pre-tested structured questionnaires. Bivariate and multivariable binomial regressions were used to analyze the relationship between the outcome and predictor factors.

## Results

A total of 293 (66%) of pregnant women received a good integrated ANC. The majority of respondents were between the ages of 20-35 (86.71%), had a low level of education (67.34%), were employed (53.15%), had insurance (88.74%), were multigravida (61.94%), and had no comorbidities (91.67%). Based on input variable observations, five PHCs (29.41%) did not offer psychological services due to a lack of psychologists. ANC visits (aPR 1.33; 95% CI 1.16-1.53), insurance ownership (aPR 1.39; 95% CI 1.04-1.87), and education (aPR 0.78; 95% CI 0.67-0.92) were significant predictors of ANC quality.

## Conclusions

Two-thirds of pregnant women received high-quality integrated antenatal care in Bantul. The initial visit to integrated ANC at the health center is a good predictor of ANC quality. It is essential to encourage pregnant women to attend integrated ANC for the first time at PHC in order to detect high risks early and receive a good quality integrated ANC.

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# Type of Food Consumption as a Determinant of Stunting at Garum Health Center, Blitar District

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Oral

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## Background

Stunting in toddlers in Blitar District remains a nutritional priority issue with a prevalence rate exceeds the national stunting reduction target. The aim of this study is to analyze the determinants of stunting on this district

## Methods

This is a cross-sectional study in Slorok Village, Garum Sub-District, a focus area for accelerated stunting reduction program. The sample consisted of 96 children aged 6-59 months, determined by accidental sampling technique. Primary data were collected through interviews using questionnaires, and secondary data were obtained from health center registers. Multivariate analysis was done using logistic regression

## Results

There was no significant relation between maternal education ( $p=1.00$ ), family income ( $p=0.124$ ), maternal upper arm circumference during pregnancy ( $p=0.08$ ), parity ( $p=1.00$ ), birth spacing ( $p=1,000$ ), birth weight ( $p=0.29$ ), early initiation of breastfeeding ( $p=0.49$ ), exclusive breastfeeding ( $p=0.89$ ), complementary feeding by breast milk ( $p=1.00$ ) with the stunting. Meanwhile, there is significant relation between maternal height ( $p=0.03$ ) and feeding patterns ( $p=0.01$ ) with the incidence of stunting. Multivariable analysis shows that the most influence factor on the incidence of stunting is the type of food consumption to toddlers with a risk of  $PR=2.743$ ; CI 95% 1,117- 6,736

## Conclusions

The determinant factor for the incidence of stunting is the type of food consumption to toddlers. Therefore, it is necessary to optimize nutrition programs that focus on communication, information and education regarding behavior to increase knowledge of mothers and families by providing education to mothers and family members regarding the importance of balanced nutrition and correct feeding practices.

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# Association of Rotavirus Monovalent G9P[11] Vaccination with Severity of Diarrhea in Children Aged 2-24 Months in Makassar City, Indonesia

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Oral

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*1. FETP Hasanuddin University, 2. Hasanuddin University*

## Background

Diarrhea is the leading cause of mortality and morbidity in poor and developing countries. One of the strategies to reduce diarrhea mortality, especially due to rotavirus, is vaccination, which has been introduced as mandatory basic immunization in Indonesia since 2022. This study aimed to determine the association of rotavirus vaccination with the severity of diarrhea in children aged 2-24 months

## Methods

This study used a Case-Control Study design conducted in two hospitals in Makassar City. The cases were 90 children with diarrhea aged 2-24 months diagnosed with severe diarrhea with dehydration as the main diagnosis, and the controls were 90 children with a diagnosis of mild non-dehydration diarrhea. The data were analyzed using the logistic regression test in Stata version 14

## Results

This study showed that the rotavirus monovalent G9P[11] vaccine status was associated with the incidence of severe diarrhea in children aged 2-24 months (AOR=4.25; CI 95% 1.82-9.90; p-value=0.001). Those who did not receive the vaccine were 4.03 times more likely to have severe diarrhea than those who did not receive a partial dose of the vaccine (COR=4.03; CI 95% 1.79-9.16; p-value=0.0002). Those who did not receive the vaccine were 12.7 times more likely to suffer from severe diarrhea than those who received the full dose of the vaccine (COR=12.70; CI 95% 4.87-34.12; p-value=0.0000). Those who received the vaccine more than 12 months ago were 4.32 times more likely to have severe diarrhea than those who received the vaccine between 2 weeks and 12 months ago (COR=4.32; CI95% 1.66-11.23; p-value=0.0006)

## Conclusions

Rotavirus monovalent vaccine status was significantly associated with the incidence of severe diarrhea among children aged 2-24 months. Children who did not receive the G9P[11] monovalent rotavirus vaccine were at risk of severe diarrhea compared to children who had received at least one dose of the rotavirus vaccine



# Zoonosis



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# Anthrax Outbreak Investigation in Gunungkidul District, March 2024: A Case Control Study Design

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Oral

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## **Background**

On March 7, 2024, the Gunungkidul District Health Office received a report of a suspected anthrax case from Prambanan Hospital's medical records officer. The Rapid Response Team of Gunungkidul District Health Office collaborated with the Livestock and Animal Health Service Office of Gunungkidul District, One Health Task Force and the Security Services to conduct epidemiological investigations aimed at confirming the outbreak, finding new cases, identifying risk factors, and provide suggestions for outbreak management.

## **Methods**

The investigation conducted with a 1:2 case control study. Case defined as individuals who fulfilled clinical criterias and epidemiology linked to anthrax with/out positive laboratory results, while the control were healthy individuals who have epidemiology linked with cases. The total sample was 57 (19 cases and 38 controls). In-depth interviews with structured questionnaires were used for data collection. Environmental risk factors were observed and soil samples were tested at a health laboratory. The analysis involved chi-square and multiple binomial regression methods.

## **Results**

The majority of the 19 identified cases were in male (57.9%) and the age group of 19-59 (78.9%). Common symptoms were diarrhea (84.2%), dizziness (73.7%), and fever (42.1%). The multivariate analysis indicated a significant association between the anthrax outbreak in Gunungkidul district and the practices of slaughtering sick animals (aOR= 17.1163; 95% CI: 1.39-210.13) and consuming infected meat (aOR= 25.87; 95% CI: 1.84-364.33). *B anthracis* was confirmed from soil samples surrounding the slaughterhouse. The incident originated from the traditional practices of "Brandu/Purak", cooperation in slaughtering sick or dead animals to reduce the economic losses. The meat from the slaughter is then distributed to neighbors.

## **Conclusions**

The anthrax outbreak directly resulted from Brandu/Purak's activities. Enhancing the One Health Task Force's role is crucial for anthrax control in Gunungkidul District. This includes educating the public on safe "Brandu/Purak" practices, the dangers of consuming contaminated meat, and monitoring animal health.

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# An Outbreak Investigation of Leptospirosis in Yogyakarta City, 2024

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Oral

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## Background

On January 24, 2024, the Yogyakarta City Health Office received a report of a confirmed IgM-positive Leptospirosis from the Gondokusuman I Public Health Center after one year without any positive cases. An epidemiological investigation was conducted to confirm the outbreak, identify risk factors and disease control.

## Methods

An active case-finding and descriptive epidemiological study was conducted from January 24 - 21 February 2024. The confirmed case was person with one or more symptoms of fever, headache, fatigue, icteric, calf pain and positive leptospira Rapid Diagnostic Test (RDT) result. The population at risk was people who lived in the same area as the case and had risk of the potential presence of rats. Data was collected by interviews about Knowledge, Attitude, and Practice (KAP), environmental risk surveys, and rat trapping. BBLabkesmas Yogyakarta used Polymerase Chain Reaction (PCR) to analyze rat kidney, water, and soil samples. BBLKL Salatiga tested rat blood serum with Microscopic Agglutination Test (MAT).

## Results

A confirmed case was 54-year-old female who died five days after the onset. The risk factor was not using personal protective equipment during gardening and scrap-collecting activities around the house. The environmental risk observation of the case house showed ground-floor and dirty-looking house. Seven of 55 houses (13%) around the case have high transmission risk. The KAP survey showed that 76% of respondents have good knowledge, 55% have poor behaviour, and 16% have poor attitudes. Of 18 trapped rats, 15 were PCR positive (83.3%), and 8 were MAT positive (44.5%). The serovars identified were *L.icterohaemorrhagiae*, *L.bataviae*, *L.djasiman*, dan *L.manhao*. The soil and water samples showed positive results.

## Conclusions

There was an outbreak of leptospirosis in Yogyakarta City with poor hygiene as a risk factor. As disease control measures, encouraging environmental hygiene in the community, implementing rat control, and strengthening cross-sectoral collaboration with one health approach are needed.

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# Community Based Surveillance Learning - Rabies Alert Team (TISIRA) for Bali Free of Rabies

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Oral

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## Background

Since 2008, Bali Province has remained a rabies endemic area with 216 deaths. This condition is exacerbated by Bali Province having a high dog population of 607,085 dogs in 2023. This condition has encouraged the Bali Province Agriculture and Food Security Service to establish community-based surveillance (SBM) in each village to accelerate a rabies-free Bali through the establishment of Rabies Alert Teams (TISIRA) since 2022. Therefore, it is necessary to learn from the implementation of SBM in Bali Province to control rabies.

## Methods

The approach used in this study was a qualitative study and document review related to TISIRA. The total number of informants involved in this study was 18 people spread across 6 villages in 5 districts in Bali. The data collection method used was by interviewing and studying the Decree (SK) on the establishment of TISIRA in each village. Data collected in May and June 2024.

## Results

There are 402 (56.6%) of 716 villages in Bali Province that have established TISIRA. Document review outlined the duties of TISIRA including: rabies education, rabies population data collection, population monitoring, vaccination assistance, and rapid response in the case of a potential rabies bite. Interviews showed that TISIRA members felt confused in carrying out their duties, and reporting of population data collection was still not digitalized and tiered. Therefore, to optimize TISIRA's duties, it is necessary to develop a TISIRA Handbook and a digitalized reporting system from village, district and province.

## Conclusions

One of the responses by the Bali Provincial Government to control rabies is to establish Community Based Surveillance through TISIRA. SBM has the potential to help control rabies in Bali. However, to achieve this potential, several steps need to be taken to optimize TISIRA's work.

# Leptospirosis Outbreak Investigation In Buleleng Regency, Bali Province 2024.

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Oral

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## **Background**

Indonesia is a country with a high incidence of leptospirosis and ranks third in the world for mortality rate. In Bali until 2022, there has never been a reported confirmed incidence of leptospirosis in humans. It is known that on March 25, 2024 there was one case with a diagnosis of leptospirosis at Kerta Usada Buleleng Hospital. The purpose of this study is to find out the epidemiological picture of leptospirosis outbreak in Buleleng Regency.

## **Methods**

The investigation is carried out with a descriptive approach to case reports. The method of finding cases is based on reports from the District Health Office, Primary Health Care Center, Village Governments and Families who experience complaints and there is a history of the environment contaminated with rat urine.

## **Results**

There was one subject female 70 year old, who worked as a trader in the market with probable leptospirosis. No additional cases were found based on a 100% negative RDT screening result. Mouse vector tracing has been carried out with 50% positive results of antileptospira IgM. The current status of the case is completed treatment.

## **Conclusions**

The firts case of leptospirosis in humans has been identified in Buleleng Regency. The follow-up recommendation is to increase early vigilance against suspected cases of leptospirosis through surveillance of cases seeking treatment at health facilities, both government and private.



# Food or Waterborne Diseases (2)



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# Outbreak Investigation of Food Poisoning in Cimahi City, West Java on July 2023

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Oral

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## Background

On July 23, 2023, one suspected food poisoning was reported by health cadre of Padasuka Village. In addition, the hospital reported that 123 suspected cases, and 55 of them were hospitalized. These cases were from the Regional Legislative Council members' meetings with the public. An investigation conducted from July 23-31, 2023.

## Methods

Conducted a retrospective cohort study of people who attended or consumed food from the meeting (N=353) and also in-depth interviews with food handlers. Cases were defined as people who consumed the food from the meeting, and had symptoms of food poisoning. Food and environmental samples were tested. Analysis used logistic-regression to determine association with case status.

## Results

Out of 353 respondents, 331 (93,77%) had symptoms. Most cases (58,61 %) were female, 41-60 years (34,44%), average 36 years. They had diarrhea (87,82%), dizziness (85,84%), nausea (77,9%), and vomiting (62,89%). The incubation period was 3 to 54 hours. Food handlers revealed that food prepared and cooked since Friday (21/7) afternoon, and consumed on Saturday (22/7) evening until night. A significant correlation ( $p < 0,05$ ) between time interval of serving and eating time  $> 7$  hours (RR 64.89; 95%CI 17.91-235.26). Balado eggs was eaten by 76,13% of cases (AR=95,45%, RR 4,13; 95%CI 1,29-13,19), and corn fritters by 71,6% (AR=95,18%, RR 3,35; 95%CI 1,05-10.68). Laboratory tests confirmed that *Staphylococcus aureus* were in balado eggs and *Salmonella enteritidis* were in corn fritters. Food processing was carried out by 5 people, only used gloves without masks and head coverings.

## Conclusions

Outbreak caused by two identified pathogens suspected from food handlers, supported by high-protein foods and long meal interval increasing probability of pathogen proliferation in high amounts. Need to conduct workshop about time management and food safety during production, continuous supervision and monitoring to ensure compliance with food safety measures. The public needs to be educated about food safety.

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# Food Poisoning Investigation during New Incoming Student Orientation Event at Depok District, Sleman Regency, Special Region of Yogyakarta, Indonesia, in 2023

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Oral

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*Ms. Jihan Rizka Syafiya La Moma*<sup>1</sup>, *Mrs. Setyaningrum Setyaningrum*<sup>1</sup>, *Mr. Isa Dharmawidjaja*<sup>2</sup>,  
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## Background

On August 18, 2023, 55 new students were reported to have similar symptoms of nausea, vomiting, and dizziness after consuming food served at the Orientation Event at Depok District, Sleman Regency. This investigation aimed to confirm the food poisoning outbreak, identify the causative agent of the food poisoning, and implement prevention and control measures.

## Methods

A retrospective cohort study was conducted with a who received and/or consumed the food provided during the event were considered at risk. Cases were defined as a person who had nausea or fatigue or vomiting with or without other symptoms, and consumed food from the event on August 18, 2023. We used a structured e-questionnaire via Google form on August 18 – 22, 2023 together with environmental assessment, food sampling also biological sampling for laboratory testing for the investigation.

## Results

There were 402 at-risk populations with 310 respondents identified as cases (AR= 77%). The top five symptoms included nausea (85%), fatigue (55%), vomiting (52%), dizziness (51%), and diarrhea (34%). People who consumed fried noodles had a 1.91 (95% CI 1.37 - 2.66) times greater risk of food poisoning compared to other types of food. From the differential diagnosis according to symptoms, incubation period, and causative agent of poisoning, the suspicious causing bacterial contamination was *Staphylococcus aureus*. However, the laboratory results did not support this, which may be due to inaccurate sampling, sample storage, and possible contamination with other pathogens.

## Conclusions

We confirmed a food poisoning outbreak at the Student Orientation Event at Depok District, Sleman Regency with clinical symptoms leading to *Staphylococcus aureus* contamination. All symptomatic cases have received treatment from related health facilities. The need to ensure better coordination, strict control, and clear procedures in the investigation of food poisoning. Evaluation must be conducted for procedural improvements in the future.

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# Investigation of Food Poisoning Outbreak in X Office, Bantul District, Indonesia, January 2024

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Oral

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## **Background**

On 10<sup>th</sup> January 2024, the surveillance team of Bantul District Health Office received a report that 11 people were sick with similar symptoms after consuming several food items at the meeting in X office. This investigation aims to confirm and describe the outbreak for control measures.

## **Methods**

Active case finding and a retrospective cohort study was conducted in this investigation. Cases were defined as people who experienced diarrhea, with or without other symptoms after consuming one or more foods at the meeting on 9<sup>th</sup> January 2024. Data collection was done using a structured questionnaire via Google Form. This investigation collected data about food consumption, characteristics, and environmental data. This investigation also collects food samples for laboratory testing. Data were analyzed using descriptive and statistical analysis (chi-square).

## **Results**

There were 27 people who consumed the food with 66.66% identified as cases. Among cases, 79.22% were female and 79.22% were 20-44 years old. All cases had diarrhea, 94.44% had abdominal pain and only 5.56% had vomiting. Outbreak occurred from 9<sup>th</sup>-10<sup>th</sup> January 2024 with an average incubation period 8 hours 30 minutes, and ranging from 3 - 15 hours. *Krecek* meat had the highest risk ratio among food items. People who ate *krecek* meat had 6.6 (95%CI: 1.05-41.73) times higher risk of becoming cases. Improper cooking processes and food storage are the contributing environmental risk factors. Symptoms, food items, and food process were leading to *Bacillus cereus* contamination, although the results of laboratory testing on *krecek* meat showed negative.

## **Conclusions**

There was a food poisoning outbreak in X Office on 9<sup>th</sup>-10<sup>th</sup> January 2024 caused by contamination of *Bacillus cereus* on *krecek* meat. The contamination is caused by improper cooking processes and food storage. These findings underlined the need to improve food handlers knowledge about good hygiene and sanitation during the cooking process and food storage.

# Food Poisoning Outbreak in Selomerto Sub-District, Wonosobo District, Central Java, in 2024

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Oral

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## **Background**

On Saturday, February 24 2024, food poisoning occurred at a Quran recitation event in Selomerto sub-district with a total of 44 cases. The aim of the investigation is to identify sources of outbreak and risk factors associated with food poisoning outbreaks.

## **Methods**

The outbreak investigation used cross-sectional study design. A study questionnaire was used to collect the risk factor data and sign and symptoms. Total 58 people attending the event were sampled. The factors were analysed descriptively and attack rate was calculated for each factor. Left-over food (except coconut-durian beverage) and faecal samples from clinically ill cases were taken for laboratory tests.

## **Results**

Of those 58 people, 44 people experienced symptoms of diarrhea (72.4%), stomach cramps (69%), fever (62.1%), vomiting (22.4%), and nausea (58.4%). The cases were more detected in men (52%) with the age range 5-81 years, (mean 41.7 years old). The incubation period was between 6-15 hours (mean 11.41 hours). This investigation revealed that people who ate the beverage of mixed-coconut water and durian were sick (44/58; Attack Rate 75.9%). Stool laboratory test showed positive for *Salmonella* and *Streptococcus faecalis*. However, in this investigation we could not get the lab test for coconut-durian beverage due to sample unavailable.

## **Conclusions**

According to the findings of the investigation, we conclude that the cause of food poisoning was coconut-durian beverage which was contaminated with *Salmonella* and *Streptococcus faecalis* bacterias. This contamination may occur because the food was spoiled as it was prepared in the morning (8 am) and served at the late afternoon (4 pm).



# FETP-Intermediate



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# Food Poisoning Outbreak Investigation At Sekolah Khusus Olahraga Internasional (SKOI), Samarinda, Indonesia 2024

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Oral

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*Mr. Achmad Zainuri<sup>1</sup>, Mr. Ahmad Musyafa<sup>2</sup>*

*1. Dinas Kesehatan Kota Bontang, 2. Balai Kekarantinaan Kesehatan Kelas I Samarinda*

## Background

On April 25th, 2024, Surveilans officer at I.A. Moeis Hospital Samarinda reported 12 students were referred with symptoms of nausea, vomiting and diarrhea after having dinner at school. An investigation was carried out to find the source and mode of transmission of the outbreak.

## Methods

A cohort retrospective performed with case definition was student who ate dinner and experienced abdominal pain or diarrhea as the symptoms during April 24-25th 2024. Data were collected through interviewing the residents using questionnaires. Bivariate analysis was performed to obtain RR value. Food samples were taken to Samarinda City Health Laboratory for microbiological analysis.

## Results

A total of 106 students were ill (AR 71,62%; N=148) with the main symptoms being abdominal pain (99,06%) and diarrhea (88,68%). The average incubation period was 10 hours, lasted <24 hours. No fatality and no cases sought medical treatment. Cases on age group >15 yo had the highest AR (75%). Women had a higher risk (AR 88,24%). The long duration between processing and serving the food was a factor that contributed to bacteria growth in the food. The type of food suspected of causing the outbreak was meat (RR=2.17). *E.coli* bacteria have been confirmed to be present in the meat samples examined. Environmental investigations found that factors influencing the contamination included the processing method and the duration between cooking and consumption are thought to be causal factors. The results of the investigation were reported to DHO and evaluated together with the school and the food service provider.

## Conclusions

The outbreak of food poisoning at SKOI was caused by *E.coli* in meat. Health promotion concerning food safety is necessary to be undertook to avoid similar outbreak.

# Delayed Diagnosis of Human Monkeypox In a Case With Underlying Human Immunodeficiency Virus on May 2024 in Bogor City: a Case Report

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Oral

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*1. Bogor City Health Office*

## **Background**

Bogor City Health Office received a report of suspected monkeypox from regional hospital on 2 May 2024. Monkeypox was reported for the first time in Indonesia in 2022 and now was declared a global health emergency by WHO. This case report aimed to describe one case of monkeypox clinically and epidemiologically.

## **Methods**

The study design was a case report, focusing on case characteristics with case definition is a suspected or probable case that is confirmed positive for MPXV infection as proven by polymerase chain reaction (PCR) testing. Primary data were gathered through direct interviews using a standardized case investigation form, while secondary data were obtained from medical records. Samples collected included tonsil swabs, anal swab and lesion fluid which were sent to the Jakarta Health Biology Laboratory Center for analysis.

## **Results**

This case involved a 26-year-old man, identifying as man who has sex with men (MSM), who presented with a small lesion around the anal area on March 30th. On April 9th, he was admitted to a hospital in Tegal City and diagnosed with syphilis. By April 23rd, his symptoms had worsened due to late diagnosis, necessitating a five-day hospitalization. On May 1st, he went to the Bogor City Regional Hospital and diagnosed with monkeypox. Laboratory tests confirmed positive results for HIV and syphilis. Examination revealed lesions extending to his face and hand. He reported no history of international travel but had twenty different sex partners and one anonymous partner, without condom use. He also lacked vaccination against chickenpox. The patient was isolated in the hospital for two weeks and treated with tecovirimat 600 mg twice daily.

## **Conclusions**

This case confirmed positive Monkeypox after two months since first symptom. The collective findings the significance of surveillance, continuous monitoring, and strategic vaccination initiatives in populated urban centers to mitigate the impact of mpox outbreaks.

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# Analysis of Risk Factors for Dengue Hemorrhagic Fever (DHF) in Kwandang District, North Gorontalo Regency, Gorontalo Province, 2022

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Oral

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***Mr. Hidayat Hidayat***<sup>1</sup>

*1. North Gorontalo District Health Service*

## **Background**

Dengue Hemorrhagic Fever is viral infection caused by the dengue virus, which is transmitted to humans through the bite of an infected mosquito (WHO, 2023). Kwandang district is one of 11 sub-districts in North Gorontalo Regency which has the highest cases (83.72%) of the 43 total dengue fever cases in 2022. This research aims to analyze the risk factors for dengue fever in Kwandang district.

## **Methods**

This research uses a case-control method (1:2). Cases are people living in Kwandang District from 1 January 2022 – 31 December 2022 with a diagnosis of dengue fever, and controls are the closest neighbors of cases who do not have a diagnosis of dengue fever. Data on host characteristics and behavior were collected through interviews and observation with analysis using chi-square.

## **Results**

Interviews were conducted with 102 respondents consisting of 34 cases and 68 controls, and it was analyzed that host characteristics consisting of: age had a Pvalue=0.779 (OR=1.125; 95%CI=0.494-2.564), gender had a Pvalue=0.888 (OR=1.061; 95%CI=0.464-2.430), education has Pvalue=0.672 (OR=1.197; 95%CI=0.520-2.754), and host behavior consisting of: habit of using mosquito repellent has Pvalue=0.065 (OR =2.545; 95%CI=0.925-7.005), and the habit of getting rid of used cans has Pvalue=0.000 (OR=9.500; 95%CI=3.015-29.938).

## **Conclusions**

The risk factor for dengue fever in Kwandang District in 2022 is the habit of getting rid of used cans. The public needs to be advised to get used to getting rid of used cans which are breeding grounds for dengue vectors.

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# Investigation of Serious Adverse Events Following Immunization (KIPI) of nOPV2 Polio Vaccine in Sub-National Immunization Week (Sub PIN) of cVDVP2 Polio in Lumajang Regency in 2024

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Oral

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*Mr. Munif Arifin<sup>1</sup>, Mrs. Indah Ratnawati<sup>1</sup>, Mrs. Putri Gesti Flores<sup>1</sup>*

*1. Lumajang District Health service*

## **Background**

The Ministry of Health of the Republic of Indonesia established the implementation of the Sub National Immunization Week (Sub PIN) in order to control the cVDVP2 Polio outbreak. The Sub PIN is carried out by administering the novel Oral Polio Vaccine type 2 (nOPV2) to all targets aged 0-7 years. It is conducted in 2 rounds with a minimum interval of 1 month. The implementation in Lumajang recorded several Serious Adverse Events following Immunization (KIPI). This research aims to describe the characteristics of these serious KIPI in terms of age, gender, symptoms, laboratory results, and interval between immunization and symptom onset.

## **Methods**

This research is a descriptive cross-sectional study to describe the characteristics of the cases. The population consists of 110,110 targets of the cVDVP2 Polio Sub PIN. The data source is based on epidemiological investigation results from reports of serious KIPI cases from hospitals and health centers.

## **Results**

The total recorded cases are 12, with an average age of 3.5 years. The majority 58.3% are male, 58.3% aged 1-5 years, and 66.7% occurred during Sub PIN Round 1. The symptoms included fever, vomiting, diarrhea, weakness, and convulsions. Weakness as a case of Acute Flaccid Paralysis (AFP) was present in 3 cases (25%), and stool specimen examination showed that 1 case (33.3%) was positive for the nOPV2 polio virus. The average interval between immunization and symptom onset was 3.5 days (range 0-25 days), 41.7% with the most frequent symptom occurring on the same day as immunization.

## **Conclusions**

There were 12 serious AEFI cases from nOPV2 vaccine in the implementation of Polio cVDVP2 Sub-PIN, with 1 AFP positive specimen, no recorded deaths. Prompt and accurate management and laboratory testing of serious AEFI specimens should be conducted to minimize the impact on cases and public confidence in the immunization program implementation.



# Vaccine Preventable Diseases (2)



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# Case-Control Study of Pertussis Outbreak at Islamic Boarding School X, Pengasih, Kulon Progo District, 2023

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Oral

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1. FETP Universitas Gadjah Mada, 2. Kulon Progo District Health Office, 3. PAEI DIY, 4. Pengasih 1 Health Center

## Background

On November 20 2023, the Kulon Progo district health office (DHO) received notification from Wates Hospital of 1 suspected pertussis in Islamic Boarding School X, Pengasih. Our investigation aims to confirm the outbreak, identify the risk factors, and control measures.

## Methods

Active case finding was conducted. A 1:3 matched case-control study was conducted to identify risk factors. Matched by sex and age. Cases were people with paroxysmal cough for at least 2 weeks, followed by whooping cough/vomiting after coughing/apnea symptoms and had a history of contact with people at Islamic boarding school X from 1 October to 4 January 2024. Controls were people who in contact with cases and had no symptoms. The investigation was conducted through interviews, observations, and examination of nasopharyngeal swab samples with a PCR test by Laboratory Prof Dr Sri Oemijati. Analysis using logistic regression.

## Results

The total sample was 72 people (18 cases and 54 controls). Cases comprise 6 confirmed cases (with 1 death, CFR: 5.5%) and 12 epidemiologically connected cases. Most of the cases were female (72%), aged >5 years (72%), and not immunized with DPT-HB-Hib (67%). The most common symptom is a paroxysmal cough (100%). Based on multivariate analysis, non-immunization with DPT-HB-Hib (aOR= 15.06, 95% CI= 1,823-133.42) and travel history (aOR= 15.4, 95% CI= 3,478-71,841) were risk factors for pertussis outbreaks in the Islamic boarding school area. Unvaccinated cases related to religious beliefs in immunization.

## Conclusions

There has been an outbreak of pertussis at the Islamic boarding school X in Pengasih. Non-immunization history and travel are the main risk factors. Prophylaxis to all close contacts and providing a schedule for children <5 years who have not received DPT-HB-Hib immunization have been carried out. We recommend increasing immunization coverage at Islamic Boarding School X to strengthen the communication, information, and education through approaches with religious leaders

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# Investigation Of Polio Outbreaks On Madura Island East Java Province In 2023

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Oral

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## Background

On December 18, 2023, Klaten District reported a positive VDPV2 case with travel history to Sampang District. Environment surveillance for polio carried out by BBTKL Surabaya showed positive VDVP2 from Saksak River, Bangkalan District. The Universitas Airlangga's FETP team was assigned to conduct an advanced investigation on Madura Island. It aimed to find additional cases, identify the transmission source and risk factors, and analyze the polio risk.

## Methods

Investigations were conducted from December 26<sup>th</sup>, 2023 to January 6<sup>th</sup>, 2024 on Madura Island according to the AFP Surveillance Technical Guidelines 2023. Additional cases were found from the Hospital Record Review (HRR) and examination of healthy child feces. Transmission sources and risk factors were identified through document reviews, interviews, and environmental observations. Polio risk analysis was carried out with Rapid Risk Assessment (RRA).

## Results

There were two additional VDPV2 cases found from HRR and nine from examination of healthy child specimens. The majority of cases were female (54.55%). Most cases occurred in Sampang District (90,91%). Sampang and Pamekasan District did not report AFP cases (silent area) for three years. Polio immunization coverage of Madura Island during 2021-2023 was low between 39-76%. Based on the observations, it was known that water supply was from river water, and there were open defecation practices. The RRA result indicated Sumenep District at moderate levels, whereas Bangkalan, Sampang, and Pamekasan Districts at high levels.

## Conclusions

There were cVDPV2 Polio Outbreaks on Madura Island. The transmission source was suspected to come from polio-contaminated river water as a water source. Polio risk factors were poor AFP surveillance, low polio immunization coverage, poor environmental sanitation, and clean healthy living behavior (PHBS). It was recommended to optimize the active hospital surveillance, carry out ORI and increase routine immunization coverage, build standard drinking and sanitary water supplies, and socialize PHBS.

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# Measles Outbreak Investigation Among Adults Population in Belok Village, Badung Regency, Bali Province 2024

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Oral

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## Background

In February 2024, the Bali Provincial Health Office was notified of 7 measles suspects from Semara Ratih Hospital Tabanan, indicating a potential outbreak in Belok village. Three cases had pneumonia complications. This study aims to confirm the outbreak, identify new cases, and determine the risk factors among Belok residents.

## Methods

The investigation utilized a case-control design, including 12 cases and 24 controls, through in-depth interviews and observations. Cases were defined as individuals with a history of fever and maculopapular rash accompanied by cough, flu, conjunctivitis, and/or direct contact with cases. Controls were the asymptomatic neighbors and family members. The risk factors assessed were immunization status, history of alcohol use, smoking, direct contact with cases, mobility, and body mass index. Chi-square and linear regression analysis were employed for data analysis.

## Results

Among the cases, 4 laboratory-confirmed, 4 clinically compatible and 4 epidemiologically linked—all cases presented with fever, maculopapular rash and cough. Cases dominated in Bon subvillage (50%), aged 20-50 years old (75%), incomplete immunization in case population (100%) and control population (53,34%). Significant risk factors assessed in bivariate analysis were incomplete measles immunization (OR=0.538; 95% CI 0.378- 0.769), history of direct contact (OR=12.143; 95% CI 2.100-70.220), history of alcohol use (OR=7; 95% CI 1.454-33.696), and history of smoking (OR=9.8; 95% CI 1.849-51.928). No significant risk factors were found in the multivariate analysis. Additional findings suggested potential infections during religious activities at local Hindu temples, within hospital settings and family clusters, and low immunity status among adults.

## Conclusions

A laboratory-confirmed measles outbreak was declared among the adult population in Belok. Adults had high incomplete immunization status both in the case and control populations. Further recommendations are strengthening the second and third doses of immunization through a catch-up program for children and implementing outbreak response measles immunization for adults in Belok.

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# Investigation of Measles Outbreak in Karanrang Island, South Sulawesi, 2023 : Challenges and Countermeasure Strategies

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Oral

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## Background

On 04 June 2023, the Sabutung Health Centre reported that 8 suspected measles children were admitted to the sub-primary Health Centre in Mattiro Bulu village, Liukang Tupabbiring Utara sub-district. The surveillance team of the Pangkep Health Office and Sabutung Health Center conducted epidemiological studies with the aims of confirming an outbreak, identifying risk factors, and controlling the outbreak

## Methods

The investigation was conducted on June 12-13, 2023 in Mattiro Bulu village, Liukang Tupabbiring Utara sub-district, Karanrang Island, Pangkep Regency, with a 1:1 Case-Control Design, 54 respondents. The cases were person with symptoms of fever, rash, and other additional symptoms. Controls were families/neighbors who do not have measles symptoms within (10-18 days) after contact with the cases

## Results

A measles outbreak occurred in Mattiro Bulu village, Liukang Tupabbiring Utara sub-district. There were 27 cases, with 7 confirmed cases (25.9%) and 20 clinically compatible cases (74.1%). The highest attack rate was in Sejahtera Hamlet (8.1/10,000 population), while the highest attack rate by age was in children aged 6-10 years (21.1%/10,000). Bivariate analysis using the chi-square test showed that the risk factors for measles in this study were lack of parental knowledge about measles (OR 71.9; 95% CI, 0.100-0.743), incomplete MR immunization (OR 12.2; 95% CI, 0.292-0.658), MR vaccination history (OR 10.0; 95% CI, 0.177-0.436), and gender (OR 0.84; 95% CI, 0.227-0.309).

## Conclusions

A measles outbreak occurred in Pangkep District from 12 May to 11 June 2023 with Incomplete MR immunization and lack of parental knowledge as major risk factors. Outbreak Response Immunization is conducted to break the chain of transmission. Active health promotion to the community about the importance of immunization needs to be improved so that people understand and willing to provide MR immunization to their children, and overcoming barriers to logistics availability



# Food or Waterborne Diseases (3)



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# An Outbreak Investigation of Scombroid Fish Poisoning Associated with Consumption of Mackerel Tuna in Bantul Indonesia: A Descriptive Epidemiological Study

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Oral

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## **Background**

On December 29, 2023, Imogiri II Health Center reported to the Bantul District Health Office that nine patients experienced flushing and itching after consuming fish at an event. Dlingo and Sanden Health Centers reported similar cases on January 5 and 13, 2024. This investigation aimed to confirm the outbreak, describe the characteristics of cases, and develop recommendations for the future.

## **Methods**

Active case finding and descriptive study were conducted for this investigation. Cases were individuals who experienced any of the symptoms including dizziness, nausea, flushing, itching, and/or vomiting after consuming Mackerel Tuna at the event. We collected data on food consumption, case characteristics, and environmental factors. Data was collected through face-to-face interviews and observation. Data collection was done using paper-based interviews. We also collected food and biological samples for laboratory testing. Data analysis was done descriptively using proportions, tables, and graphs.

## **Results**

A total of 19 cases were identified from three community health centers. Most cases were male (n=15) with an average age of 40-64 years. The mean incubation period was one hour with a range from 15 minutes to 3.5 hours. Laboratory revealed high histamine levels (199.19 - 525.29 mg/kg) for the Mackerel Tuna specimens were taken from the three community health centers. Further investigation found that inadequate temperature control during the processing and improper storage of Mackerel Tuna was found in this investigation. Fried Mackerel Tuna has higher histamine levels than Mangut Mackerel.

## **Conclusions**

There was a scombroid poisoning outbreak in Imogiri II on December 29, 2023, Dlingo on January 5, 2024, and Sanden on January 13, 2024, caused by improper food processing and storage of Mackerel Tuna. This finding shows the need for increasing awareness about scombroid poisoning among communities. Health education was needed to avoid improper food handling that could cause scombroid poisoning

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# Food Poisoning Outbreak among Students Following the Consumption of Mackerel (*Euthynnus Affinis*) at A Private School, Sleman, Yogyakarta 2023

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Oral

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## Background

On February 23, 2023, the Sleman District Health Office was apprised of a report received from a local hospital, indicating that 37 students had sought medical attention in the emergency department due to manifestations of dizziness, nausea, pruritus, and angioedema on the lips after consumption of lunch supplied by their school. The investigation aims to confirm an outbreak, identify risk factors, and recommend prevention and control measures.

## Methods

A retrospective cohort study with face-to-face and online interviews were conducted from February 24, 2023 to March 10, 2023. Case was defined as either students or school staff who had one or more symptoms such as dizziness, burning sensations, face/body flushing, itching, and nausea after consumption of lunch at school on February 23, 2023. We conducted food samples tests for microbiological, chemical, and histamine levels, and environmental observations in kitchens and canteens. We used binary logistic regression to determine the risk factors of food poisoning.

## Results

There were 828 populations at risk were interviewed. Of 273 people interviewed face-to-face, 103 were confirmed as cases. The most common symptoms were dizziness (65.05%, 67/103), burning sensation on lips or throat (24.27%, 25/103), face/body flushing (21.36%, 22/103), and nausea (20.39%, 21/103). Those who ate mackerel were 4.2 times (aRR 4.2 95% CI 2.23 – 8.06) more likely to have symptoms compared to those who were not. Laboratory tests confirmed histamine levels in the mackerel (3,330.52 mm/kg). Further investigation revealed that the fish storage was at an inappropriate temperature during the fish delivery and marination process.

## Conclusions

A food poisoning outbreak due to mackerel was confirmed at school. Recommendations to enhance the fish storage practices, commencing from the fishermen, and extending to the distributors, and to educate food handlers on food safety are needed.

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# The Causes of Food Poisoning on a Wedding in Village X, Banyumas Regency, 2024

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Oral

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## Background

On 08<sup>th</sup> May 2024, there were reports of 5 food poisoning cases in Village X, Banyumas Regency. Following active case findings, the cases reached 39 cases. An epidemiological investigation was conducted to verify the outbreak, to determine its magnitude, and to identify the source.

## Methods

A case control study was implemented in this investigation. We interviewed the family who held the wedding event and conducted active case finding with another primary health center on a different subdistrict to identify more cases. The food samples were collected to identify the necessary cause.

## Results

No death was reported in this outbreak. The clinical symptoms were nausea (15,38%), vomiting (20,51%), abdominal pain (92,31%), dizziness (5,13%), diarrhea (97,44%), and weaknesses (76,92%). Majority of cases were female (28/39; 71.8%) and age of >50 years old (20/39; 51.3%). The highest attack rate (AR) was people who were older than 50 years (71.43%) and female (56%). The epidemiologic curve showed that the incubation period was 2 to 11 hours after consuming foods. The investigation revealed that people who ate gravy chicken was more likely to develop food poisoning (AOR 7.05; p value 0.011; 95% CI 1.56 – 31.96). The lab test confirmed that gravy chicken was contaminated with *Enterobacter agglomerans*, *Streptococcus B hemolyticus*, and *Staphylococcus saprophyticus*

## Conclusions

A food poisoning had occurred on a wedding event in village X from 07<sup>th</sup> to 08<sup>th</sup> May 2024. The sufficient cause were people who were attending the event and ate gravy chicken by the owner. Whilst, necessary cause were *Enterobacter agglomerans*, *Streptococcus B hemolyticus*, and *Staphylococcus saprophyticus* which contaminated the gravy chicken.

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# Factors Associated with Hepatitis A Outbreak in Islamic Boarding School X, Kebumen Regency, Central Java in 2023: A Case Control Study

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Oral

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## Background

On Thursday, December 7<sup>th</sup>, 2023, Kebumen District Health Office received a report of 4 laboratory-confirmed positive Hepatitis A cases from the Kebumen III Public Health Center (PHC). Epidemiological investigation was carried out at the Islamic Boarding School (IBS) X as soon as we received the report to determine factors associated with Hepatitis A outbreak.

## Methods

The investigation was done using case control study design with a ratio of 1:1. The 66 participants consisted of case and control groups were involved. Cases were residents of IBS X who were selected based on clinical symptoms. Controls were residents of IBS X who were not clinically ill. Case and control groups were matched by age and gender. The questionnaire and observation were used to collect data. The attack rate of each risk factors was calculated. The chi-square test was also used to generate the significance association of risk factors.

## Results

The investigation revealed that the first case was detected on November 14<sup>th</sup>, 2023 and lasted on December 9<sup>th</sup>, 2023. The epidemiologic curve showed that the highest number of cases was detected on December 7<sup>th</sup>, 2023. Most of the cases were aged 15 years (57.6%) and belong to 3<sup>rd</sup> grade junior high school (42.4%). The highest attack rate was people who drank underground water (81.2%), followed by history of contact with patients at IBS X (63.6%) and behaviour of not washing cutlery with soap (57%). The statistical analysis revealed that there is a significant association of drinking underground water with the Hepatitis A incidences (OR= 6,5, 95%CI= 1,64-25,76, p= 0,01).

## Conclusions

Drinking underground water is sufficient cause of the Hepatitis A outbreak at IBS X. We recommend to manage the Hepatitis A surveillance among the students and regularly check the drinking water sources such as boil the water before drinking it, and close the water drum.



# FETP-Frontline



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# Climate Change and Dengue Fever: A 13-Year Study of Mortality Trends during 2010-2023 in Indonesia

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Oral

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## Background

**Background:** Dengue fever is a significant public health concern in Indonesia, with mortality cases nearly tripling in 2024 compared to the same period in 2023. As a vector-borne disease, dengue fever is highly influenced by environmental conditions, making it particularly sensitive to the impacts of climate change. Indonesia, being heavily affected by global climate change, faces increasing challenges in managing dengue fever. This study aims to investigate the association between dengue fever mortality and climate variables, specifically annual rainfall, and temperature, in Indonesia from 2010 to 2023.

## Methods

**Methods:** Secondary data on dengue fever cases from 2010 to 2023 were collected from the Ministry of Health of Indonesia. Data on annual rainfall and annual temperature were obtained from the Indonesia Meteorology, Climatology, and Geophysics Council, with information gathered from 116 stations across Indonesia. Linear regression analysis was used to determine the association between these variables and dengue fever mortality. This research received ethical approval under the number No.2245/UN25.8/KEPK/DL/2023.

## Results

**Results:** The analysis revealed a significant association between annual temperature ( $p=0.049$ ;  $R=0.212$ ; 95% CI: 710.85-2.233) and dengue fever mortality. Additionally, annual dengue fever cases were significantly associated with mortality ( $p<0.001$ ;  $R=1.075$ ; 95% CI: 0.007-0.010). However, annual rainfall was not found to be significant in this study.

## Conclusions

**Conclusion:** These findings underscore the importance of monitoring climatic changes and their impact on public health, particularly concerning vector-borne diseases. Enhanced surveillance and targeted interventions could mitigate the adverse effects of these climatic variables on dengue fever mortality in Indonesia.

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# Epidemiology Descriptive of Food Poisoning Outbreaks at Islamic Boarding School X, Rokan Hilir Regency, Riau, 2024

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Oral

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## **Background**

Food poisoning is a common health problem that has a significant impact on public safety. On May 15<sup>th</sup>, 2024, a student was reported to have died by Hospital X with symptoms of diarrhea, abdominal pain, vomiting and foaming mouth after consuming food at the *Milad* event of the Islamic Boarding School (IBS) X, Rokan Hilir Regency, Riau. On May 16<sup>th</sup>, 2024, an epidemiological investigation was carried out to find out the epidemiological picture of the outbreak based on people, places and times and analyze the causes of the outbreak.

## **Methods**

A descriptive epidemiological study was conducted by reviewing cases of food poisoning based on clinical symptoms such as abdominal pain, dizziness, diarrhea, nausea, fever and vomiting after consuming food at the *Milad* event at IBS X on May 12<sup>th</sup>, 2024 totaling 261 students. Data collection using a questionnaire on May 16<sup>th</sup>, 2024 and subsequently analyzed univariately.

## **Results**

There were 241 cases among 261 at-risk populations. All patients were female (100%) and most were 13 years old (34.43%). Three most clinical symptoms being abdominal pain (42.3%), dizziness (36%), diarrhea (15.7%). Three of the thirteen most complexes are *Marwah* 1 (16%), *Marwah* 2 (12%) and *Marwah* 4 (10%). The epidemic curve shows a common source point pattern. The peak period on May 13<sup>th</sup>, 2024 with outbreak periode of 2 to 69 hours. The risk factor for food poisoning is *siomay* (AR= 92.33%) contaminated with Salmonella bacteria suspected to be the source of food poisoning outbreak.

## **Conclusions**

There was a food poisoning outbreak in IBS X in female students with the most ages of 13 years with the most symptoms of abdominal pain. The most cases were found in the *Marwah* 1 Complex from May 13<sup>th</sup> to 16<sup>th</sup>, 2024. Therefore, efforts to educate food processors on proper food safety and hand hygiene practices are necessary.

# The Analysis of Determinants of Tuberculosis Incidence in the Working Area of Tilango Public Health Center, Gorontalo Regency in 2023

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Oral

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## **Background**

Tuberculosis (TB) is currently still a public health problem both in Indonesia and internationally, so it has become one of the goals of sustainable health development or Sustainable Development Goals (SDGs). At the Tilango Public Health Center the number of positive TB cases in 2021 was 63 cases, in 2022 there were 100 cases with 3 deaths and in 2023 there were 86 cases with 7 deaths. The aim of this study was to analyze the risk factors of gender, nutritional status, family history, household contacts, residential density and house ventilation and the most dominant risk factors for the incidence of Tuberculosis.

## **Methods**

The research design used was analytical observational with a case control approach. The sample in this study consisted of 33 cases and 66 controls by matching addresses.

## **Results**

The research results showed that of the 99 respondents, 40 were male and 59 were female with OR=5.333; p=0.000, 37 respondents who had a family history of TB sufferers and 62 people who did not have a family history of TB sufferers with OR=5.469; p=0.000, respondents with household contacts were 34 people and those without household contacts with TB sufferers were 65 people with OR=5.231; p=0.000; while respondents with residential density < 8 m<sup>2</sup> / person were 35 people and with residential density ≥ 8 m<sup>2</sup> / person were 64 people with OR=5.231; p=0.000.

## **Conclusions**

Gender, family history, household contacts and residential density are risk factors for the incidence of Tuberculosis. It is recommended that community health centers develop programs related to the risk of tuberculosis transmission in order to improve the quality of public health in their area and then look at other aspects that contribute to the high incidence of tuberculosis.



# Respiratory and Vector-borne Diseases



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# Evaluation of the Tuberculosis Surveillance System in DKI Jakarta Province in 2024

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Oral

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## **Background**

Indonesia is the second country with the highest tuberculosis cases in the world after India. The surveillance components for Tuberculosis recording and reporting have been facilitated by SITB. Recommendations for program improvement should be carried out by the smallest units, such as Public Health Centers, by analyzing report data and disseminating it to the necessary parties. Recommendations have been made at the provincial level. The evaluation aims to determine the description of the implementation of tuberculosis surveillance in DKI Jakarta Province.

## **Methods**

The research design is descriptive, with a qualitative and quantitative approach through observation and structured interview. This study was conducted in the Province of DKI Jakarta. It ran from April to June 2024. Data were obtained from tuberculosis reports submitted through SITB and in-depth interviews with 9 Tuberculosis officers at the Health Sub-Office, Public Health Centers and officers in hospitals. Evaluation of the surveillance system in terms of system structure, core functions, support functions, and system attributes based on WHO guidelines.

## **Results**

The aspects of the system structure related to legal aspects, networks, and partnerships have been functioning well. There are no specific implementers in hospitals. The core functions based on detection, collection, recording, reporting, dissemination, and feedback have been operating optimally, while the components of analysis and result interpretation have not been optimal. The support functions based on training components and resources have not been optimal. The system attributes based on simplicity, completeness, representativeness, acceptability and usefulness have been running optimally; however, the timeliness component has not been optimal.

## **Conclusions**

It's necessary to increase the capacity and quality of the information system at SITB, improve the accuracy of reports, provide training on tuberculosis surveillance and analysis of surveillance data, and advocate for health facilities so that they do not change their tuberculosis program holders.

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# Malaria Prevention Practices of People in Magelang Regency: Potential Contribution of Community Health Workers

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Oral

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## Background

Magelang Regency has been investing in Malaria Community Health Workers (CHWs) or *Juru Malaria Desa* (JMD) to enhance malaria control programs in three receptive areas in Magelang. This study aimed to assess the performance of CHWs in promoting malaria prevention practices.

## Methods

A cross-sectional survey was conducted in Salaman, Borobudur, and Kajoran sub-districts, Magelang Regency, in March 2024. A total of 416 respondents were selected using multi-stage stratified random sampling. Data collected included sociodemographic information, knowledge and attitudes about malaria, malaria prevention practices, malaria history, and CHW services received in the past year. This data was collected through interviews using a structured questionnaire. Bivariate and multivariable analysis were performed using logistic regression.

## Results

Of the 416 respondents, 141 had received a visit by a CHW (33.89%). Most of the respondents were female (84.38%) and aged 18-45 (47.84%). Overall, most respondents had good knowledge (58.17%), poor attitude (93.03%) and poor malaria prevention practices (69.40%). The results of multivariable analysis showed that respondents who received CHW services in the past year were more likely to practice good malaria prevention measures than those who did not (aOR: 1.693; 95% CI: 1.062-2.697).

## Conclusions

Despite the efforts, more than half of the respondents still practiced poor malaria prevention measures. This finding underscores the significant role of CHWs in promoting malaria prevention. To optimize malaria control programs, CHWs should extend their reach to all communities in malaria-receptive areas to ensure the even distribution of information related to malaria prevention.

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# Barriers and facilitators to the sustainability of collaboration screening tuberculosis (TB) and diabetes mellitus (DM) programme in Yogyakarta, Indonesia: a qualitative study

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Oral

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## Background

The co-occurrence of tuberculosis (TB) as a prevalent public health concern and the rising prevalence of diabetes mellitus (DM) in Yogyakarta city presents synergistic risk factors. Targeting DM patients for TB active case finding may have a beneficial impact on TB control. In 2019, a collaborative project for piloting the TB screening program among diabetic patients was initiated in three Primary Health Care (PHC). Five years later, the sustainability of the programme is being assessed, and the study aims to explore barriers and facilitators for its and identify ways forward for improving its implementation.

## Methods

We conducted in-depth interviews with 14 key leaders and program staff in the city level and primary health care in Yogyakarta city between February 2024 and April 2024. We adopted the Program Sustainability Assessment Tool (PSAT) instruments for the interview and translated into Bahasa Indonesia. The data was then analyzed according to the theoretical framework of Luke, et al.

## Results

The implementation of TB screening program collaboration was identified in two activities i.e. TB active case finding (ACF) and the integrated service for non-communicable disease (Posyandu PTM). Participants reported facilitators on the program sustainability which include adequate organizational resources, partnership with academic institutions, and political support. Meanwhile the barriers on sustainability include the long-term funding availability, lack of program evaluation, lack of integrated data collection systems in TB and DM working units, inadequate communications between two programs staff, and high turn-over staff.

## Conclusions

This study highlights that funding, program evaluation, data system, communication, staff turnover were the critical barriers for sustainable implementation of TB-DM screening program. Addressing these barriers, particularly through securing long-term funding, implementing program evaluations, and fostering integrated data collection and communication, is crucial to ensuring the program's continued success in combating TB among diabetic patients or diabetes among TB patients.

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# Risk Factors Dengue Fever in an Endemic Area in Sikka, Indonesia; a Case-Control Study

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Oral

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## Background

Dengue fever is a significant global health problem. Despite various efforts and control strategies, the incidence of dengue has not significantly decreased. This study aims to comprehensively investigate the risk factors for dengue hemorrhagic fever (DHF) in endemic areas to develop effective prevention and control strategies.

## Methods

A case-control study was conducted in East Alok Subdistrict, Sikka District in 2024, with a 1:1 ratio. Cases included families with members diagnosed with DHF based on positive NS1/IGM laboratory results, living in Alok Timur sub-district in 2023 (132). Controls were families without DHF cases, living in Alok Timur sub-district in 2023 (132). Data were collected using a validated structured questionnaire and analyzed using multivariate logistic regression with the STATA application.

## Results

Total dengue cases 132 cases, (51%) male, with the majority in the age group of 5-15 years (39.3%). The House Index (62.5%), Breteau Index (386%), Container Index (49.93%), and Flick Free Rate (37.5%). Multivariate analysis identified several risk factors, including knowledge (AOR 2.48; 95% CI, 1.128-4.928), the habit of hanging clothes after use (AOR 2.93; 95% CI, 1.292-6.688), the habit of storing water in open containers (AOR 2.53; 95% CI, 1.257-5.090), occupancy density (AOR 2.20; 95% CI, 1.153-4.229), and larval density (AOR 13.97; 95% CI, 6.793-28.735). These variables had a 96.8% probability of causing DHF incidence. Additionally, bivariate analysis showed that attitude variables, the use of mosquito nets, and the habit of regularly draining water reservoirs also had a significant effect.

## Conclusions

Knowledge and larval density significantly contribute to the incidence of DHF. Increasing knowledge and implementing integrated vector control strategies, such as releasing Wolbachia mosquitoes, are effective solutions for DHF control in endemic areas in Sikka District.



# Infectious or Communicable Diseases



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# Evaluation of the Measles Surveillance System in South Tangerang City in 2024: Progress Towards Measles Elimination

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Oral

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## **Background**

To achieve measles elimination in 2026, the recommended 95% coverage with 2 doses of Measles Containing Vaccine (MCV) and measles surveillance sensitivity indicator target of two or more discarded cases per 100,000 population are essential to prevent further transmission. The high immunization coverage and surveillance indicators in South Tangerang City in 2023, the Incidence Rate increased to 76.82 per 1 million population. An evaluation of the Surveillance System is needed to analyze the quality of the surveillance system and identify areas need to be improved.

## **Methods**

The Surveillance System Evaluation was conducted in March until May 2024 in the South Tangerang City Health Office. Data were collected through observations, document reviews, and structured interviews with one Surveillance Officer from Health Office and seven from Public Health Centers. The study evaluated the structure, core and supporting functions, and surveillance attributes based on the WHO Surveillance System Evaluation. Descriptive analysis is presented with tables, graphs, and narrative.

## **Results**

Epidemiological data on measles to support elimination were 100% available at the Health Office and Public Health Centers. Measles case were reported by public health center 55% and 45% reported by Hospital and it is followed by investigation and catch-up immunization for every detected suspected measles. Data analysis and identification of high-risk areas were conducted by the Health Office, with 14% of Public Health Centers conducting analysis, interpretation, and dissemination. The system, being simple, acceptable, user-friendly and well-implemented by surveillance officers, produced complete, accurate, and highly sensitive data.

## **Conclusions**

The implementation Surveillance System is operating effectively. All objectives of the Measles Surveillance implementation have been achieved. However, improvements are needed in the analysis and dissemination of surveillance data at the Public Health Centers. The achievement of measles surveillance sensitivity indicator target is the key to detect, trace and control measles outbreaks towards elimination.

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# Strengths and Weaknesses: Evaluation of Early Detection of Hepatitis B Program for Pregnant Women and HBsAg Testing for Infants in Sleman Regency, Indonesia (2019-2021)

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Oral

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## Background

The Early Detection of Hepatitis B (EDHB) program in Sleman Regency conducts hepatitis B screening for pregnant women during ANC visits. Infants born to hepatitis B-positive mothers are tested for HBsAg at PHCs between 9-12 months after receiving HBIg within 24 hours of birth. This study evaluates the program's implementation strengths and weaknesses.

## Methods

A descriptive quantitative study was conducted from January to March 2023 using a logic model approach. Structured interviews were carried out with EDHB program coordinators, laboratory personnel, and logistics staff from Primary Health Centers (PHCs), Hospitals, and the Department of Health. Univariate analysis was employed to depict the program's implementation, and the data were presented both narratively and using table.

## Results

From 24 subjects, the study found strengths and weaknesses in the EDHB program. Program strengths include each PHC having a designated program coordinator, well-integrated ANC services, and mandatory referral of all Hepatitis B-positive pregnant women to hospitals. Easy and free access to the HBIg vaccine is also an advantage of the program. Program weaknesses include the lack of HBsAg testing for infants aged 9-12 months after receiving HBIg due to high workload among staff lack of coordination between programs, difficulty in contacting patients, and insufficient staff knowledge regarding infant follow-up procedures.

## Conclusions

The EDHB program in Sleman Regency has been effectively implemented, but infant follow-up has been insufficient. Improving training, coordination, and implementing innovative strategies are necessary to enhance infant follow-up procedures.

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# Problem Analysis of Diphtheria Prevention and Control Program in Probolinggo District, East Java Province in 2023

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Oral

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## Background

Diphtheria cases in the Probolinggo District Health Office have increased. There were 5 cases with 3 deaths that occurred in the Gili Ketapang islands in 2022, the cases increased again to 18 cases with 1 death in 2023. The incidence of diphtheria mostly affects children who are not immunized. This study aims to analyze the problem of diphtheria prevention and control program in Probolinggo Regency District in 2023.

## Methods

This study used an observational method to analyze the health situation through in-depth interviews and document review of the Probolinggo District Health Profile 2021-2023. Determination of problem priorities using the USG (Urgency, Seriousness, Growth) method with 8 respondents consisting of internal policy holders Surveillance Surveillance and Immunization Ccoordinators, non-communicable disease program managers, and infectious disease program managers. PRoot of the problem was analysis analyzed using fishbone diagrams and then problems that often arise in each condition are carried out by the brainstorming method to prioritize the root of the problem.

## Results

Based on the results of determining the priority of the problem using the USG method, it was found that the priority of the problem was the Case Fatality Rate (CFR) of Diphtheria which increased in the year 2022 by 60%. The results of root of the problem using a fishbone diagram, it was found that the root of the problem was the child's immunization status was incomplete, parents were worried about the effects of KIPPI (Post-Immunization Adverse Events) after immunization in children.

## Conclusions

Completeness of diphtheria immunization plays an important role in preventing diphtheria incidence. Proper education to the public regarding the importance of immunization to prevent diphtheria cases should be improved. The sensitivity of strict surveillance needs to be maximized in capturing and detecting diphtheria as the first step of diphtheria screening.

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# Risk Factors For the Incidence of Schistosomiasis in the Community in Lindu Subdistrict, Sigi Regency, Central Sulawesi Province in 2023

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Oral

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## Background

Schistosomiasis is an acute and chronic parasitic disease caused by bloodworms of the genus *Schistosoma* with snail intermediaries that pollute freshwater and infect humans and mammals. This study aims to determine the risk factors for the incidence of schistosomiasis in the community in Lindu Sub-district

## Methods

This research used observational analytic with a *case-control design (1:4)*. The population in this study were all people who conduct laboratory fecal examinations with positive and negative results in the Lindu Health Center working area. Cases were 22 residents suffering from schistosomiasis with positive stool results from 2020-2023. Meanwhile, the control were the neighbour of the cases who does not suffer from schistosomiasis, 88 person. The cases were selected using exhaustive sampling technique, while the control used a simple random sampling method. Bivariate analysis using the Chi-Square test and multivariate using the logistic regression test.

## Results

The study showed that the risk factor for the occurrence of schistosomiasis significantly was the water sources ( $OR=7,809$ ;  $95\%CI=1,979-31,158$ ), use of Personal Protective Equipment ( $OR=9,066$ ;  $95\%CI=2,834-31,468$ ), taking deworming ( $OR=4.5$ ;  $95\%CI=1,463-13,613$ ), and use of latrines ( $OR=12,647$ ;  $95\%CI=1,821-138,206$ ). In the multivariate analysis, the use of Personal Protective Equipment was produced ( $OR=7.89$ ,  $p=0.000$ , coef 2.06) and the use of latrines ( $OR=8.55$  with  $p=0.028$ , coef 2.14) probability of 15.89%.

## Conclusions

Respondents who did not use Personal Protective Equipment and did not use latrines had 15.89 times risk of getting schistosomiasis. It is expected for public to have a high self-awareness of the incidence of schistosomiasis, use PPE and latrines, as well as use clean water sources. And for health workers and local governments to focus on the program planning to eradicate schistosomiasis.



# POSTER PRESENTATIONS

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# Diphtheria Outbreak Investigation in Depok City - West Java, 2023

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Poster

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## **Background**

Diphtheria is still a priority issue in Depok City. Diphtheria outbreaks have occurred in Depok city since 2022. In 2023, 41 suspected diphtheria cases were found. This study aims to obtain an overview of diphtheria outbreaks in Depok city.

## **Methods**

This research design is a descriptive analysis of diphtheria cases in Depok City in 2023. The case definition used is an observation case, namely a person with symptoms of upper respiratory tract infection and pseudo membranes in an outbreak area. Diphtheria suspect is a person with symptoms of pharyngitis, tonsillitis, laryngitis, tracheitis, or a combination accompanied by fever or without fever and a grayish-white pseudo membrane that is difficult to remove, bleeds easily when removed. Data were collected using the diphtheria epidemiology investigation format and chronological reports of diphtheria cases.

## **Results**

The investigation detected 41 suspected cases, identified 4 confirmed cases and 37 cases clinically. 8 close contacts were identified as confirmed cases. Most of the 49 cases were aged 5-17 years (57.14%), male (51.02%), resided in Sawangan sub-district (22.45%), had symptoms of fever (79.59%), sore throat (83.67%), pseudo-membranes (81.63%), incomplete immunization status (65.31%), and most did not travel out of town. Epidemiology investigations have been conducted with therapy in cases and chemoprophylaxis in close contacts.

## **Conclusions**

Diphtheria outbreaks are found in children and adults. Therefore, efforts to activate case finding, catch-up immunization or Outbreak Response of Immunization in the school and surrounding area of confirmed cases.

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# Investigation of Foodborne Disease Outbreak at Temon II Public Health Center: A Cohort Retrospective Study

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Poster

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## Background

On May 22, 2024, Temon II Public Health Center (PHC) reported their 16 employees were suffering from nausea, vomit and diarrhea after consuming lunch that was prepared and served by PHC staff. Investigation was carried out to confirm the outbreak, identify agent and mode of transmission, describe the contributing factors and implement control measures.

## Methods

We followed outbreak investigation steps and conducted a retrospective cohort study. Case defined cases as employees who had one or more gastrointestinal symptoms after consuming lunch at Temon II PHC on May 22, 2024. Food samples were sent to a laboratory for microbiological testing. Food handlers were interviewed on food hygiene and sanitation. Binomial regression with 95% confidence level was used to compute risk ratio (RR).

## Results

We identified 20 cases with an attack rate (AR) of 55.5%, higher in females (AR: 69.4%). The main symptoms include vomiting (95%), nausea, sweating (90%), and abdominal pain (85%). The epidemic curve indicated a common source with an incubation period ranging from 30 minutes to 5 hours, averaging 1.5 hours. Fried rice menu had the highest risk ratio (RR=15.5; 95%CI=2.30-104.3), while the RR for crackers and vegetables were 6.3 (95%CI:2.24-17.88) and 5.7 (95%CI:2.00-16.01). We found that leftover rice was stored in the refrigerator at 2<sup>0</sup>C for 7 days before being processed into fried rice. *Escherchia coli* was found in fried rice, *Bacillus cereus* was found in mustard greens.

## Conclusions

Outbreak of foodborne disease was confirmed. Lunch menu consumption was the risk factor for the illness. *Bacillus cereus* toxin was likely to be the etiologic agent even though the laboratory result did not support. Education on food safety is needed to prevent outbreaks.

# Identification of Causes of Increasing Prevalence of Tuberculosis Cases in Bangkalan District - Indonesia, 2024

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Poster

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## **Background**

Tuberculosis in East Java is ranked 2nd after West Java. Bangkalan experienced an increase in cases of 155 cases in 2023 with a total of 1641 cases and a death toll of 43 (Case Fatality Rate = 2.62%). The achievement of case discovery and treatment in Bangkalan is 46%, this does not meet the national target of 85%. This research aims to identify the root of the problem and formulate alternative solutions to the problem in the TB program in Bangkalan Regency.

## **Methods**

This is a qualitative descriptive research involving decision makers at the Bangkalan District Health Service, identifying the root of the problem using a fishbone diagram with a Man, Money Method and Machine aspect approach through in-depth interviews. Determining the priority of the root of the problem uses the CARL method (Capability, Accessibility, Readiness, Leverage) by giving a scoring value of 1-5. Data analysis was carried out using primary data with in-depth interviews and health profile data for 2021-2023.

## **Results**

8 problems were identified which were the cause of the increase in the prevalence of Tuberculosis and problems related to efforts to prevent and control the transmission of Tuberculosis were not running optimally and were considered to be the main cause based on prioritization. This problem is caused by the failure of Tuberculosis Prevention Therapy in close contacts with Tuberculosis, poor compliance with wearing masks and poor compliance with taking Tuberculosis medication.

## **Conclusions**

The increase in the prevalence of Tuberculosis cases is caused by efforts to prevent and control TB transmission not being optimal. Alternative solutions suggested are coordinating and collaborating with cross-programs and cross-sectors, creating promotional media, holding regular talk shows, conducting regular community outreach, holding Tuberculosis free campaign activities, holding training for Drug Swallowing Monitoring officers and conducting regular monitoring of program holders.

# Determining Priority Health Problems for Tuberculosis Control in Gianyar, Bali Province

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Poster

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## **Background**

Indonesia ranks second globally, after India, for the highest number of TB cases, with an estimated 724,309 cases in 2022. Bali Province recorded 12,725 TB cases, including 332 cases in Gianyar District. This study aimed to identify and prioritize issues in implementing the TB program in Gianyar.

## **Methods**

We conducted in-depth interviews with program officials at the District Health Office using a questionnaire focused on TB program implementation. Additionally, we performed secondary data analysis, comparing TB cases recorded at 13 health centers in Gianyar to corroborate interview findings. Problems identified from interviews and observations were listed and sent back to the District Health Office for scoring and ranking based on the Urgency, Seriousness, and Growth (USG) method.

## **Results**

Interview findings revealed several issues: insufficient personnel for the TB program, lack of cartridge availability, low participation from private clinics, poor public awareness about TB screening, and unusable tools at health centers. Secondary data analysis confirmed that most private clinics did not report TB cases. Prioritization using the USG method highlighted the top problems as: lack of public understanding of TB screening importance, shortage of TB program personnel, and inadequate reporting from private clinics.

## **Conclusions**

To address these issues, it is essential to provide training for TB program managers, enhance public health education on TB, and improve cross-sectoral and cross-program collaboration to detect, control, and prevent TB cases.

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# Evaluation of Event-Based Surveillance in Monitoring International Travelers: A Case Study at the Makassar Health Quarantine Center, 2023

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Poster

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## Background

Indonesia employs various measures to detect and respond to Public Health Emergencies of International Concern (PHEIC) at entry points like Sultan Hasanuddin Airport in South Sulawesi, with the Makassar Health Quarantine Center (BBKK) playing a crucial role in preventing the spread of infectious diseases. The Early Vigilance and Response System (ERS) reporting at BBKK is essential for detecting, tracking, and responding to health threats quickly, effectively, and relevantly. This evaluation aims to assess the implementation of event-based surveillance in travellers from abroad.

## Methods

A descriptive design was used to evaluate the surveillance system based on CDC guidelines through questionnaires. Respondents included policymakers, surveillance coordinators, and 12 BBKK surveillance officers. The research was conducted from March to July 2024 at BBKK Makassar. Variables included assessment components based on flow, policy, usability, and surveillance attributes (simplicity, flexibility, acceptability, stability) and quantitative (sensitivity/PPV, representativeness, timeliness, data quality).

## Results

The evaluation of event-based surveillance for foreign travellers (PPLN) revealed several issues. From the input aspect, workforce quality is compromised by a lack of understanding of case entry guidelines and overlapping duties among officers. Process aspects, including collection, processing, analysis, and interpretation of case reports, don't align with SKDR guidelines. Output aspects highlighted deficiencies in surveillance flexibility due to insufficient HR training for case reporting input. Acceptability issues include officers' inability to verify the completeness of PE form data. Stability is also problematic, with unstable and incomplete data management. The Positive Predictive Value is 59%, data quality remains low, while sensitivity and timeliness are both at 98%.

## Conclusions

The evaluation of the event-based surveillance system reveals significant discrepancies in input, process, and output aspects. To address these issues, it is recommended to conduct regular training and refresher meetings to enhance the knowledge and accuracy of the officers involved.

# Evaluation of the Mental Health Surveillance System in Purworejo District, Central Java 2023

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Poster

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## **Background**

According to Health Law no. 17 of 2023 article 74 states that mental health is a condition where an individual can develop issues physically, mentally, spiritually and socially. Purworejo is the district with the 3rd most serious mental disorders in Central Java province after Blora and Grobogan, while the prevalence of depression is 3.46% and the prevalence of mental disorders is 6.47%.

## **Methods**

The evaluation was an observational study design by conducting interviews using a questionnaire regarding the implementation of Community Mental Health Surveillance at the Community Health Center and the Purworejo District Health Office. Total 16 staff from 16 representative sub-district community health centers were involved. This evaluation of the mental health surveillance system includes the structure, function, quality and support activities.

## **Results**

Public Health Center (PHC) has not yet fully processed, analyzed and interpreted SIMKESWA data. Total 8 PHCs have not yet met 90% completeness in reporting data. Accuracy reports from PHC to the District Health Office is only 50%. Cases of severe ODGJ reported in 2023 were cases with diagnosis of ODMK and ODGJ, whereas according to the guidelines, severe ODGJ includes schizophrenia and acute psychosis. This means that the number of severe ODGJ reported is not all of them are severe ODGJ. There were weaknesses in surveillance system components, such as policy, data analysis and interpretation. Feedback has not been implemented according to the guidelines which should be sent every 3 months. Guidebooks are only owned by 12.50% of surveillance staffs. Standard guidelines are not yet available at the district and health center levels. Monitoring has not been running optimally to maintain the quality of the surveillance system.

## **Conclusions**

The mental health Purworejo Surveillance System has not been implemented optimally. Therefore, the optimization needs to be conducted such as training to the surveillance staffs.

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# Description of the Incidence of Dengue Hemorrhagic Fever at Singkawang City In 2019-2023

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Poster

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## **Background**

Dengue fever (DHF) is a public health problem in Singkawang City because there has been an increase in the incidence rate of more than 50% from 2021 to 2023. In addition, Singkawang City is one of the DHF endemic areas in West Kalimantan with an Incidence Rate in 2023 of 78.73 per 100,000 population and CFR of 2.7%

## **Methods**

This research is a descriptive study design with secondary data sources of DHF data documents in Singkawang City for the 2019-2023 period to obtain a description of the incidence of DHF according to time, place and person.

## **Results**

There was a significant increase in the DHF incidence rate in Singkawang City starting in 2021 at 20,50, in 2022 at 39,76 and in 2023 at 78,73 . With peak cases ranging from October to January each year. Accompanied by an increase of Case Fatality Rate in 2022 of 1,04 and in 2023 of 2,68. All villages in Singkawang City have experienced DHF incidents in their area with 46% of DHF endemic villages and 54% of DHF sporadic villages with the Singkawang City larva-free rate in 2023 only 74%. The incidence of DHF was more prevalent among females at 52% compared to males. And the most vulnerable age group is the 5-15 years age group with an incidence percentage of 77.1%.

## **Conclusions**

Based on epidemiological studies, it is known that in October and December 2023 there was a DHF outbreak in Singkawang City because there was an increase in cases  $\geq 2$  times compared to the previous period (maximum and minimum graph patterns). It is necessary to strengthen the competence of surveillance officers and DHF program managers, increasing community empowerment in carrying out mosquito nest eradication and proper vector control in an effort to reduce the incidence of DHF in Singkawang City.

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# A Descriptive Study: Investigation of Dengue Fever Cases at Jeruklegi II Public Health Center, Cilacap Regency, 2024

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Poster

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## Background

Dengue fever remains a public health concern at Jeruklegi II Public Health Center (PHC). According to weekly surveillance reports from Jeruklegi II PHC, there was an increase in dengue fever cases from week 13 to 21. This investigation aims to identify risk factors and provide recommendations to control the increase in cases.

## Methods

An observational descriptive design was employed to describe dengue fever cases in the field using epidemiological investigation forms from the Ministry of Health. Cases were defined as individuals with fever accompanied by two or more symptoms such as headache, pain behind the eyes, muscle pain, joint pain, and rash. Blood samples were examined using complete blood count. Univariate analysis was conducted, and results were presented in tables, graphs, and narratives.

## Results

There were 22 suspected dengue fever cases, with 5 confirmed as Dengue Hemorrhagic Fever (DHF) 23% (5/22) from week 13 to 21. The majority of patients were male 59% (13/22), and >19 years old accounted for 50% (11/22). The Attack Rate (AR) was 4.43% (22/497). The most common symptom experienced was fever 100% (22/22), and mosquito larvae were found at 4 locations. The Larvae Index (Angka Bebas Jentik/ABJ) reached 85%.

## Conclusions

There was an increase in confirmed dengue fever cases from week 13 to 21. Poor environmental conditions and a larvae index less than 95% were identified as contributing factors. Case monitoring, symptomatic treatment, fogging recommendations, and mosquito breeding site eradication are necessary to prevent further increases in cases.

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# The Evaluation of Dengue Surveillance System Depok City, 2023

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Poster

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## Background

Dengue is still a global and national public health problem including West Java Province with IR exceeding the national (38/100,000 population). The City of Depok has an IR of 39/100,000 population. This study aims to evaluate dengue surveillance system based on surveillance system attributes.

## Methods

Evaluation of this Surveillance System uses a descriptive method. by collecting primary data obtained from interviews using a questionnaire via google form and direct interviews to get in-depth answers from Depok City Health Office, five Public Health Centers, two Hospitals, two clinics, two independent practice midwives and private laboratory.

## Results

The results of the study describe the structure of surveillance, components of legal aspects (62%), coordination, networking and partnerships (62%), surveillance strategy (45%). The main function of surveillance are case detection (85%), recording (85%), case confirmation (46%) reporting (62%), analysis and interpretation (8%), dissemination and information (46%), and feedback (0%). From surveillance support functions is guidelines (62%), supervision, monitoring and evaluation (85%), resources (31%), and from surveillance attributes namely simplicity (25%), completeness (85%), timeliness (80%), representativeness (13%), flexibility (100%), acceptability (100%), and from the component of usefulness (43%).

## Conclusions

The purpose of the dengue surveillance system to see disease trends and early awareness of dengue outbreaks and their prevention has not been maximum, resources a inadequate, and human capacity is low. Therefore, efforts to improve capacity of surveillance officers and doctors in health services, coordination between surveillance units, programmer funding, routine monitoring and evaluation, and create bulletins as feedback to health facility.

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# Outbreak of Hand, Foot, and Mouth Disease (HFMD) - Boyolali, May 2024

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Poster

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## **Background**

Hand Foot Mouth Disease (HFMD) is caused by a virus that can be transmitted through direct contact with fluids from blisters, feces, or respiratory secretions from infected individuals. This study aims to provide an epidemiological picture of HFMD in Boyolali Regency in May 2024.

## **Methods**

This study uses a descriptive method based on the results of the Epidemiological Investigation to understand the dynamics of disease spread and control efforts that need to be taken.

## **Results**

There were 19 cases of HFMD in Sawit District, Boyolali Regency which were divided into 2 clusters, namely from Study Group P (63.16%) and Jatisalam Hamlet (36.84%). The index case became ill on May 6. HFMD cases were more common in children under 5 years of age (94.74%). All cases had symptoms of rashes on the hands (100%) while there were 4 children (21.05%) who had rashes all over the body. Other symptoms included fever (21.05%) and flu (5.26%). Of all those who were sick, only 4 children (21.05%) were seen by the village midwife. This suggests the need for active monitoring of HFMD cases, isolation, and treatment to prevent further spread.

## **Conclusions**

Proactive measures and collaboration in disease control in the community are needed to prevent further spread and minimize public health impact.

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# Causes of the High Prevalence of Diphtheria in Bangkalan Regency in 2023

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Poster

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## Background

Diphtheria is one of the PD3I that causes death, Bangkalan-Regency is one of the districts that always experiences diphtheria outbreaks every year from 2020 to 2024 the total diphtheria cases reached 20 cases. In 2023 there were 9 diphtheria cases in Bangkalan Regency. Bangkalan-Regency has the highest prevalence of diphtheria cases in East Java. The purpose of this study was to determine the causes of high diphtheria cases in Bangkalan-Regency.

## Methods

This is a descriptive qualitative study. Primary data obtained from interviews with the Survim section head, Diphtheria program manager and secondary data in the form of Bangkalan-Regency Health Office profile for 2021-2023. Prioritization of problems using USG method. Techniques in identifying the root of problem using fishbone diagrams through in-depth interviews. Prioritization of root causes using the CARL method.

## Results

Priority problem obtained from the USG results is the coverage of complete basic immunization which doesn't meet the target. Problems causing high diphtheria cases in Bangkalan district are IDL coverage that doesn't meet the target, lack of public awareness for early detection, public knowledge about immunization, optimal health promotion media, immunization logistics, less than optimal active surveillance, feedback on surveillance and immunization performance from puskesmas to villages isn't optimal, there is no vaccine requirement planning at puskesmas level, immunization activities aren't accordance with microplanning.

## Conclusions

Prevalence of diphtheria cases is the main priority problem, the root cause of the priority problem is IDL coverage which hasn't met the target in Bangkalan District. To increase IDL coverage, it's necessary to monitor and evaluate immunization services Supportive supervision at BPM, private clinics, and RSUD. Puskesmas plans Capacity Building to increase the capacity and ability of immunization officers at the village level. Immunization data that has been input can be directly analyzed and disseminated to the community, cross-program and cross-sector.

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# Evaluation of Dengue Hemorrhagic Fever Health Surveillance System in Soppeng District, 2024

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Poster

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1. Hasanuddin University, 2. Dinas Kesehatan Kabupaten Soppeng

## Background

Dengue Fever (DHF) is a worldwide public health problem that must reduce morbidity by 25%. The IR (Incidence Rate) of dengue fever in 2021 in Indonesia is 37/100,000 population with CFR (Case fatality rate) 361 cases, where the province of South Sulawesi recorded 81 cases and in Soppeng Regency recorded 46 cases with IR 0.19% with CFR 1 case 0.02%. The purpose of this study is to describe the achievement of the implementation of the dengue epidemiological surveillance system in terms of surveillance attributes including, Simplicity, Flexibility, Acceptability, Sensivity, Positive Predictive Value, Representativeness, Timelines, and Data Quality carried out by officers at 17 Puskesmas, 1 RSUD and 1 Health Office of Soppeng Regency in 2024.

## Methods

Descriptive observational study design with interview technique and document study by reviewing secondary data

## Results

*Input:* D3 education level is 42.11%, additional duties are 100%, have never attended training 89.47%, funding for overall surveillance activities 33.34%, activeness of G1R1J program cadres 78.95%, and cross-sector dissemination 94.74%.

*Process:* Based on the data processing component, the Puskesmas has performed data processing according to the guidelines 100%. Data analysis in the form of tabular presentation is 100% and graphical presentation is 73.68%.

*Output:* The results of the intervention with the vairant T-test statistical test showed an 80% increase in officer knowledge of data management in the form of a dashboard.

## Conclusions

The implementation of the dengue fever surveillance system in Soppeng Regency has been running well, but follow-up meetings are needed to improve the quality of surveillance components, as well as the dissemination of data as visual information media. It is recommended to carry out dengue surveillance system interventions with Google Data Studio data visualization reporting applications based on android and website.

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# Understanding the issues of HIV/AIDS Surveillance System in Salatiga City, Central Java Province in 2023

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Poster

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*Ms. Wita Istiqomah Trisanti*<sup>1</sup>, *Mr. Fauzi Muh*<sup>2</sup>, *Mrs. Dwi Sutiningsih*<sup>1</sup>, *Mr. Wahyu Hudoyoko*<sup>3</sup>

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## Background

HIV/AIDS is still a major public health threat across the globe including Indonesia. Salatiga is a city in Indonesia which is experiencing the increase of HIV/AIDS cases. Therefore, surveillance can be used as an effective strategy in monitoring the increased-cases.

## Methods

In order to understand the problem of surveillance of HIV/AIDS cases. The descriptive observational approach was used to the implementation of the HIV/AIDS surveillance system in Salatiga City in 2023. The surveillance components, functions and attributes were evaluated by interviewing the HIV/AIDS program managers in all public health centers (PHC) from January to March 2024.

## Results

The findings showed that the function components, supporting functions, and attributes of HIV/AIDS surveillance in Salatiga City were not optimal. The respondents said that surveillance was carried out active and passive. Total 80% of respondents stated that the system was not simple, because reporting and recording were carried out with SIHA (Information system of HIV/AIDS), forms, and ARK. Also, all respondents (100%) stated that they have double duties. The form in SIHA was not complete, some information was missing. Moreover, the PHC staffs were not able to present the trends data over time. In the completeness component, there were obstacles in completing information related to partner notifications and difficulties in determining the type of key population.

## Conclusions

The HIV surveillance system in Salatiga City still needs improvement. The recording and reporting in SIHA need to simplify. It is also suggested that PHC staffs should be able to analyse the trend of cases over time in order to improve the interpretation and intervention at the PHC level.

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# Analysis of Measles Surveillance in Banyumas District Central Java in 2022-2023

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Poster

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*1. Banyumas District Health Office, 2. Kebumen District Health Office*

## **Background**

During the last 5 years (2019–2023), the number of suspects and cases in Banyumas district has increased. The measles surveillance program is running well, but not optimally. Based on this condition, it is necessary to strengthen the measles surveillance system to encourage measles monitoring. The purpose of this analysis is to describe the implementation of measles surveillance, analysis and interpretation of data on measles cases in Banyumas District in 2022-2023.

## **Methods**

The method used is descriptive of the occurrence of measles based on people, place, and time. The data sources are the public health center measles C1 report, EWARS report, MR01/MR02 forms on measles cases in 2022–2023 from the Banyumas district health department.

## **Results**

The highest cases of measles were in September 2022 and July 2023. The largest cases of measles were at Puskesmas Sumbang 2 in 2022 and Puskesmas Kemranjen 1 in 2023. According to age groups, most cases of measles occurred between the ages of 0–5 years. According to gender, by 2022, 53.9% of them are male and in 2023, 52% are female. According to the status of immunization, 61.5% of the immunization status has not been completed, while in 2023, 40% of the immunization status has not been completed, and 40% does not know the status. According to vitamin A status, in 2022, 61,5% have received vitamin A, while 2023 only 36% of them received vitamin A.

## **Conclusions**

Between 2022 and 2023 in Banyumas, the detection of suspected and positive measles has increased. Measles surveillance in Banyumas by 2022-2023 has been performed well, but there are public health centers that have not contributed to the discovery of suspects so necessary to strengthen networking between Banyumas District Health Department, hospital, clinic and public health center to increase finding suspects measles, desk immunization data and sweeping.

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# Investigation of the Leptospirosis Outbreak in Tanah Abang District, Jakarta Province, 2024

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Poster

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1. The Tanah Abang Public Health Center, 2. The Jakarta Public Health Laboratory Center

## **Background**

*Based on reports of 2 cases of leptospirosis who died in hospital on 16 and 22 April 2024. An investigation aimed to confirm the existence of an outbreak, identify risk factors and source of transmission and control the outbreak.*

## **Methods**

*A descriptive study with interviews and observation of environmental risk factors using the Ministry of Health's Leptospirosis Outbreak Investigation Form. The outbreak occurred in April-May 2024 in Kebon Kacang and Kebon Melati sub-districts. The Leptospira outbreak occurred because there were no previous leptospirosis death cases. Case criteria were patients with clinical symptoms of jaundice, body pain, nausea, and positive Rapid Diagnostic Test (RDT) results. Additional suspected cases were searched and environmental risk factors were assessed by setting rat traps in the area. Examination of rat specimens was tested by Polymerase Chain Reaction (PCR) at the Jakarta Public Health Laboratory Center.*

## **Results**

*The investigation found 2 probable leptospirosis cases died in Tanah Abang sub-district due to late treatment. There were 19 case contacts found, with 2 case contacts having symptoms. The results of the RDT examination of case contacts were negative for leptospira. In the PCR examination of 12 rat kidney samples, 8 of them were positive for leptospira (66.7% positive samples from Kebon Melati Sub-district and 33.3% positive samples from Kebon Kacang Sub-district). Risk factors for the cases were that the houses were located in densely populated settlements, there were many piles of used goods and there was evidence of the presence of rats.*

## **Conclusions**

*There has been an outbreak of Leptospira in Tanah Abang Sub-district with the death of two positive cases and positive rat samples of leptospira bacteria in the environment of the cases' homes. There is a necessity for education on clean and healthy living behavior to prevent leptospirosis in the community.*

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# Evaluation of Diphtheria Surveillance System in Garut, West Java 2024

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Poster

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## **Background**

Garut is one of the regions with the highest diphtheria cases in West Java in 2023 with 27 positive lab-confirmed cases out of 100 suspects. The CFR value was 16% (16 deaths). Garut has declared diphtheria outbreak status. Evidence-based information is needed to support policy-making for diphtheria prevention and control. This study evaluates the diphtheria surveillance system based on system structure, main functions, supporting functions, and surveillance attributes.

## **Methods**

This study located in Garut was a descriptive assessment. Data were obtained from diphtheria surveillance reports in 2023 and 2024, surveys at 67 Public Health Centers (PHC), and in-depth interviews with 12 surveillance officers (6 from PHC with high cases and 6 without cases), 2 hospital officers, and 2 clinic officers in Garut. The questionnaire was based on the WHO Guidelines for monitoring and evaluating communicable disease surveillance and response systems.

## **Results**

The result showed that 29% of surveillance officers did not know about legal aspects of diphtheria surveillance. Cases of death occurred due to late reporting and were found in private clinics (29%) and mantri (71%). Few private clinics coordinated with the Garut District Health Office for reporting cases. Only 33.3% of health centers analyzed data effectively, with trend analysis available. Garut District has only one health epidemiologist. Only 27% of surveillance officers had not received training in diphtheria surveillance and hold multiple programs. The surveillance system was found to be not simple (25%), less sensitive (41.5%), and less representative (16.7%).

## **Conclusions**

There are problems of the surveillance system including insufficient epidemiologists, not all clinics have reported cases found, poor data analysis, and low sensitivity. Therefore it's necessary to enhance coordination and partnerships with the private sector for better early detection, increase the epidemiologists health officer in PHCs, strengthen and update guidelines for swab collection techniques, and provide training for untrained surveillance officers.

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# Surveillance of Leptospirosis Risk Factors in the Community in Indrosari Village, Buluspesantren, Kebumen District in 2023

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Poster

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***Ms. Andini Rahmahdhani*<sup>1</sup>, *Mr. Akhmad Mukhibin*<sup>2</sup>, *Mr. Bayu Satria Wiratama*<sup>1</sup>**

*1. FETP Universitas Gadjah Mada, 2. Kebumen District Health Office*

## **Background**

Leptospirosis is one of the endemic diseases in Kebumen. There was an increase in leptospirosis cases in 2023, with 149 cases and 22 deaths (CFR 14.8%). Sentinel surveillance was carried out in Indrosari village. This study aims to determine the risk factors for leptospirosis in Indrosari Village, Kebumen District.

## **Methods**

We conducted a descriptive observational study on July 20-21, 2023. Participants were 63. We collected data on age, sex, education level, employment, and knowledge using structured questionnaires. We also set up 150 traps inside homes, outside homes, and in the surrounding environment. Soil and water sampling was also conducted at five locations for PCR testing.

## **Results**

We collect data on 50 houses which comprise 63 participants. The characteristics of participants were 30.2% male, 52.4% between the ages of 45 and 59, 47.6% had a low education, and 52.4% were employed as farmers. The majority (81%) of respondents were unaware of the causes of leptospirosis, and 76.2% were unaware of the illness's symptoms. Observations showed that most of the home had signs of rat presence, 68% had piles of items that serve as rat nests, 50% had unsanitary surroundings, and 70% were near water channels, drains, fields, or rivers. The trap success rate was 14%, with *Rattus tanezumi* (95.2%) and *Rattus argentiventer* (4.8%) as the rat species. The lab results revealed negative PCR results in rat samples, but positive PCR results in two water samples and one soil sample.

## **Conclusions**

The risk factors for leptospirosis in Indrosari Village include a rat density that exceeds environmental health standards, the presence of *Leptospira* bacteria in the environment, homes with a high risk of leptospirosis transmission, and limited knowledge and understanding of leptospirosis among the community. Health promotion needs to be carried out to increase public knowledge and strengthen cross-sector collaboration.

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# Intervention Pathway Analysis of Hypertension Using the Happs Method in Magetan District 2023

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Poster

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## **Background**

Trend of hypertension prevalence in Magetan District in 2021 - 2023 tend to increase. The prevalence of controlled hypertension is still 72% below the target 112%. Objective: to identify problems, determine priorities, analyse causes of problems, and determine intervention pathways for hypertension problems in Magetan District.

## **Methods**

Descriptive observational study, subjects were 34 people from the Health Office and Puskesmas in Magetan District. Data were collected through brain writing, in-depth interview and document study. Research was conducted on 08 January-02 February 2024. Determinant problem priorities used Basic Priority Rating System and PEARL methods. Identification cause of the problem with analysis diagram to determine the path of intervention and Force Field Analysis.

## **Results**

From 18 health problems in Magetan District Health Office, selected priority problem is prevalence of hypertension. Based on analysis diagram, 5 determinant factors were obtained, include smoking habits, proportion of vegetable consumption, fatty foods, physical activity and hypertension minimum service standards did not reach the target. Results of Force Field Analysis showed that establishment of ASMAN TOGA communities and acupressure, establishment of family-based drug swallowing supervisors, integration of the results PANDU PTM and KOPIPU program and cooperation with non-government networks are possible intervention paths to be taken.

## **Conclusions**

Increasing prevalence of hypertension is priority problem analyzed. Causes of hypertension problems are smoking habits, fatty food consumption habits, lack of physical activity and low achievement of hypertension minimum service standards. Suggested intervention pathways are establishment of ASMAN TOGA communities and acupressure, establishment of family-based drug swallowing supervisors, cooperation with non-government networks on hypertension and joint collaboration of hypertension, health promotion and traditional health program.

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# Evaluation of Surveillance System: Hepatitis B Early Detection in Pregnant Women Can Prevent Liver Cell Infection in Sinjai District, 2024

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Poster

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## Background

World Health Organization has set targets to eliminate viral hepatitis as a global public health threat 2030. Elimination targets include >95% coverage of hepatitis B screening in pregnant women and 100% coverage of children aged 9-12 months from HBsAg reactive mothers. National data shows low coverage of HBsAg testing among pregnant women (60.3%) and children born from HBsAg reactive mothers who were tested at 9-12 months (26%). An evaluation of the surveillance system to prevent mother-to-child transmission was conducted to assess the current surveillance system, in an attempt to achieve 2030 hepatitis B virus elimination target.

## Methods

Hepatitis B program management guidelines were used to evaluate the system in a descriptive observational method. Structured questionnaire interviews were conducted with 96 respondents from 16 puskesmas including hepatitis program managers, MCH program managers, doctors, laboratorians, puskesmas heads and administrative heads to assess the surveillance component (data collection), simplicity and acceptability of the surveillance system, while the hepatitis database on SIHEPI application was analyzed to assess data quality and timeliness.

## Results

Data collection was not accordance with the technical guidelines (did not include data on services that should be available). Simplicity: The SIHEPI application was easy to use (100%), program managers understood the principles of preventing mother-to-child transmission (56.25%), and the flow of recording, reporting and monitoring was complicated (37.50%). 43.75% of data on prevention of mother-to-child transmission of hepatitis B was cross-program utilized. Completeness and timeliness were lacking (8% and 68.65%).

## Conclusions

The surveillance system for prevention of mother-to-child transmission has not achieved its goals (“infants are still infected by their mothers”). The application is easy to use, but the surveillance system is perceived as difficult to understand and complicated, acceptance is low, data quality is poor and accuracy of reports is lacking. We recommend increasing the officer’s capacity, monitoring data quality and reports’s timeliness.

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# Hepatitis B of Surveillance System in Purbalingga Regency, Central Java

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Poster

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*Ms. Zulfa Shalsabilla*<sup>1</sup>, *Prof. Suhartono Suhartono*<sup>2</sup>, *Mrs. Dwi Sutningsih*<sup>3</sup>, *Mrs. Bekt Aribawanti Rini*<sup>4</sup>

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## Background

Since 2022, recording and reporting of hepatitis B in pregnant women in Purbalingga District have been conducted using the SIHEPI application. Based on SIHEPI application data for 2023 in Purbalingga District, there were differences in the number of newborns from mothers with reactive HBsAg receiving HB0 and HB1g at birth. Additionally, there were differences in the number of infants aged 9-12 months who underwent DDHB compared to the results of HBsAg testing. Evaluation of the hepatitis B surveillance system is necessary to determine the reasons for these data discrepancies, which may affect hepatitis B management in children.

## Methods

The evaluation of the surveillance system was conducted using a descriptive design, describing the implementation of the hepatitis B surveillance system based on structure, main functions, surveillance attributes, and supporting functions. This activity was carried out from November 2023 to March 2024 by interviewing surveillance officers at community health centers in Purbalingga District.

## Results

Based on the method used in this study, the findings revealed that the management of the hepatitis B program at community health centers had not been consistently and timely filling out monthly reports. This was due to the fact that hepatitis B program managers handle more than one program, encountered difficulties with the devices used, and had poor internet connectivity. The discrepancies in hepatitis B data were attributed to incomplete and untimely reporting by program managers, thus affecting the quality of hepatitis B data in Purbalingga District.

## Conclusions

The hepatitis B surveillance system mostly adheres to guidelines. However, there are some areas that are not fully compliant and need improvement, such as incomplete and untimely monthly reporting by community health center hepatitis B program managers, affecting the quality of data.

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# Diphtheria Outbreaks in Tamanmartani Villages Kalasan Subdistrict Sleman Regency 2024

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Poster

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***Mr. Sudarto Edihartono***<sup>1</sup>

*1. Sleman District Health Office*

## **Background**

On March 18<sup>th</sup> 2024 Sleman District Health Office received report from the hospital regarding Diphtheria suspect from Tamanmartani Village, Kalasan Sub district . For this event Epidemiology Team in District Health Office immediately go to Field. The study aims to determine the outbreak, identify risk factors, mode of transmission , and appropriate control measur

## **Methods**

Research design is observational descriptive . Data collection with interviews and questionnaires. Suspect is a person with fever / without fever accompanied pseudomembrane . Contact are family and other people who had history of contact in the last 10 days. Identification Diphtheria done with examination of suspect and contact swab specimens

## **Results**

Number contact suspect diphtheria 74 peoples (8 people family, 33 peoples for school, and 33 people from Mosque. Results of swab specimen examination 3 sample confirm among 8 contacts examination. Cases young age 5 year, 7 year and 14 years all in one family. One of case was hospitalized. Index Case have experiencing travel history from the Gontor Islamic Boarding School. Immunization history of cases are incom- pleted..Coverage Immunization in this area at 5 years (2019-2023) very hight up above 95%. Community Cover- age Survey find coverage from aged 2-<18 months: 44%, 18-59 months: 86.7%, 5-<7 years : 50% and 7-<13 years: 40% are very low. Outbreak Response Immunization (ORI) have done with coverage , ages 2 months- 13 years . ORI coverage state I: 81%, II: 61%, and III: do not yet.

## **Conclusions**

There was an Diphtheria outbreak with risk factors immunization status and history of contact with case. Rec- ommendations done ORI completedness and education that the importance of complete immunization and iso- late or avoid contact with case.

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# Overview of Measles Surveillance Performance at the Pegambiran Health Center, Cirebon City, 2021-2024

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Poster

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## Background

West Java has set a target of eliminating measles in 2023, in fact in 2023 there were still four positive measles found in Pegambiran, Cirebon City. It is important to know the variables associated with positive cases for further prevention and how measles surveillance is conducted, as one of the most common strategies to achieve elimination. This study aims to describe of positive measles and evaluate the performance of measles surveillance at the Pegambiran Health Center in 2021-2024.

## Methods

A descriptive analysis was conducted from Measles case investigation form (MR01) during 2021-2024. Univariate data analysis shows the frequency distribution of positive cases based on time, person, place and risk factors. Performance was evaluate according World Health Organization (WHO) indicator includes Discarded Rate (> 2/100.000 Population).

## Results

Over four years, there were 16 measles suspects whose serum was tested. Most suspect findings 11 (68.75%) at the Public Health Center. 5 (31.25%) suspects were hospitalized. Based on the results of laboratory test, there were 4 (25%) positive measles, 3 (75%) positive measles were found in RW 5. All positive measles were male. 3 (75%) positive measles did not get immunization, 2 (50%) had a history of travel from infected areas and 2 (50%) lived in the same house. Based on the performance assessment, the discarded rate was not achieved in 2021, while 2022 – 2024 was achieved with the highest performance in 2023 (34/100.000). Since 2022, surveillance officers have been regularly updating information on measles surveillance to health officers.

## Conclusions

Measles surveillance performance has continued to improve since 2022. Has not been vaccinated and contact with positive cases are risk factors for measles. We recommended to provide education about the importance of completing basic immunizations for children and quarantining sick children. It is necessary to establish disease surveillance cadres to improve community-based surveillance.

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# Epidemiological Study of Tuberculosis in Salatiga District, East Java After the Covid-19 Pandemic: 2022-2023

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Poster

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*Ms. A'yun Hafisyah Wafi<sup>1</sup>, Mrs. Ana Hidayati<sup>2</sup>, Mr. Wahyu Hudoyoko<sup>2</sup>, Mr. Bayu Satria Wiratama<sup>1</sup>*

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## **Background**

In Indonesia, the Tuberculosis (TB) control program is a high national priority due to its burden of disease. Tuberculosis cases in Salatiga have significantly increased year by year. This study aim is to analyse the epidemiology of tuberculosis cases in Salatiga District, Central Java from 2022 to 2023.

## **Methods**

This study utilized secondary data from Tuberculosis Information System (SITB) Salatiga by examining the laboratory test results, gender distribution, health facility services on TB management. Additionally, Treatment Success Rate (TSR) and Incidence Rate (IR) were also calculated.

## **Results**

In 2022, 6019 TB suspects were found and 91% were tested with 342 were confirmed bacteriologically and 828 were confirmed clinically. In 2023, the number of TB suspects decreased to 5513 with 83% were tested, 398 had positive bacteriological results and 709 were clinically confirmed. The treatment success rate (TSR) declined from 95% in 2022 (2% loss to follow up) to 90% in 2023 with 7% cases were loss to follow up. Based on gender distribution, TB cases were constantly higher in males both in 2022 and 2023, respectively 59% and 57%. In 2022, 56% of TB cases were more frequently found in Community Health Centers (Puskesmas), whereas by 2023, the majority of TB cases were diagnosed and treated in hospitals (88%). The Incidence Rate (IR) in 2022 was 166 per 100,000 population and increased in 2023 to 173 per 100,000 population.

## **Conclusions**

This study indicates the number of suspected and confirmed TB cases with the different pattern of the diagnostic test and treatment outcome between 2022 and 2023. There was a reduction between suspects tested and TSR in 2023, but an increase in IR. These findings reveal the need for strengthened in collaboration with community partners, TB treatment monitoring, program monitoring and evaluation to enhance the TB control in Salatiga.

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# Differences In Toddlers' Weight Pre- and Post- Egg Supplementary Feeding in Slorok Village Garum Sub-District Blitar Regency

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Poster

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***Mrs. Hari Fitriani*<sup>1</sup>, *Mr. Muhammad Atoillah Isfandiari*<sup>1</sup>, *Mr. Endro Pramono*<sup>2</sup>, *Mrs. Ikka Krisnawati*<sup>3</sup>**

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## **Background**

The prevalence of *stunted* toddlers in Blitar Regency in 2022 was 14.3%, and *wasting* toddlers was 6.2%. This number was still quite high even though it has decreased compared to 2021. Efforts to reduce the stunting rate in Blitar Regency were made by Stipulating Priority Focus Locations of the Stunting Reduction Intervention Acceleration Program in 48 Sub-districts/Villages, Blitar Regency, 2024, e.g., Slorok Village in Garum Sub-district had an intervention program providing supplementary feeding of two eggs per day. The research aimed to determine the difference in toddler weight pre- and post-supplemental feeding

## **Methods**

The research employed a *cross-sectional study* design. The subjects were totaling 91 toddlers aged >12-59 months who received supplementary feeding. The informants were parents of toddlers. Secondary data collection techniques were obtained from community health center nutrition officers, and primary data was obtained through interviews using questionnaires. The implementation time was from June 19 - August 3, 2023.

## **Results**

The results of statistical tests with *Wilcoxon* indicated that there was a significant difference between the weight of toddlers pre- and post-supplemental feeding (*p-value 0.000*). This is supported by the nutritional counseling factor, where mothers of toddlers stated that they received the material and its benefits well during the program (73.63%).

## **Conclusions**

The supplementary feeding intervention program implemented in Slorok Village was effective in increasing the toddlers' weight. Obtaining an optimum supplementary feeding program required additional intervention time and collaboration with local Corporate Social Responsibility breeders in the area

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# A Dengue Hemorrhagic Fever Outbreak Investigation in Bontotiro Subdistrict, Bulukumba District, 2024

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Poster

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*Mrs. Misrianti J. Atisina*<sup>1</sup>, *Mr. Wahiduddin*<sup>2</sup>, *Mrs. A Jusmawati*<sup>3</sup>, *Mr. Basri Kadir*<sup>3</sup>

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## Background

In Week 10 an increase of 5 cases of dengue fever with 1 death was reported in Basokeng Hamlet, Dwitiro Village, Bontotiro Sub-district. Investigations were carried out by FETP students together with the Rapid Response Team (RRT) of the Bulukumba District Health Office and the Bontotiro Health Center to determine the risk factors for dengue fever.

## Methods

This study used a case control study design with a ratio of 1:1, through interviews using a questionnaire. Cases are people with symptoms of dengue fever and laboratory tests (Ns1, IgG-IgM or Platelet Hematocrit) with positive results. Controls were symptomatic or asymptomatic people living in the same house or in the outbreak area, with negative laboratory test results.

## Results

This study showed from 47 cases and 47 controls, the highest attack rate was 12.5 per 1000 population in Dwitiro village, with 1 case of death. The results of bivariate analysis, Travel History (OR 5.7; 95%CI 2.07-16.30), Implementing 3Mplus (OR 12.7; 95 %CI 4.29-39.3), and Knowledge of Family members related to dengue fever (OR 5.4; 95%CI 1.88-17.70) were statistically significant factors with the incidence of dengue fever.

## Conclusions

There has been an outbreak of dengue fever with laboratory confirmation in Bontotiro sub-district, the most influential factor related to the incidence of dengue fever is the factor of not implementing 3Mplus, so we recommend prevention and control of dengue fever through education to the community and the application of 3Mplus

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# Evaluation of the Hypertension Surveillance System in Wonogiri District, Central Java Province

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Poster

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## Background

Surveillance is the methodical and ongoing gathering, processing, analysis, and distribution of reliable information. The prevalence of hypertension has increased to 34.1% in Indonesia 2018. In Wonogiri District, the prevalence of hypertension was 45.86% in 2018 with a minimum standard service access of 75.9% in 2023 which was below the national standard 100%. It is estimated that only 25% cases of hypertension in Indonesia were diagnosed, and the data revealed that only 0.7% of patients with diagnosed hypertension were taking antihypertensive drugs

## Methods

The investigation used a descriptive observational to describe the implementation of surveillance systems on components of surveillance systems including structure, primary function, supporting function, and surveillance attributes. The research was conducted from January until March 2024 using in-depth interviews with hypertension surveillance officers in 34 public health centers (PHCs) in Wonogiri District.

## Results

Structurally, 9% respondents do not know the legal aspects of hypertension surveillance (PTM); coordination, networking, partnerships, and surveillance strategies were good. Based on core function 59% of them still have difficulties in reporting; 53% PHCs do not carry out analysis and interpretation. The case detection, registration, case confirmation, Information dissemination, and response/feedback were good. In case of attribute parameters, 9% of submissions are still above the agreed date, 38% said hypertension/PTM surveillance is not simple, and 50% said the finding cases were still below 80%. However, the availability, usefulness, acceptability, flexibility, sensitivity, specificity, and positive predictive values were good.

## Conclusions

The hypertension surveillance system in Wonogiri district still has some in a way structural problems, main functions, support functions, as well as attributes parameters. This findings suggest that trainings of recording and reporting on the hypertension surveillance system is needed for the PHC staffs. Also, cross-sectoral collaboration is required in order to improve outcome the services hypertension.

# A Descriptive Study of Malaria Endemicity and Epidemiology in Gorontalo Regency 2014-2023

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Poster

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***Mrs. Ismarani Abdul***<sup>1</sup>

*1. FETP Intermediate Batch 2 Participants in 2023*

## **Background**

Currently, malaria is still a health problem in Gorontalo Regency. To determine the level of spread of malaria cases, it is necessary to have an overview of the malaria endemism of each sub-district as a material for evaluating and determining malaria control policies. This study aims to provide an overview of malaria endemism and incidence based on the variables of people, places and times as well as control efforts that have been carried out in the period 2014-2023 in Gorontalo Regency.

## **Methods**

: The design of the study is quantitative descriptive with the population, namely all malaria cases recorded at the Gorontalo district Health Office for the period January 2014 to December 2023. The sample is the total population. The secondary data comes from the monthly report of the Gorontalo Regency Malaria Sismal application

## **Results**

Shows that the number of malaria cases for the 2014-2023 period in Gorontalo Regency amounted to 1166 cases. The trend of API endemism from 2015 to 2023 is getting better (<1 per mile), with the number of LCI sub-districts decreasing and more and more sub-districts in the malaria-free category, although in 2023 there was an increase in cases reaching 112. The most spread is in Mootilango sub-district. The characteristics of malaria sufferers are mostly 15-64 years old, male, the most common type of infection is plasmodium falciparum and most of them are indigenous cases.

## **Conclusions**

The trend of endemicity in Gorontalo Regency has been getting better over the past 10 years. There has been a decrease in indigenous cases since 2017, even from 2020 to 2022 they were no longer found. Prevention and control efforts are carried out continuously, distributing mosquito nets, administering larvicide, mass blood tests, PE and contact surveys and migration surveillance.

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# Overview of First Case Mpox in Cirebon Regency 2023

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Poster

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## Background

Mpox is a global public health concern because cases are increasing rapidly and reported from non-endemic countries. West Java is one of six provinces in Indonesia that reported Mpox, one of the cases came from Cirebon Regency. The investigation was conducted to provide an epidemiology description, risk factors and provide recommendations for prevention.

## Methods

Investigation used descriptive case report. Investigation was carried out in November 9–December 31 2023. Primary data was carried out through interviews with cases, families and close contacts regarding the chronology and symptoms. Observations were made regarding the condition of the case, close contact, and lesions. Investigation used Form from the Ministry of Health. Laboratory examination was carried out on lesion fluid, crusts, oropharyngeal swabs and patient serum.

## Results

Case is male, 24 years old, unmarried, gay sexual orientation, positive HIV and STIs. Case stopping ARV treatment. Case had received treatment at two health facilities before reported by Medimas Hospital. One week before symptoms, case had sexual relations with a partner who had lesions. Cases had fever, rashes and 26–100 lesions in the form of vesicles, papules, ulcers and crusts which spread to the face, body, hands, feet and genital. The lesion gets worse, bigger and takes more than one month to dry up and form new skin tissue. Case had six close contacts who were family and friends, all did not have similar symptoms. Close contacts who were sexual partners could not be found. Case was referred to Waled Regional Hospital with positive laboratory results.

## Conclusions

There is one positive case of Mpox in Cirebon Regency which comes from a key population of HIV patient. Recommended to carry out screening and education in key populations of HIV, as well as socialization and increasing early awareness in health facilities.

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# Investigation of Pertussis Outbreak in Imogiri Sub-District, Imogiri-II Health Center, Bantul District In 2023

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Poster

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## Background

On Saturday, 14 October 2023, the Public Health and Research Center (Puslitbangkes) notified the Bantul District Health Office about two confirmed pertussis. The Health Office then instructed the Imogiri Community Health Center to conduct a direct investigation in the area. The purpose of this study was to determine the extent of the problem and identify the risk factors associated with pertussis cases.

## Methods

To gain an overview of the outbreak, a descriptive observational study with active case finding was carried out by confirming the two pertussis cases. This research was conducted during the 42nd week of October 2023, and data was collected using an epidemiological investigation format. Additionally, secondary data was obtained from Puskesmas Imogiri-II, including weekly outbreak reports and chronological reports of pertussis cases.

## Results

The investigation confirmed two pertussis outbreaks in Sriharjo Village, Imogiri sub-District, with the total number of cases reaching 8 after 6 weeks. Laboratory tests using the PCR method from nasopharyngeal swab specimens verified that these cases were caused by *Bordetella Pertussis*. The attack rate (AR) in men was 32%, and the highest AR based on age group was in the 31-40 years age group with 75%, followed by the 41-50 years age group with 50% AR. Risk factors identified were recent travel, incomplete immunization, and close contact with pertussis cases.

## Conclusions

An outbreak of pertussis was confirmed in Imogiri sub-District, with a total of eight cases found in children and adults. Incomplete DPT immunization coverage was identified as a cause of pertussis. Active case finding integrated with the routine immunization program for children with unknown immunization status was deemed essential to prevent future outbreaks.

# Investigation of Measles Outbreak in Menongo Village, Lamongan District, East Java Province, Indonesia, 2023

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Poster

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***Mr. Konstantinus Ua*<sup>1</sup>, *Mr. Muamar Afdhal Mahendra*<sup>1</sup>, *Mrs. Lucia Yovita Hendrati*<sup>2</sup>, *Ms. Siti Shofiya Novita Sari*<sup>1</sup>, *Mr. Sigunawan Sigunawan*<sup>3</sup>, *Mrs. Erni Astutik*<sup>1</sup>**

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## **Background**

On June 5, 2023, the Lamongan District Health Service received a report of a suspected measles outbreak. There were 2 patients with fever  $>38^{\circ}\text{C}$ , rash, cough, runny nose, conjunctivitis and diarrhoea who were treated at Muhammadiyah Hospital. An investigation was conducted to confirm the outbreak, find additional cases, and recommend control measures.

## **Methods**

The research was conducted on 10 June – 08 July 2023 in Menongo Village, the working area of the Sumberaji Community Health Center (Puskesmas), Lamongan district. The case definition refers to the 2019 Ministry of Health Measles/Rubella Guidelines. The investigation involved surveillances officer at Lamongan District Health Office and Community Health Center Sumberaji, midwives and Menongo Village cadres. Serum samples were collected for Measles and Rubella IgM serological testing.

## **Results**

An additional 9 cases were found, in total there were 11 cases. Symptoms were fever, rash, and cough (100%). More than half of the cases were female (54.5%), 6–13 year age group (63.6%), and all cases were not fully immunized (100%). The epidemic curve was propagated. All of the 3 blood samples taken, were positive for Measles IgM and negative for Rubella IgM. Transmission dynamics indicated that the index case in this outbreak was a 13-year-old boy who transmitted the infection to his sibling and playmate who lived in the same hamlet.

## **Conclusions**

An outbreak occurred in Menongo Village on 10 June – 08 July 2023. The mode of transmission was through contact with the case around the house. Outbreak Response Immunization (ORI), limiting mobilization of local residents, education on Clean and Healthy Living Behavior is needed to break the transmission.

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# Evaluation of Mental Health Surveillance System in Barru District, South Sulawesi Province Year 2023

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Poster

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## **Background**

Mental health is an unresolved problem, both at global and national levels. Mental health figures in the last 2 years are still high. In 2022 there will be 869 people and in 2023 there will be 535 people, with a target of 1316. Reporting records have only reached 40.65%. Therefore, it is necessary to carry out an evaluation to identify weaknesses in the surveillance system and provide recommendations for improvement efforts.

## **Methods**

The evaluation was carried out from May to June 2024 through interviews using questionnaires with 13 respondents from the Mental Health Program Management (Keswa) of the Health Service and Puskesmas in Barru Regency. Data and information are presented in the form of tables and narratives. Aspects assessed include personnel, facilities, surveillance components, surveillance attributes and supporting factors.

## **Results**

Weaknesses of the surveillance system in recording and reporting (61.54%), low report completeness (69.23%), manual reporting (100%), manual data processing and analysis (83.33%), feedback on indicator achievement reports not yet routine (100%). based on the simplicity surveillance attribute, officers have difficulty filling out reports (69.23%), there are 84.62% of officers who have not used the SIM Keswa application in managing stress, physical activity and balanced nutrition (84.62%) and sending reports has not been delivered on time (61.54%).

## **Conclusions**

The weaknesses of the public health surveillance system are the accuracy and completeness of reports, not carrying out regular evaluation and feedback, processing and analyzing human health data not using the Public Health SIM application. Efforts that need to be made are to increase the capacity of officers in utilizing the Keswa SIM application for Health surveillance activities and the Health Service is expected to routinely carry out evaluations and feedback from the data collected.

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# Analysis of Environmental Risk Factors for Leptospirosis in Banyundono Sub-district, Boyolali Regency, Central Java, October 2023

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Poster

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## Background

Leptospirosis remains a neglected disease in Indonesia. In July 2023, there were 15 cases of leptospirosis in the Boyolali Regency (CFR 26.6%). This study aims to identify rat species, detect leptospira bacteria in rat kidneys and water, and describe community knowledge about leptospirosis.

## Methods

The survey was conducted October 11 to 13, 2023. The design of this study was descriptive-observational. Purposive sampling was used to choose 30 houses from a group of 60 houses based on the presence of leptospirosis-positive buildings and their surroundings. Data were gathered utilising rat surveys, respondent interviews, and polymerase chain reaction (PCR) investigations of rat kidney and water samples.

## Results

The number of rats caught had a success trap rate of 3.5%. The rat species identified were *Rattus norvegicus* (50%), *Rattus tanezumi* (37.5%), and *Suncus murinus* (12.5%). PCR testing results revealed one rat positive for leptospira bacteria. Community knowledge about rats and leptospirosis was low (43%). Activities contributing to the transmission included not using personal protective equipment (PPE) when dealing with dirty water, garbage, or soil (50%).

## Conclusions

The rat density (3.5%) exceeded the standard threshold (1%), with rats infected by *Leptospira* bacteria, low community knowledge, and the behaviour of not using personal protective equipment (PPE) when dealing with dirty water, garbage, or soil. The recommendations are to provide education about leptospirosis, implement rat control measures, and enhance cross-sectoral collaboration in the One Health approach.

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# Analysis of Diarrhoea Morbidity Problems in Toddlers with the HAPPS Method in Magetan-District Year 2023

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Poster

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## Background

Prevalence of diarrhoea cases among toddlers in Magetan-District from 2021-2023 is fluctuating and tends to increase. Morbidity of diarrhoea in children under five in Magetan-District for 2023 of 965 per 1000 population is still above target of 843 per 1000 population. Objective: to identify problems, determine priorities, analyse causes of the problem, and determine alternative solutions the problem of diarrhoea in Magetan-District.

## Methods

Descriptive observational study, subjects were 32 people the Health Office and Puskesmas in Magetan-District. Data were collected through brainwriting, in-depth interview and document study. Study was conducted on 08 January-02 February 2024. Determinant of problem priorities using Basic Priority Rating System and PEARL methods. Identification of the cause problem with an analysis diagram to determine the intervention path followed by Force Field Analysis.

## Results

From the 17 health problems in Magetan-District for 2023, selected priority is the morbidity of diarrhoea in children under five. Based on the health problem analysis diagram, 4 determinant factors were obtained, namely the application of the Household PHBS Order is still low, low immunity in toddlers, quality of health worker services, and use of SKDR data in anticipating the increase in cases is not optimal. Selected intervention pathway is refreshment training for recording and reporting of the person in charge of diarrhoea, supportive supervision of programme managers, and joint collaboration of Diarrhoea and Surveillance programme officers.

## Conclusions

Diarrhoea morbidity in children under five is a priority problem. Results of the analysis diagram are used as a planning programme for prevention and control of diarrhoea in the Magetan District Health Office. To reduce diarrhoea morbidity, interventions adjust resources and budget availability. Suggested interventions include increase supportive supervision of private health facilities, collecting data and fostering ownership of drinking water depot health certificates, and increasing education on clean and healthy living behaviour.

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# Risk Factors for Pulmonary TB Incidence in Patients With Type 2 Diabetes Mellitus in Bulukumba District, 2024

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Poster

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## Background

**Background.** Tuberculosis (TB) and Diabetes mellitus (DM) remain a burden of infectious and non-communicable diseases globally. TB and DM are public health disorders that often occur together and complicate each other at various levels. The relationship between DM and TB shows a significant increase where many cases of pulmonary TB are found in patients with DM. This study aims to analyze how much risk factors for the incidence of type 2 Diabetes Mellitus (T2DM) are for TB.

## Methods

This study used a Case-Control design. conducted in Bulukumba Regency. Case group 41 T2DM patients with TB and control group 123 T2DM patients without TB. Data collected included gender, age, education level, length of suffering, type of drugs used, risk factors for the incidence of T2DM with TB using a structured questionnaire, analyzed using STATA 14

## Results

**Results:** T2DM with TB was found to be mostly female (56.10%), aged 41-50 years (36.59%), high school education level (51.22%), <5 years (82.93%), and used oral medication (70.73%). Risk factor analysis showed Body Mass Index (BMI) (COR 4.79; 95% CI 1.80-12.6), treatment compliance (COR 3.01; 95% CI 1.36-6.70), cigarette smoke exposure (COR 1.39; 95% CI 0.64-3.08), family support (COR 2.91; 95% CI 1.31-6.60), household contact (COR 2.17; 95% CI 0.99-4, 75). Based on logistic regression, IMT was obtained (AOR 5.587; 95% CI 2.231-13.991), this means that the risk factor IMT causes the occurrence of T2DM with TB with a probability of (30.35%).

## Conclusions

T2DM with low BMI contributes to the occurrence of TB. therefore, BMI is used as the main indicator in TB screening in order to control both diseases in an integrated manner.

# Implementation of One Health Approach in Handling Rabies-Transmitting Animal Bite Cases, Boyolali District, 2023

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Poster

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## **Background**

Rabies is a deadly zoonotic disease that can be transmitted through animals bitesuch as dogs, cats and monkeys. In Indonesia, rabies poses serious public health problem, especially in areas with high pet populations. Boyolali District was chosen as a pilot project location for the implementation of the One Health approach that integrates human health, animal health and environmental health.

## **Methods**

A descriptive method was employed, utilizing secondary data based on rabies bite surveillance from the Boyolali District Health Office.

## **Results**

Over the last 3 years, 75 rabies bite cases were documented, with bites from dogs accounting for 46.7%, cats for 46.7%, and monkeys for 6.7%. All cases received proper wound washing according initial treatment protoco, however only 10.7% of cases received anti-rabies vaccine. These cases were reported by 18 out of 25 health centers in Boyolali District. The epidemiologic investigation of all cases involved the health service, livestock service, wildlife health, natural resource conservation center, and village volunteers. This cross-sector collaboration includes capturing and monitoring rabies-transmitting animals, and rabies education.

## **Conclusions**

The implementation of the One Health approach to rabies bite management in Boyolali District showed positive results. There is effective collaboration between the Health Office, Livestock Service Office, Wildlife Health, Natural Resources Conservation Center, and village volunteers in monitoring and handling cases.

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# Predictive Model of Incidence Rate (IR) of Dengue Hemorrhagic Fever (DHF) for Districts/Cities in East Java Province 2021-2023

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Poster

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*1. Airlangga University*

## Background

East Java Province is an endemic province for DHF. In 2022, CFR of DHF in East Java Province will be 1.20%, greater than the national target of < 1%. This research aims to develop a predictive model for IR of DHF in East Java Province in 2021-2023, to help health workers predict the incidence of DHF so that more targeted interventions can be carried out.

## Methods

This research is a cross-sectional study with an ecological study. 38 districts/cities in East Java were the research sample (total population). The research variables are rainfall, humidity, temperature, wind speed, residential density, vegetation level, population density, and ABJ. Data analysis uses descriptive analysis and inferential analysis with the Chow Test, Hausman Test, Breusch Pagan Test, Autocorrelation Test, Homoscedastic Test, and Panel Regression Test.

## Results

The Chow test results that the fixed effect method was better than the common effect method. The Hausman test results that the random effect method was better than the fixed effect method. The Breusch Pagan test results that there were two-way, individual, and time effects in the random effect model. The Autocorrelation test results that there was no serial correlation in the error component. The Homoscedastic test results that a similar variation in the residual values of the model was obtained. The Panel Regression test results that the variables rainfall, temperature, residential density, vegetation level, and population density had a significant effect on the incidence of DHF so the IR of DHF predictive model was obtained =  $-1.9158e+04 + (5.9925e+00) \text{ Rainfall} - (4.4897e+00) \text{ Temperature} + (2.0615e+04) \text{ Residential Density} - (8.2504e+01) \text{ Vegetation Level} + (3.2721e-03) \text{ Population Density} + \text{District/City}$ .

## Conclusions

There are 5 indicators related to IR of DHF in East Java. So it is recommended that health workers increase awareness of the risk of DHF from environmental factors.

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# Investigation of Food Poisoning After Sambelan Event in an Islamic Boarding School, in Bandung Playen Gunung Kidul Yogyakarta

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Poster

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## **Background**

The surveillance officer of Playen I Health Center received a report from the Emergency Unit on May 16, 2024, that there were 11 students from the Islamic boarding schools in Bandung Playen Gunung Kidul were suspected of being poisoned after eating together in a “sambelan” event. The menu was eggs balado cooked at the boarding school. Rice, Mackerel Tuna, chili sauce, fried foods, and iced fruit were sent by one of the students’ parents outside the boarding school. This investigation aimed to confirm the outbreak.

## **Methods**

This study used environmental observation and survey. Data collection was carried out using a structured questionnaire. A mackerel tuna sample was collected for laboratory testing. Ecological studies were also conducted on food handlers.

## **Results**

From the results of the investigation, 29 people were found to be symptomatic. The symptoms include rash or redness on the skin (65.5%), dizziness (58.6%), headache (44.8%), fever (37.9%), hot throat (like burning) (34.5%), itchy skin (34.5%) nausea (31%), face swelling (10.3%), vomiting (6.9%) and diarrhea (3.4%). The highest attack rate ratio (ARR) was associated with mackerel tuna, with an ARR of 5.4, suggesting histamine was the likely cause of intoxication. However, laboratory tests of mackerel tuna showed normal histamine levels. Environmental studies supported the high ARR of mackerel tuna despite these normal lab results. These studies indicated that not all mackerel tuna were stored under proper cold conditions during the distribution process, from fishermen to food handlers.

## **Conclusions**

There was an outbreak of food poisoning in an Islamic Boarding School in Bandung Playen Gunung Kidul Yogyakarta with clinically suspected histamin. It is crucial to rigorously monitor food sources and distribution to ensure that the food consumed is safe and also necessary to establish regulations in boarding school to control and restrict the import of food that cannot be guaranteed to be safe

# Investigation of the Rabies Outbreak In South Central Timor District, East Nusa Tenggara, 2023

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Poster

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## Background

Background: South Central Timor District declared a Rabies Outbreak on May 30 2023 following reports of the death of 1 resident who was suspected to be caused by Rabies. The results of the dog sample examination at BBVet Bali were positive. The investigation aims to identify additional cases of animal bites that transmit rabies (GHPR), determine the characteristics of the cases, and obtain information regarding risk factors for GHPR cases.

## Methods

The investigation was carried out on 01 - 10 June 2023. The investigation was carried out through home visits to interview sufferers of animal bites that transmit rabies (GHPR), sufferers' families, neighbors, RT heads, RW heads, cadres, and village heads.

## Results

Total cases were 251 people, including 2 deaths. The highest number of cases was at the Oinlasi Community Health Center with 108 cases (43.03%), and the highest age group for GHPR cases was 20 – 45 years with 61 cases (24.30%). The risk factor for a Rabies outbreak is that the people of Fenun village in particular and the people of South Central Timor District in general have a culture of keeping HPR (dogs). The Attack Rate (AR) of this Rabies Outbreak is 0.80%.

## Conclusions

The risk factor for a Rabies outbreak is people's habit of keeping animals that transmit rabies (dogs) but not vaccinating these dogs. It is recommended that disseminating information regarding Rabies continues and the public is encouraged to bring their dogs to be given the Anti-Rabies Vaccine consciously.

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# Evaluation of The Tuberculosis Surveillance System In Boyolali Regency, Central Java Province, in 2024

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Poster

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## **Background**

Indonesia is the second highest burden country globally. Strengthening surveillance is essential to improve TB program performance. This study aims to evaluate the tuberculosis surveillance system on four surveillance attributes based on WHO guidelines.

## **Methods**

Descriptive study was conducted between February–May 2024. Primary data was obtained through interviews with 24 respondents from 23 health center TB programmers and 1 Boyolali District Health Office's TB supervisor; secondary data was obtained through the SITB application. Data were analyzed by categorizing them into three categories: good (>80%), sufficient (60–80%), and poor (<60%), and presented in narrative form.

## **Results**

The surveillance structure was categorized as adequate in terms of 90% of respondents stating that the surveillance system was good and 70% of respondents stating that surveillance implementation was inadequate. The main function of surveillance is sufficient in terms of 42% of respondents analyzing and interpreting data and 100% of respondents providing feedback. Supporting the surveillance function is good in terms of 100% of respondents stating that monitoring and evaluation are carried out routinely. The quality of the surveillance system is lacking in terms of 13% incomplete data filling; 100% of respondents stated that stability is lacking because SITB is difficult to access during working hours; 100% of respondents stated that it is not simple because the system has many forms, many question items in each form, and some questions overlap, so that takes a long time to complete. This results in reporting and recording not being able to be done in real time and the system becoming inflexible.

## **Conclusions**

The quality of the surveillance system could be better because it is not simple and unstable. SITB needs to be simplified and update the accelerated version so that the surveillance system can be carried out effectively and efficiently.

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# Analysis Of Tuberculosis Problem In Sumenep District Year 2023

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Poster

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## **Background**

Sumenep-District is an area that has a high number of tuberculosis (TB) cases, which in 2023 was 2,239 cases. Prevalence of TB cases from 2021-2023 continues to increase, namely in 2021 by 0.13%, 2022 it increased to 0.19% and 2023 it increased again to 0.20%, so it is necessary to conduct an analysis with the aim of identifying determinants increase in TB cases and formulating alternative problem solving the TB programme in Sumenep-District.

## **Methods**

Descriptive observational study with a qualitative and quantitative approach by looking at data on tuberculosis case reports for 2021-2023 and population size, number of cases investigated and number of TB preventive therapies provided. The study was conducted in January-February 2024 at the Sumenep-District Health Office. Respondents were the Head of Communicable Disease Control Section and Tuberculosis Supervisor. Determination of problem prioritisation using the USG method, Identification of the cause problem using the fishbone diagram and Identification of the root cause problem using the indepth interview method.

## **Results**

Based on TB performance indicators, 9 problems were found in the TB programme. Priority problem is the incidence of tuberculosis increases every year, namely in 2021 by 126/100,000 population, 2022 it increases to 179/100,000 population, and 2023 it increases to 191/100,000 population. Based on fishbone analysis, dominant problems that are prioritised coordination related to TB prevention and control that is not optimal between the P2PM tuberculosis and health promotion section, the District-Public-Private-Mix programme is not optimal and community participation in TB prevention and control is low.

## **Conclusions**

To address the increasing incidence of TB in Sumenep-District, TB P2PM section needs to coordinate regularly with health promotion section to assess the appropriate health promotion targets, collaborate with professional or non-governmental organisations that focus on TB to improve the DPPM program, and strengthen the community regarding TB prevention and control.

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# An Outbreak of Hepatitis A in an Islamic Boarding School in Kebumen Regency, Central Java, 2024

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Poster

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## **Background**

On May 2, 2024, the Petanahan Public Health Center received a report from caretakers of an Islamic boarding school that 12 students were experiencing nausea and upper right abdominal pain. An investigation was conducted on May 3, 2024, to confirm a possible Hepatitis A outbreak and identify the source and mode of transmission of Hepatitis A.

## **Methods**

A case-control study design was conducted. Cases were students who experienced symptoms of nausea, right upper abdominal pain, vomiting, fever, dark-colored urine, jaundice, diarrhea, and were positive for HAV IgM. Controls were male students in rooms 3 and 4 on the second floor who did not experience Hepatitis A symptoms. Primary data were collected through interviews using questionnaires. Water samples were examined.

## **Results**

3 out of 5 symptomatic students tested positive for HAV IgM, and other cases had a history of close contact with students who are confirmed positive. The attack rate was 34.6% (36 of 104 students). All cases were male students (100%). The most frequent symptoms were nausea, right upper abdominal pain, vomiting, fever, brown-colored urine, jaundice, and diarrhea (63.9%; 50%; 44.4; 41.6%; 38.9%; 30.5%; 19.4%). Based on the environmental observation, no facilities for handwashing with soap were available. Furthermore, laboratory tests of drinking water, clean water samples from the cottage, and drinking water from the canteen were positive for coliform and E. Coli

## **Conclusions**

An outbreak of Hepatitis A has occurred at one of the Islamic Boarding Schools at Kebumen. There was possible a high fecal oral transmission of Hepatitis A between cases in the boarding school. The risk factors for the disease transmission were not washing hands with soap before eating, sharing utensils, and drinking dispenser water. Education on hygiene and sanitation and increased commitment from the school's management can prevent transmission.

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# An Outbreak Investigation of Food Poisoning at the “100-day Tahlilan” Event in Tegaldowo Hamlet, Bantul District, May 2, 2023

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Poster

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## Background

On May 3, 2023, the Bantul District Health Office received a report from the Bantul 2 Public Health Center that 44 people of Tegaldowo Hamlet, Bantul Subdistrict, were experiencing symptoms of nausea, stomach pain, diarrhoea, and headaches after attending the “100-day tahlilan” event. The study aims to determine the outbreak, risk factors, and appropriate control measures.

## Methods

The epidemiological investigation from May 3, 2023, to May 7, 2023 with a retrospective cohort study. The case definition is that people who experience one or more symptoms such as diarrhoea, abdominal pain, nausea, weakness, vomiting, and headache after consuming food at the event in Tegaldowo hamlet on May 2, 2023. Food samples were taken and sent to the Yogyakarta Health Laboratory (BLKK). Attack rate calculation and data presentation by person, time, and location.

## Results

The population at risk was 156 people, with 44 cases (AR = 28,2 %) with no fatality. Only 36 people were met and interviewed (response rate: 23,1%). Elderly and toddlers had the highest (AR=100%). The most common symptoms were diarrhoea (90%), abdominal pain (86,7%), and nausea (36,7%). The incubation period was 1-17 hours, with an average six hours and 30 minutes. The grilled chicken (ARR=∞) was suspected to be the source of the poisoning. Laboratory testing did not confirm *Salmonella spp.* as the poisoning agent. Food handler interviews and environmental observations revealed that the “bacem” chicken cooked, and stored at room temperature >12 hours before reheating was a risk factor for food poisoning.

## Conclusions

There was an outbreak of food poisoning at the tahlilan event in Tegaldowo Hamlet, Bantul District, on 2 May, 2023. Poisoning suspected agent and transmitted by *Salmonella spp.* from grilled chicken. We recommended educating food handlers on food safety include the proper food preparation and storage.

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# Rabies in Indonesia, an Epidemiological Approach

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Poster

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## Background

Rabies is a zoonotic disease with high mortality once symptoms appear, costing approximately USD 8.6 billion annually. It causes an estimated 59,000 deaths globally each year. In Indonesia, rabies remains a neglected tropical disease with challenges in vaccine distribution and bite management.

## Methods

This case series study analyzed data from January 1, 2023, to August 4, 2024, from EBS-SKDR, programmer databases, and surveillance reports, covering 155 rabies cases. Using descriptive statistical measures, data collection included individual characteristics, rabies-transmitting animal conditions, management profiles, and symptom progression.

## Results

Due to its extensive network, the EBS-SKDR system was the primary reporting medium. Most reported cases were males in their productive years, though females were also affected. Rabies occurrences were concentrated in Nusa Tenggara, West Kalimantan, South Sulawesi, and North Sumatra. Many records lacked detailed wound management information, with most failing to wash wounds properly. Only 9% of cases received the first vaccine dose, with coverage dropping to 2% by the fourth dose. The average interval from bite to prodromal onset was 102 days, with death occurring within 4.3 days after symptom onset.

## Conclusions

The EBS-SKDR system is the optimal reporting medium for rabies cases in Indonesia. Enhancing recording capacity and educating on rabies risk factors are essential for improving bite management and vaccine administration. Strengthening vaccine management is crucial given the 2 to month incubation period and the critical period of 3-4 days before death.

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# Disease Surveillance During Flood and Landslide Disasters in West Sumatera Province, 11-25 May 2024

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Poster

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## Background

On Saturday, May 11, 2024, at 22:00 WIB, high-intensity rainfall led to severe flooding and landslides concentrated in three districts of West Sumatera Province: Agam, Tanah Datar, and Padang Panjang. This event affected an estimated 9,143 individuals. Disaster situations pose unique vulnerabilities; hence, it is imperative to strengthen surveillance as a form of early warning and response to potential disease outbreaks.

## Methods

This study involved daily monitoring of potential disease outbreaks, specifically focusing on Influenza-like Illness (ILI), Acute Respiratory Infections (ARI), diarrhea, COVID-19, typhoid, pneumonia, measles, and other potential diseases as per Minister of Health Regulation No. 1501 of 2010. Data were reported by surveillance officers stationed at 17 emergency health posts during the emergency period from May 11 to May 25, 2024.

## Results

Surveillance activities commenced the day after the disaster in the three affected districts. By May 25, 2024, five potential disease outbreaks with the highest incidence rates were identified: ISPA (135 cases), ILI (97 cases), diarrhea (54 cases), COVID-19 (23 cases), and typhoid (6 cases). Additionally, there were 4,622 individuals with minor injuries, 13 with severe injuries, and 62 fatalities. As part of our commitment to data transparency, we have made the data publicly accessible.

## Conclusions

Surveillance plays a crucial role in public health by identifying the impact of disasters on human health, particularly in detecting potential disease outbreaks and determining necessary follow-up actions and interventions. Therefore, it is essential to enhance surveillance activities during disasters.

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# Readiness of Community Health Centers in Implementing the Community-Based Surveillance: A Mixed-Methods Study Across Three Provinces in Indonesia

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Poster

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## Background

Community-Based Surveillance (CBS) can extend reach and timeliness of public health surveillance by involving community members in detection of diseases or deaths indicative of public health concerns occurring within their communities. This study explores the knowledge and attitudes of surveillance officers working at community health center or puskesmas in three proposed CBS pilot provinces: Central Java, West Java, and Banten.

## Methods

In July 2024, an online multiple-choice and open-ended survey[AC1] was administered to surveillance officers to solicit their understanding of CBS and views on its utility. The data collected was both qualitative and quantitative. The data were analysed using descriptive statistics and deductive thematic methods.

## Results

Seventy two surveillance officers from 72 puskesmas responded. Fifty percent of puskesmas were in urban, 47% in rural and 3% in remote areas.[AC1] Fifty-four percent of officers had heard of CBS; most (56%) first heard about the approach from non-government organization. Only one in four respondents report having any CBS practical experience. Most appreciated the benefits CBS (86%) offered, though not comprehensively. They were familiar with role of health centers in case detection (76%). A strong desire to involve community in CBS was expressed by 75%.[AC2] A deeper understanding that CBS is by the community for the community is essential.

## Conclusions

The CBS pilot project offers important opportunities to understand the operational mechanisms that support and impede sustainable and scalable use of CBS in Indonesia. Investing in capture and analysis of implementation data will support the development of prudent, end-user centred policy and guidance for CBS implementation.

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# Epidemiological Investigation of Malaria Cases, Tanjung Pinang City, Riau Island Province, June 25th – 28th, 2024

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Poster

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## Background

Malaria is parasitic infectious disease that transmitted by *Anopheles* mosquito. Estimated 249 million malaria cases globally in 2022 with more than 600.000 deaths. Malaria is distributed worldwide including Southeast Asia. In 2024, Riau Islands Provincial Health Office reported an increase of malaria cases in Tanjung Pinang City. This epidemiological investigation aims to verify the malaria outbreak, provide an overview of the distribution of cases, symptoms and identify the population at risk.

## Methods

The study was conducted in Bugis Village, Tanjung Pinang City, on June 25<sup>th</sup> – 28<sup>th</sup>, 2024. Data were collected through Early Warning Alert and Response System (EWARS), case analysis, house and environmental assessment and discussion with related programs.

## Results

Malaria cases in Tanjung Pinang City began on 15<sup>th</sup> week of 2024 and increased significantly until the 25<sup>th</sup> week of 2024. Majority of the cases were reported in Bugis Village. Most of them are male and occurred in the age group 27– 45 years. The most common type of parasite found was *Plasmodium vivax* (71%). More than 50% of cases has a fever (65%), shortness of breath (65%) and chills (48%). Malaria cases was recorded at the area with distance between 100m – 200m from lagoons and puddles of water. Bugis Village has a larvae-free index of 80% with an anopheles habitat index of 67%,

## Conclusions

There was a malaria outbreak in Bugis village. Strengthening routine malaria surveillance is needed, including active case finding, monitoring and control larvae breeding places, the habitat of larvae and the population of anopheles.

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# Leptospirosis Outbreak Investigation in Gorontalo Province, 2024

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Poster

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## Background

Gorontalo Province at the end of June 2024 began to experience flooding in several areas and the peak of the flood occurred in the 2nd week of July 2024 and until now in several areas there are still flooded environments that have the potential for leptospirosis transmission. And this is supported by reports from hospitals in Gorontalo City that there were deaths suspected of being leptospirosis

## Methods

Epidemiological investigation activities were carried out in the Otanaha Hospital area, Kota Barat Community Health Center and the home environment where the case died in Gorontalo City and in the Telaga Jaya Community Health Center area, the containment environment where the case was found in Gorontalo Regency on 01 – 02 August 2024.

## Results

Leptospirosis outbreak cases in Gorontalo Province occurred in Gorontalo City, Gorontalo Regency and Bone Bolango Regency. A total of 41 cases with 3 deaths. The CFR is 21.4%. The high number of leptospirosis cases in Gorontalo Province is due to the fact that the area where these cases occurred was an area affected by the flood on July 10 2024. The attack rate obtained was 6 per 10,000 residents, which means there were 6 cases of leptospirosis for every 10,000 residents affected by the flood.

## Conclusions

The risk factors discovered during the epidemiological investigation were that in the areas affected by leptospirosis and in communities affected by flooding, there were many areas of coconut trees that were not maintained, resulting in a lot of leaf litter and household rubbish. Apart from that, it is known that many settlements were founded around Lake Limboto which has receded. This is what caused many houses to be affected around Lake Limboto.

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# Epidemiology of Dengue Outbreak in Jepara, 2024: Distribution of Cases, Clinical Presentation and Dengue-Related Deaths

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Poster

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## Background

In 2024, over 7.6 million cases have been reported globally with more than 3000 deaths. Dengue is hyperendemic in tropical and subtropical climates, such as Southeast Asia, including Indonesia. Jepara reported incidence rate (IR) of dengue 10.75 per 100.000 population with case fatality rate (CFR) 11.03 % in 2024, three times higher than previous year. This study aims to overview distribution of cases, clinical presentation and dengue-related deaths from the outbreak that occurred in Jepara during February – March 2024.

## Methods

The study was conducted in Jepara District, Central Java, on February 28<sup>th</sup> – March 1<sup>st</sup>, 2024. Data were collected through Early Warning Alert and Response System (EWARS), data from Jepara District Health Office, vector survey and environmental assessment. Data analysis was performed using descriptive analysis including analysis of frequency distributions and spatial analysis.

## Results

Most of the of dengue cases in Jepara occurred in the age group 6-11 years. Dengue cases are spread across 15 sub-districts. In 2024, dengue suspect increased compared to the same period in 2023. The clinical presentation of dengue including fever (100%), fatigue (96%), nausea & vomiting (82%), headache (56%), muscle and joint pain (33%), manifestation of haemorrhage (26%), rapid pulse (21%) and rash (15%). Dengue-related deaths in males slightly higher than females. Most of the dengue-related deaths occurred in age group 6-11 years. Pecangan Sub-District has highest number of dengue-related deaths in Jepara. Larva-free index in Pecangan is 66,7% with habitat index 33,3% and container index 15%. Dengue cases in Pecangan was recorded at the area with distance between 100m – 200m from places where larvae were found.

## Conclusions

Strengthening of effective and sustainable vector management, includes vector surveillance, collaboration between education and the workplace, vector control management and utilization of appropriate technology are needed to prevent future outbreaks.

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