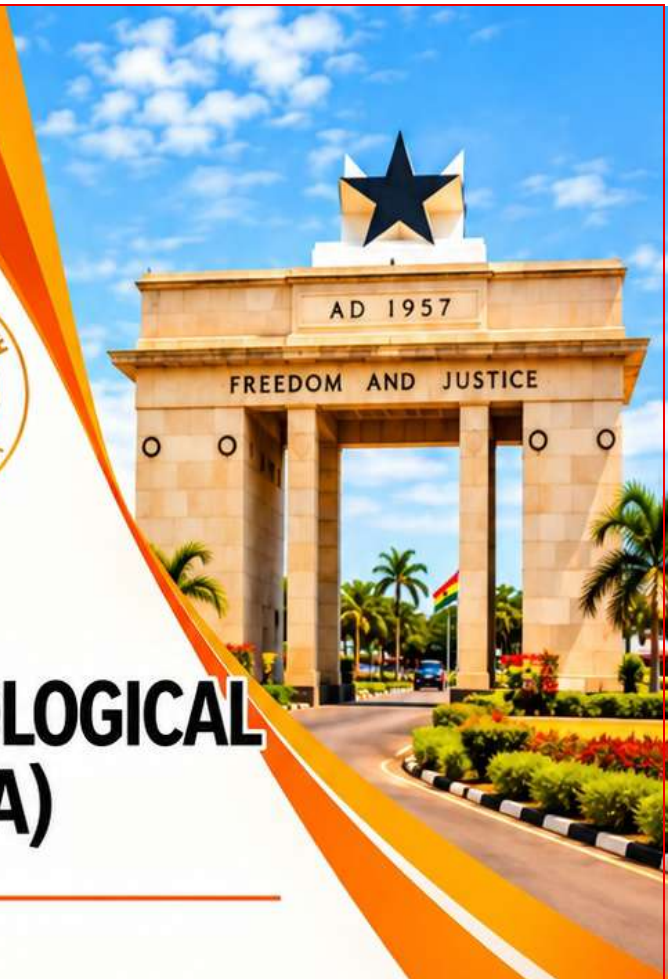
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AFRICAN EPIDEMIOLOGICAL ASSOCIATION

GHANA EPIDEMIOLOGICAL SOCIETY
COLLABORATION, INFORMING POLICY AND IMPROVING HEALTH

MINISTRY OF HEALTH
REPUBLIC OF GHANA



7TH AFRICAN EPIDEMIOLOGICAL ASSOCIATION (AfEA)

&

1ST GHANA EPIDEMIOLOGICAL SOCIETY (GhES)

CONFERENCE

13-15 October 2026

Labadi Beach Hotel, Accra, Ghana

Harnessing Epidemiological Innovation and Technology for Improved Disease Response in Africa

Acknowledgements

The Organising Committee of the 7th AfEA and 1st GhES Conference sincerely thanks all individuals, institutions, and partners whose contributions have made this conference possible. We especially acknowledge the abstract reviewers and Scientific Committee for upholding scientific quality; all AfEA member programmes and GhES members for their collaboration; and our sponsors and partners for their generous financial, technical, and institutional support.

We also thank the conference organisers, Secretariat, volunteers, and support teams for their dedication, and all speakers, presenters, session chairs, moderators, and delegates for sharing their knowledge and experiences. Together, we advance epidemiology, strengthen public health practice, and build a healthier Africa.

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Foreword



On behalf of the Organising Committee, it is my distinct privilege to welcome you to the 7th African Epidemiological Association (AfEA) Conference and the 1st Ghana Epidemiological Society (GhES) Conference, hosted at the Labadi Beach Hotel in Accra, Ghana.
This gathering marks a historic milestone for our field. By uniting the 7th continental conference of AfEA with the inaugural national assembly of GhES, this maiden joint convening brings together about 400 epidemiologists, public health practitioners, researchers, policymakers, development partners, and industry stakeholders from more than 25 countries across Africa and the world. It embodies a shared continental commitment: that strengthening public health and epidemiological capacity requires both cohesive regional coordination and resilient national societies.

We convene at a transformative moment for global and African health. Our continent continues to confront emerging and re-emerging infectious diseases, climate-induced health emergencies, and acute systemic health constraints. Overcoming these challenges demands accelerated digital transformation, advanced analytics, cutting-edge laboratory science, and integrated health approaches. Under our conference theme, "Harnessing Epidemiological Innovation and Technology to Improve Disease Response in Africa", we will examine how modern tools, from real-time surveillance systems to artificial intelligence, can strengthen evidence-based decision-making and improve population health outcomes.
As you review this Conference Brochure, you will discover an extensive, high-impact scientific programme. Evidence stands at the very centre of our discourse. In total, the conference features 270 peer-reviewed abstracts accepted across six conference sub-themes and five priority scientific tracks:

- EpiTrack 1: Digital surveillance and real-time data systems for early outbreak detection
- EpiTrack 2: Molecular epidemiology and laboratory innovations for disease control
- EpiTrack 3: Integrated community-centred epidemiology for health and environment in the digital age
- EpiTrack 4: Translational epidemiology and innovation, from research to policy and practice in vaccines and clinical trials
- EpiTrack 5: Health systems resilience, preparedness and public health intelligence

These 270 abstracts will be presented in rigorous concurrent oral sessions and more than 70 dedicated posters throughout the conference. The abstracts will also appear in the official conference proceedings, published in the *Journal of Infectious Diseases and Epidemiology for Public Health* (JIEPH).
In addition to scientific presentations, the programme includes high-level plenary sessions and strategic panel discussions addressing the Pandemic Fund, outbreak responses to Ebola and Yellow Fever, and the future of disease detection in the era of artificial intelligence. Crucially, we also champion the next generation of researchers through dedicated mentoring roundtables and an informal early-career session conducted in French to support and connect young francophone scientists.

An undertaking of this magnitude is made possible only through collective dedication. I extend our profound gratitude to the leadership of AfEA and GhES, the members of the Organising and Scientific Committees, and our institutional partners—including the Ministry of Health Ghana, the Ghana Health Service, WHO, WAHO, AFENET, FAO, the Pandemic Fund, and NIRDH-ICMR. We also thank every author, reviewer, and delegate whose commitment to scientific excellence enriches this gathering.

Africa's public health challenges cannot be solved in silos; they require sustained, cross-sectoral collaboration and evidence translated into action. I encourage each of you to participate actively in discussions, forge lasting partnerships, and take full advantage of our networking sessions.
May your deliberations be inspiring and productive and may your time in Accra be both memorable and rewarding.

Prof. Ernest Kenu
Chair, Organising Committee
7th AfEA & 1st GhES Joint Conference
Accra, Ghana

Conference Programme

DAY 1: OCTOBER 13, 2026	
Program schedule	**Program Details**
7:00 – 8:30	**Registration**
9:00 – 10:00 Pavillion	**Concurrent Oral Presentations A1** **Moderators:** Dr Adolf Awua | Prof Frank Baiden
	Typhoid Fever Surveillance and Forecasting in the Eastern Region of Ghana, 2016-2024: Secondary Data Analysis, Epidemiological Trends, Spatial Distribution, and Predictive Modelling | **John Baffoe** | ID 184
	Dengue fever outbreak investigation in Kadjebi District, Ghana 2024 | **Lambert Nyamekye Asamoah** | ID 103 – virtual
	SORMAS in Practice: Assessing Utilization, Data Quality, and Implementation Gaps in Electronic Disease Surveillance in the Daffiama-Bussie-Issa District of the Upper West Region of Ghana, 2026 | **Ambrose Yonye** | ID 300
	Reality Versus Records: An Epidemiological Assessment of Vaccine Cold Chain Integrity and Temperature Monitoring Accuracy in Northern Ghana. | **Samuel Dapaa** | ID 283
	Diagnóstico Dos Factores De Risco Socioambientais E Comportamentais Da Cólera Em Moradores Do Bairro Utomba, Benguela, Abril 2026 | **Fernando Nioca** | ID 163
9:00 – 10:00 Obuasi	**Concurrent oral presentations A2** **Moderators:** Dr Adolphina Addo-Lartey | Dr Augusta Soninuor Kolekang
	Determinants of Vaccination Dropout Between PENTA1 and RR among Children Aged 0–11 Months in Boundiali, Northern Côte d'Ivoire, 2025 | **Damus Kouassi** | ID 114
	Environmental Conditions and Sanitary Practices Associated with Severe Acute Malnutrition among Children Aged 6–24 Months in the Paediatric Department of the Maradi Regional Hospital, Niger | **ALKASSOUM SALIFOU Ibrahim** | ID 16
	Facteurs associés à la positivité du cVDPV2 à la culture cellulaire chez les cas de paralysie flasque aiguë (PFA) au Mali de 2015 à 2024. | **Kamissoko Chelck** | ID 143

	Casos de Hidatidose em Bovinos na Zona Sul de Moçambique, 2020 – 2025. | **Antonio Sumbana** | ID 115
9:00 – 10:00 Adinkra	**Concurrent oral presentations A3** **Moderators:** Prof Afiong Oboko Oku | Dr Joyce Der
	Trends and Distribution of Mental Disorders due to Alcohol Use in Greater Accra Region, 2018 – 2024. | **Mavis Coffie** | ID 239
	Lessons from a Schistosomiasis Outbreak Investigation in Southern Province, Zambia, February 2026: The Role of Structural Water Contact | **Matildah Mubanga** | ID 316
	Impact of differential culture contamination on monitoring treatment response among patients with drug-resistant tuberculosis in northern Nigeria | **Hassan Murtala** | ID 256
	Antimicrobial Susceptibility Testing Capacity in Selected Private Hospitals of Western Uganda, May–June 2025 | **Nakaweesa V** | ID 357
10:00 – 10:30 Forecourt of Pavillion	**Tea Break/ Poster Walk Through**
10:30 – 12:30 **Pavilion**	**Opening Ceremony**

	• Welcome Remarks | Prof Ernest Kenu – Interim President of GhES
	• Opening Remarks
	  ○ WHO
	  ○ US CDC
	  ○ WAHO
	  ○ AFENET
	  ○ TEPHINET
	• Musical Interlude | 3 mins
	  ○ Pandemic Fund
	  ○ ASPHA
	  ○ AfEA
	  ○ GHS
	• Highlight of Keynote Address | Prof. Ellis Owusu-Dabo
	• Special Guest of Honour– Minister of Health, Ghana
	• Group Photograph

12:30 – 13:30 **Pavilion**	**Plenary session** **Moderator:** Prof Seydou DOUMBIA
	Harnessing the Power of Existing Data: Building Local Research Capacity and Evidence for Action in Africa Speaker: **Prof Zelalem Haile**

13:30 – 14:30 Omanye Gardens	**Lunch break**
14:30 – 16:00 Pavilion	**Panel Discussion** **Moderator:** Dr. Joseph Asamoah Frimpong
	The Pandemic Fund implementation, successes and sustainability Panellist Dr Margaret Chase |Pandemic Fund Dr Sally-Ann Ohene | WHO Dr. Garba Maina Ahmed | FAO Dr. Frankline Asiedu – Bekoe | Ghana Health Service
16:00 – 17:30 Pavilion	**Poster session**
	Announcements
17:30 – 21:00 Forecourt of Pavillion	**Interaction and Networking**

Day 2: October 14, 2026	
Program schedule	**Program Details**
7:00 – 8:00	Registration
8:00 - 9:00 Pavillion	**Concurrent Oral Presentation Sessions B1** **Moderators:** Prof Napolon Bellua Sam | Dr Joyce Der
	Comparing Explainable Machine Learning and Survey-Weighted Logistic Regression Models for Predicting Cervical Cancer Screening Among Women in Ghana. | **Zelalem Haile** | ID 181
	Préférences et satisfaction des femmes en matière d'accouchement au Burkina Faso. | **Charles KABORE** | ID 263 – virtual
	An Investigation into the Use of Psychoactive Substances among Sex Workers at an Urban Displacement Site in Bamako (Mali, 2025). | **Fatou Diawara** | ID 189- virtual
	Reorienting neglected tropical disease control in sub-Saharan Africa: epidemiological lessons and future directions for sustainable elimination. | **Mawuli Gohoho** | ID 424
	Analysis Of Survival, Biochemical Failure, And Clinical Management Modalities Among Prostate Cancer Patients In Ghana: A Ten-Year Retrospective Longitudinal Study At The Korle-Bu Teaching Hospital | **Philip Piyim Oduro** | ID 146
	The Relationship Between Social Media Usage and Adolescent Mental Health at Selected Schools in Adenta Municipality, Greater Accra Region, Ghana | **Margaret Dansowaa Asare** | ID 129
8:00 - 9:00 Omanye 3	**Concurrent Oral Presentation Sessions B2** **Moderators:** Prof Bernadine Ekpenyong | Dr Anthony Dongdem
	Spatio-Temporal Modelling of Variations in HIV Risk in Ghana From 2018–2024 | **Felix Mbiba** | ID 303
	Data Quality Audit of Maternal and Child Health Surveillance in Ahafo Ano North District, Ashanti Region, Ghana, 2026 | **Dominic Amoah** | ID 307
	Investigation of a Yellow Fever Case in the Manyini Community, Mion District, Northern Region, 2026 | **Pascal Bagbulo** | ID 343
	From Detection to Attribution: Combining Viral Metagenomics and Host-Response Signatures to Improve Understanding of Childhood Febrile Illness | **Flavia Akite** | ID 236
	Mosquito-Borne Viral Diseases Risk In Military Settings In Ghana. | **Samuel Atsitsre** | ID 400

8:00 - 9:00 Obuasi	**Concurrent Oral Presentation Sessions B3** **Moderators:** Prof Bismark Sarfo | Dr Tim Abagre
	Investigation autour d'une épizootie aviaire dans une ferme d'élevage à Adjengré, district sanitaire de Sotouboua, Togo, 2025 | **Amissou Tchadjobo** | ID 139
	Profil épidémiologique des recrues de la Fonction Publique : la visite médicale d'aptitude comme outil de depistage en Santé Publique | **D Haidara** | ID 81
	Disproportionate Burden of Cholera in Rural Nampula, Mozambique: Environmental and Demographic Drivers of Persistent Outbreaks (2022–2024) | **Alex Rodrigues Manuel** | ID 118
	Prevalence and Socioeconomic Determinants of Tobacco Use Among Ivorian Males Aged 15–49 Years: Analysis of the 2021 Côte d'Ivoire Demographic and Health Survey | **Fiifi ASUMA- PERPREM** | ID 59
	Epidemiology of malaria among children and adolescents aged 5 – 19 years in the Northern Region, Ghana, 2020 – 2024: insights from routine surveillance data for targeted intervention | **Williams Azumah Abanga** | ID 176
8:00 - 9:00 Adinkra	**Concurrent Oral Presentation Sessions B4** **Moderators:** Prof Abukari Alhassan | Dr Mary Amoahkoh-Coleman
	Menstrual Waste Disposal Practices Among Senior High School Students in the South Dayi District, Ghana | **Josephine Nyator** | ID 194
	Evaluation of the Human Rabies Surveillance System in the Plateaux-Est Region in 2024 | **Wassiou Lassissi** | ID 123
	She knew the dangers, yet delayed unravelling a Maternal Death case from secondary postpartum hemorrhage involving a Community Health Volunteer in the Jirapa municipality | **Florence Darimaani** | ID 388
	Drone-Assisted Geospatial Census and Electronic Data Capture for a Large-Scale Cluster-Randomised Vaccine Trial in Rural Ghana: An Innovation in Field Epidemiology Data Management | **Obed Atsu-Ofori** | ID 417
	Prevalence, Patterns and Predictors of Concurrent Use of Herbal and Orthodox Medicines among Hypertensive and Diabetic patients in selected hospitals in the Eastern Region of Ghana | **Justice Ennin** | ID 55

9:00 – 10:00 Pavillion	**Concurrent Plenary Session 1** **Moderator:** Dr Matthew Ashikeni
	Integrated Community Centered Epidemiology for Health and Environment in the Digital Age **Speaker**: Prof Robin Taylor Wilson
9:00 – 10:00 Omanye 3	**Concurrent Plenary Session 2** **Moderator:** Prof Telly Nouhoum
	Digital Health Research to Public Health Action: ICMR-NIRDH's Experience and Perspectives from India **Speaker**: Dr. Mona Duggal
10:00 – 10:30 Forecourt of Pavillion	**Tea Break/ Poster Walk Through**
10:30 – 11:30 Pavillion	**Concurrent Oral Presentation Sessions C1** **Moderators:** Dr Michael Mireku Opoku | Dr Fortress Yayra Aku
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	Dietary Patterns and Their Determinants among Undergraduate Students at the Kwame Nkrumah University of Science and Technology | **Regina Papah** | ID 368
	Dix ans de surveillance sentinelle des diarrhées à rotavirus chez les enfants de moins de cinq ans au Burkina Faso (2015–2025). | **Dieudonne OUEDRAOGO** | ID 431 – virtual
	Enteric Bacteria of Toads; Implication for Public Health and One Health | **Tiwalade Sobowale-Ikonne** | ID 345 – virtual
	Long-term Stability of Cervical and Plasma Specimens for hrHPV and HIV Viral Load Testing in a Rwandan Biobank | **Faustin Kanyabwisha** | ID 434
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	APOL1 Risk Variants are Associated with Early Onset Preeclampsia in Ghana: the SPOT-BIO Study | **Claire Simpson** | ID 153
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	Prevalence and Rifampicin-Resistance Patterns of Mycobacterium Tuberculosis Among Presumptive TB Patients in a Resource-Constrained District: Evidence from GeneXpert Surveillance Data (2017-2026) | **Benjamin Tetteh Hansen** | ID 437
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	Access and utilization of dental health services among elderly residents in Suhum municipality in the eastern region of Ghana. | **Kersting Otu** | ID 61
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	Groundwater Quality in Peri-Urban Gambia: Physicochemical and Microbiological Contamination and Public and Environmental Health Implications. | **Samba Camara** | ID 23
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ABSTRACTS



3: Communication Dynamics And Determinants Of Missed Children During A Polio Vaccination Campaign In Maniema Province, Democratic Republic Of Congo

RACHEAL CHELIMO[1,2], Alain Magazani[2], Marjorie Kyomuhendo[1]

[1]Makerere University, Kampala, Uganda. [2]African Field Epidemiology Network (AFENET), Kampala, Uganda

Background: Polio eradication efforts still face challenges in fragile settings. In the Democratic Republic of Congo (DRC), recurrent outbreaks highlight persistent gaps in vaccination coverage despite repeated supplementary immunisation activities (SIAs). Maniema Province presents a complex environment where forested terrain, dispersed settlements, population mobility, and weak infrastructure complicate campaigns. Communication is critical for vaccination uptake, yet limited evidence explains how it interacts with behavioural, operational, and geographic factors to shape missed-child patterns.

Methods: This study conducted a descriptive secondary analysis of monitoring and administrative data collected during the November 2025 polio outbreak response campaign in Maniema Province. Data from eight health zones were analysed to assess vaccination outcomes, reasons for non-vaccination, and exposure to communication channels. The analysis was guided by the Social Ecological Model and a consequential geographies perspective to examine how individual, interpersonal, institutional, and structural determinants interact to influence missed children.

Results: Among 99,018 children targeted during the campaign, 2.3% were missed. Absenteeism accounted for the majority of missed children (54.8%), largely associated with livelihood-related mobility including farming activities, markets, and social events. Refusals represented 17.2% of missed children and were primarily driven by concerns about vaccine side effects and misunderstandings about routine immunisation schedules. Operational gaps, including households not visited or revisited, accounted for approximately 17% of missed children and were concentrated in specific health zones. Communication exposure relied primarily on interpersonal channels such as community volunteers and criers, while digital communication remained minimal. However, communication exposure alone did not consistently correspond with lower refusal rates, highlighting the importance of trust and local social dynamics.

Conclusion: Missed children in Maniema were driven by interacting structural, behavioural, institutional, and communication factors. Vaccination outcomes reflect spatial patterns, livelihoods, trust, and service delivery constraints. Addressing gaps requires mobility-sensitive scheduling, hyper-local communication, and stronger microplanning to reach vulnerable populations.

Keywords

Polio, immunisation, Democratic Republic of Congo

7: Improving Antiretroviral Therapy Coverage And Viral Load Testing Uptake Through Contextual Quality Improvement Interventions In Rural Ghana.

FAUSTINA AKUA DENTEH[1,2], Isaac Owusu Mensah[1], Maxwell Worlanyo Onassis-Fiadjoe[1]

[1]Ghana Health Service, Accra, Ghana. [2]Central University, Accra, Ghana

Background: Achieving optimal antiretroviral therapy (ART) coverage and viral load (VL) monitoring is essential for meeting the UNAIDS 95–95–95 targets and improving outcomes among people living with HIV. However, many rural health facilities in Ghana continue to experience low ART uptake and inadequate VL testing due to health system and socio-cultural barriers. This operational research aimed to improve ART coverage and viral load testing uptake at Bornikope Health Center through the implementation of contextualized Quality Improvement (QI) interventions.

Methods: A mixed-methods design was employed, combining quantitative review of client records with qualitative insights from in-depth interviews and focus group discussions involving clients and healthcare providers. Baseline assessment revealed extremely low performance indicators, with ART coverage at 16% and viral load testing uptake at 0%. Key barriers identified included stigma, transportation challenges, weak follow-up systems, staff workload, and inconsistent documentation practices. To address these gaps, a series of QI interventions were implemented using iterative Plan–Do–Study–Act (PDSA) cycles. These interventions included reminder phone calls to clients, task-shifting among healthcare staff, targeted mentorship and capacity building for providers, and strengthening of documentation and tracking systems for ART clients and VL samples.

Results: Following implementation, substantial improvements were observed. ART coverage increased significantly to 90%, while viral load testing uptake improved to 85%. The interventions also strengthened service delivery processes, improved staff engagement, and enhanced client follow-up mechanisms. The findings demonstrate that locally adapted QI strategies can effectively address multi-level barriers affecting HIV service delivery in resource-limited settings.

Conclusion: This study highlights the value of data-driven, context-specific quality improvement approaches in strengthening HIV care systems and accelerating progress toward national and global HIV control targets.

Keywords

HIV, Antiretroviral Therapy, Viral Load Testing, Quality Improvement, PDSA Cycles

8: Prevalence And Associated Factors Of Post-Conflict Vaccine-Preventable Diseases In The Tigray Region Of Northern Ethiopia, 2025; A Firth Penalized Regression Model

AFEWERKI TESFAHUNEGN NIGUSSE[1], Solomon Hintsa[2], Mussie Alemayehu[1]

[1]Mekelle University, Mekelle, Ethiopia. [2]Aksum University, Aksum, Ethiopia

Background: Ethiopia has seen a resurgence of vaccine-preventable diseases (VPDs) following recent humanitarian crises. Despite this, there is limited evidence regarding the scale of these outbreaks and the specific factors driving them, hindering the implementation of effective interventions. This study assessed the community-level prevalence and associated factors of VPDs in the Tigray region.

Methods: A community-based cross-sectional study was conducted in Tigray from April to May 2025. Using a multi-stage sampling technique, 13,747 participants were recruited. Data were collected via the Kobo Toolbox using an adapted questionnaire. Factors associated with VPDs were identified using Firth's penalised logistic regression; statistical significance was set at $p < 0.05$.

Results: The overall prevalence of VPDs among children under five was 3.74%, with measles (1.6%), mumps (1.8%), and pertussis (0.5%) being the most frequent. While 73.1% of participants reported VPD cases immediately, primarily to health facilities (83.6%), over half (51.1%) demonstrated poor knowledge of these diseases. Significant predictors of VPDs occurrence included the child's age, participant type, travel time to health facilities, knowledge levels, previous health service utilisation, and vaccination status.

Conclusion: Despite strong community-based reporting mechanisms, the prevalence of VPDs, particularly measles, mumps, and pertussis, remains high. There is an urgent need for targeted risk communication and community engagement to improve health literacy, especially within IDP sites and hard-to-reach areas. The study recommends introducing the MMR (Measles-Mumps-Rubella) vaccine to address mumps and rubella, alongside further research into vaccine efficacy and quality for measles and pertussis.

Keywords

Key words: Vaccine-preventable Diseases, VPDs, Tigray, measles, mumps, and pertussis

9: Collection Of Culicoides Milnei Using Drop Trap, Their Mentainance In The Field And The Laboratory For The Large Scale Production Of Infective Larvae Of Mansonella Perstans

ANNA NTUH NING, kien ANNIZETTE CHI, Eyong Ebai Rene

University of Buea, BUEA, Cameroon

Background: *Culicoides* are small blood-sucking flies of the family *Ceratopogonidae*, representing the most abundant group of haematophagous insects worldwide with over 1,500 species described. *Culicoides milnei* is the principal vector of *Mansonella perstans*, a filarial nematode responsible for Mansonellosis in humans. Understanding vector survival under different rearing conditions is essential for transmission dynamics and outbreak investigation. This study aimed to optimize the collection and maintenance of *C. milnei* for large-scale production of infective *M. perstans* larvae.

Methods: A total of 6,100 *C. milnei* were collected using drop traps from two donors with microfilaria loads of 16,450 mf/mL and 750 mf/mL. Engorged flies were fed daily with 15% sucrose solution and monitored under varying rearing conditions until dissection. Mortality and survival were recorded, and data exported into Excel for analysis. Statistical tests included Kruskal–Wallis (H) and Mann–Whitney (U).

Results: Flies reared up to 12 days had the highest survival rate (79.1%, $P = 0.001$), significantly greater than those maintained for 13–14 days. Flies collected from donor 2 showed a survival rate of 77.8% ($P = 0.001$). Survival was enhanced under specific rearing conditions: cold-box storage with ice packs (70.1%, $P = 0.0143$), tubes moistened with distilled water (69.1%, $P = 0.0156$), and controlled temperature/humidity at 24°C/75% RH (71.8%, $P = 0.001$).

Conclusion and Public Health Implications: Optimized rearing conditions—12-day duration, cold-box maintenance, distilled water-moistened tubes, and controlled temperature/humidity—significantly improved survival of engorged *C. milnei*. These findings support large-scale production of infective *M. perstans* larvae, advancing our understanding of transmission dynamics and providing practical guidance for outbreak investigations and vector control strategies in endemic regions.

Keywords

Keywords: Haematophagous, Ceratopogonidae, Culicoides milnei and Mansonella perstans

11: Temporal Trends And Impact Of Genexpert MTB/Rif Implementation On Tuberculosis Diagnosis In Nkwanta South Municipality, Oti, Ghana

PAUL ANGWAAWIE

Ghana Health Service, Nkwanta, Ghana. University of Health and Allied Sciences, Fred N. Binka School of Public Health, Hohoe, Ghana, Hohoe, Ghana

Background: Tuberculosis (TB) remained a significant public health challenge, especially in rural and underserved areas. Although GeneXpert MTB/RIF assay has been introduced to enhance TB detection and identify rifampicin resistance rapidly, there is limited empirical evidence on its impact at sub-national level. The study assessed temporal trends and impact of GeneXpert MTB/RIF implementation on TB diagnosis in Nkwanta South.

Methods: A quasi-experimental design employed using Interrupted Time Series to assess case trends before and after GeneXpert introduction. Data extracted from laboratory TB registers covered; 2013–2015 (pre-intervention) and 2016–2024 (post-intervention). To answer the study objectives variables like age, sex, diagnostic method, and outcomes were captured using Excel template. Data was analyzed using Stata version 17.0, while quantum GIS was utilized to map spatial distribution of tuberculosis. Additionally, Positive Predictive Value (PPV) was estimated.

Results: A total of 4,686 patients' records (2013-2024) were analyzed. Most, 53.6%, were males, 21.9% were 65 years and above and the mean age was 47.15 (SD 20.06). Case detection rate was higher among males compared to females (IRR=1.50, CI: 1.25-1.79, p<0.001). GeneXpert was associated with significant increase in case detection [IRR] = 1.57; 95% CI: 1.17–2.10; (*p* = 0.003). A positive secular trend in TB detection over time was observed (IRR per month = 1.004; 95% CI: 1.001–1.006). Nkwanta sub-municipal recorded the highest detection rate of over 30/100,000 population, Tutukpene recorded the least with below 10/100,000 population. Pre-GeneXpert PPV was 8.1%, as against 18.6% post-GeneXpert.

Conclusion: Introduction of GeneXpert had a significant impact on tuberculosis detection. TB detection was low among females in pre- and post-GeneXpert eras. Nkwanta sub recorded the highest detection rate in both periods. PPV was higher in post-GeneXpert than in pre-GeneXpert. These findings underscore the need to strengthen GeneXpert technology in TB diagnosis at the district level.

Keywords

Temporal Trends, GeneXpert, MTB/RiF, Tuberculosis, Nkwanta South Municipality

12: Mapping When Genomic Data Can And Cannot Detect Malaria Transmission: Biological Constraints On Inference

MOUHAMADOU FADEL DIOP[1,2], David Jeffries[1], Martin J Holland[2], Alfred Amambua Ngwa[2]

[1]Medical Research Council, Banjul, Gambia. [2]London School of Hygiene and Tropical Medicine, London, United Kingdom

Background: Genomic surveillance is increasingly used to characterise malaria transmission, but in Plasmodium falciparum the recoverability of recent transmission links is fundamentally constrained by obligate sexual recombination, polyclonal infections, and high background relatedness. The conditions under which transmission connectivity remains statistically detectable and when inference collapses are poorly defined.

Methods: Using a forward-time simulation framework with complete genealogical ground truth, we map the detectability landscape of recent P. falciparum transmission connectivity across systematic variation in recombination rate, sample size, migration, and generational transmission depth. Rather than comparing inference methods or recovering transmission direction, which is generally non-identifiable in vector-borne malaria, we quantify when genomic data contain sufficient signal to distinguish recently linked from unrelated infections.

Results: Detectability exhibits threshold-like transitions governed primarily by recombination rate. At recombination rates below approximately 10-7 per base pair per generation, genomic similarity distributions between linked and unrelated pairs overlap sufficiently that no inference approach achieves useful discriminative performance under any surveillance configuration examined, a hard biological floor set by parasite biology rather than by methodological limitations. Above this threshold, detectability improves substantially but remains sensitive to sampling design: increasing sample size reduces rather than improves maximum achievable performance, reflecting dilution of transmission-linked pairs within a growing background of unrelated infections, a result with direct implications for how genomic surveillance programs should be designed. Migration rate, by contrast, is a second-order determinant throughout, modulating detectability by less than 0.03 AUPRC units within any recombination stratum, an order of magnitude smaller than the recombination-driven gradient.

Conclusion: These findings provide a principled, biologically grounded framework for interpreting genomic transmission inference results and for aligning surveillance design with the constraints imposed by parasite biology.

Keywords

Plasmodium Falciparum, simulation framework, transmission dynamics, identity by descent

16: Environmental Conditions And Sanitary Practices Associated With Severe Acute Malnutrition Among Children Aged 6–24 Months In The Paediatric Department Of The Maradi Regional Hospital, Niger

ALKASSOUM SALIFOU IBRAHIM[1,2], ABDOULAYE Zeidou[1], SAMAILA Aboubacar[1], DJIBO ADAMOU Sayo[3], GONI ALASSAN Bachir[4], AMADOU Oumarou[3], EMOUD TCHOLI Idrissa[2], SIDI Mariama[2], ADEHOSSI OMAR Eric[1]

[1]Abdou Moumouni University, Niamey, Niger. [2]General Hospital of Niamey, Niamey, Niger. [3]Dan Dicko Dan Koulodo University, Maradi, Niger. [4]Andre Salifou University, Zinder, Niger

Background: Severe acute malnutrition (SAM) remains a major public health problem in Niger, particularly among children under five. This study aims to identify environmental and health-related factors associated with the occurrence of SAM among children aged 6 to 24 months at the Regional Hospital Center (CHR) of Maradi.

Methods: A case-control study was conducted with 228 children divided into two groups: 114 confirmed SAM cases and 114 well-nourished controls matched by age. Data were collected using a structured questionnaire covering sociodemographic characteristics, feeding practices, sanitary conditions, and access to healthcare. Multivariate logistic regression was used to identify factors independently associated with SAM.

Results: Cases were predominantly male (64.9%) compared with controls (59.6%). Children aged 18–24 months accounted for 52.6% of cases versus 31.6% of controls. Among mothers, cases were more frequently born to women aged 25–35 years (50.9%), whereas controls were more often born to mothers younger than 25 years (50%). Children aged 6 to 11 months were at lower risk than older children (aOR = 0.34; p = 0.003). However, low birth weight (aOR = 8.12; p = 0.039) and poor household hygiene (cleaning less than twice a day) (aOR = 3.36, p = 0,01) and inadequate latrine maintenance (weekly cleaning only) (aOR = 9.05, p < 0,001) were significatively associated with SAM.

Conclusions: Multisectoral interventions targeting parental education, household hygiene, breastfeeding practices, and living conditions are essential to prevent child undernutrition in this vulnerable region.

Keywords

Severe acute malnutrition; Child nutrition disorders; Environmental health; Hygiene; Niger

18: Actors Contributing To Compliance With Expanded Programme On Immunization And RTS, S/AS01 Schedules Among Childrenaged 24–40 Months In Central Tongu District. Ghana

DIANA SENA AWUTEY[1], Thomas Gyan[2], Jonathan Mawutor Gmanyami[3,2], Magaret Kweku[4], Poku kwaku Asante[2]

[1]GHS, Ho-Volta, Ghana. [2]Kintampo Health Research Centre, Kintampo, Ghana. [3]KCR, Kumasi, Ghana. [4]FNBSPH, Hohoe, Ghana

Background: The Expanded Programme on Immunisation (EPI) is the most successful global childhood program.in reducing mortality and morbidity from vaccine-preventable diseases. Introducing the RTS, S/AS01 malaria vaccine into the routine health system added additional vaccination visits at 24 months. This study determined the factors contributing to compliance with EPI, including RTS, S/AS01 malaria vaccine schedules in the Central Tongu District of Ghana.

Method: A matched case–control study (1:1) was undertaken between December 2021 and February 2022 among caregivers of children aged 24 to 40 months. Mantel-Haenzel odds ratio and conditional logistic regression analysis were used to determine the strength of association between the level of compliance and independent variables.

Result: Of the 220 caregivers, 110 were cases, and 110 were controls. Good knowledge about vaccines and vaccination schedules among caregivers was 62% (n = 139). Caregivers who earned income 46% (ORMH 0.54, 95% CI 0.29–1.00, p = 0.047); had immunisation information 98% (ORMH 0.02, 95% CI 0.00–0.12, p = 0.001); with no obstacles accessing immunization services 98% (ORMH 0.02, 95% CI 0.00–0.12, p < 0.001) and had good knowledge about immunization schedules 70% (ORMH 0.30, 95% CI 0.15–0.61, p < 0.001) were more likely to comply with childhood vaccination. Knowledge of (EPI) services, including RTS, S/AS01 malaria vaccine, was associated with high compliance to overall immunisation services and schedules 78% (AOR 0.22, 95% CI 0.06–0.78, p = 0.019).

Conclusion: Non-compliance with recommended EPI vaccinations, including RTS,S/AS01, was largely due to socioeconomic factors, having information and knowledge about vaccines, immunization schedules, and access to immunisation services. Healthcare providers can improve immunization coverage by emphasizing education on vaccines and vaccine schedules, using technologies and making services accessible in Ghana.

Keywords

Caregiver, Children, Malaria, RTS,S/AS01, Vaccine, Immunization, Expanded Program Immunisation,

22: Ten-Year Trends In Under-Five Malaria Cases In Ghana (2012-2022): Insights From The District Health Information Management System

MARTIN ALHASSAN ADJUIK[1], Cosmos Agbe Todoko[2], Vincent Uwumboriyhie Gmayinaam[3], Dioggban Jakperik[4], Evelyn Korkor Ansah[3,5], Seth Owusu-Agyei[3,5]

[1]Department of Epidemiology and Biostatistics, Fred Newton Binka School of Public Health, University of Health and Allied Sciences, Ho, Ghana. [2]cosmosagbe@gmail.com, Ho, Ghana. [3]Institute of Health Research, University of Health and Allied Sciences, Ho, Ghana. [4]Department of Biometry, School of Mathematical Sciences, University of Technology and Applied Sciences, Navrongo, Ghana. [5]Department of Epidemiology and Biostatistics, Fred Newton Binka School of Public Health, University of Health and Allied Sciences, Ho, Ghana

Background: Malaria remains a leading cause of morbidity among children under 5 years of age in Ghana, despite sustained control interventions. Understanding long-term temporal patterns and predicting future burden of malaria are essential for surveillance and elimination planning. This study analysed national routine health data to assess trends and forecast under-five malaria cases in Ghana from 2012 to 2022.

Methods: We conducted a retrospective analysis of monthly malaria morbidity among children aged <5 years using the District Health Information Management System-2 data, covering all districts in Ghana between Jan 1, 2012 and Dec 31, 2022. Time-series modelling, following the Box–Jenkins framework, was employed. Stationarity was assessed using the Augmented Dickey–Fuller test. Autoregressive Integrated Moving Average (ARIMA) and Seasonal ARIMA models were fitted, and models were compared using Akaike Information Criterion, Bayesian Information Criterion, root-mean-square error and mean absolute prediction error. Forecasts were generated for subsequent years.

Results: A total of 23,517,032 malaria cases were reported from health facilities over the period, with a mean monthly facility-level count of 47.4 cases (SD 86.1). The series was non-stationary at level (ADF p=0·5725) but became stationary after first differencing (p=0·0129). Malaria incidence showed clear annual seasonality and an overall declining trend, followed by sustained reductions to 2022. The AR(1) model provided the best fit. Forecasts indicated a gradual, ongoing decline in under-five malaria cases from 2023 onwards, with projections suggesting near-elimination levels by 2034.

Conclusion: Under-five malaria morbidity in Ghana has declined substantially over the past decade but remains seasonally patterned. Forecasts suggest continued reductions if current interventions are maintained. Time-series forecasting using routine surveillance data can support early warning systems and resource allocation within the National Malaria Elimination Programme. However, projections depend on stable intervention coverage and may be affected by climate variability, resistance, or surveillance quality.

Keywords

Malaria; Under-five children; ARIMA model; Surveillance data; Ghana

23: Groundwater Quality In Peri-Urban Gambia: Physicochemical And Microbiological Contamination And Public And Environmental Health Implications

Samba of the Gambia (Kanifing Camara

University of Ghana, Legon, Ghana. University of The Gambia, Kanifing, Gambia

Background: Groundwater in sub-Saharan Africa faces mounting contamination pressure from inadequate sanitation, open defecation, and proximity to waste disposal sites. This cross-sectional study assessed physicochemical and microbiological quality of groundwater sources in Brikama, The Gambia.

Methods: Fifty-seven active ground water sources used for drinking from six communities in and around Brikama were sampled randomly. WHO checklist was used to record the sanitary condition of the immediate surroundings of the sampling points, water samples were collected in sterile bottles coupled with the GPS coordinates of the sampling point using ODK on smartphones. in accordance with APHA standards the physicochemical quality were assessed using in-situ YSI multi-meter and the microbiological quality using membrane filtration method in the laboratory within six hours of sample collection. Python 3.12 tools were used for the statistical and geospatial analyses. Results were evaluated against the WHO 2011 drinking water quality standards.

Results: Mean pH was 6.25 (SD = 0.30, 95% CI: 6.17–6.33), with 84.2% of samples below the WHO minimum of 6.5. FC exceeded zero in 63.2% of samples; TC in 75.4%. FC and TC were very strongly correlated (Pearson $r = 0.933$, $p < 0.001$). FC was the dominant predictor of TC ($\beta = 1.813$, $R^2 = 0.871$). Wells had significantly higher microbial contamination than boreholes (FC: $U = 591.0$, $p < 0.001$; TC: $U = 626.5$, $p < 0.001$). Kruskal-Wallis tests confirmed significant spatial variation across communities for all parameters ($H > 21.5$, $p < 0.001$).

Conclusions: The communities did not meet WHO drinking-water standards in the majority of cases. Widespread faecal contamination poses serious risks of waterborne disease. Kembujeh and Sanchaba represent the highest-risk communities. Urgent interventions include point-of-use water treatment, structural well upgrading, sanitation buffer zones, regulatory monitoring, and targeted community health education.

Keywords

Groundwater contamination; faecal coliform; total coliform; pH; WHO guidelines; waterborne disease; The Gambia;

24: Baixa Cobertura Vacinal E Mortalidade Por Sarampo Durante Surto Comunitário No Distrito De Memba, Nampula, Moçambique, 2025

FIEL AGOSTINHO CORREIA[1], Ana Damião[1], Rodrigues Aussene[2], Madalena Zacarias[1], Américo Almirante Mário Barata[1]

[1]Instituto Nacional de Saúde-Delegação de Nampula, Nampula, Mozambique. [2]Serviço Distrial de Saúde Mulher e Acção Social de Memba, Memba, Mozambique

Introdução: O sarampo permanece uma importante causa de morte infantil em áreas com baixa cobertura vacinal. Em julho de 2025, um surto comunitário no distrito de Memba, Nampula, foi acompanhado de múltiplos óbitos em crianças. Este estudo investigou esses óbitos e avaliou o papel da baixa cobertura vacinal e de outros fatores de risco na mortalidade observada.

Métodos: Realizou-se um estudo analítico de abordagem mista, com autópsias verbais e sociais junto aos familiares das vítimas e um estudo caso-controlo na razão 1:2, incluindo 12 óbitos e 24 sobreviventes. Analisaram-se variáveis sociodemográficas, estado vacinal, suplementação com vitamina A, estado nutricional, comorbidades e procura de cuidados de saúde, com estimativa de OR e IC95%.

Resultados: Entre julho e agosto de 2025, foram reportados 64 óbitos suspeitos de sarampo em oito comunidades, dos quais 72% ocorreram em menores de cinco anos. Das 12 autópsias verbais realizadas, 75% apontaram o sarampo como causa provável de morte, seguido de malária (17%) e diarreia (8%). Observou-se baixa cobertura vacinal, com 64% dos indivíduos sem vacinação contra o sarampo, e elevada proporção sem suplementação com vitamina A (79%). A presença de comorbidades aumentou significativamente a probabilidade de óbito (OR=10; IC95%: 1,8–57), assim como idade inferior a um ano (OR=6; IC95%: 1,3–27). A procura atempada de cuidados hospitalares esteve associada à sobrevivência.

Conclusão: A mortalidade observada esteve fortemente associada a lacunas de imunização e a fatores agravantes evitáveis. O reforço da vacinação de rotina, da resposta rápida a surtos, da suplementação com vitamina A e da vigilância comunitária ativa é fundamental para ampliar a cobertura vacinal e prevenir mortes evitáveis.

Keywords

Sarampo; Cobertura vacinal; Imunização; Mortalidade infantil; Surto; Vitamina A.

25: Retrospective Descriptive Analysis Of Chickenpox In Livingstone District, Zambia 2024–2025

ADIDJA LUNDA SUMBWE

Ministry of Health, Livingstone, Zambia

Background: Chickenpox is a highly contagious viral disease that remains a public health concern in settings without routine vaccination like Zambia. In border districts such as Livingstone, characterized by high population mobility and cross-border interactions, surveillance of rash-like illnesses is particularly important, especially in the context of emerging infections such as Mpox.

Methods: A retrospective descriptive study was conducted using aggregated surveillance data extracted from DHIS2 for the period January 2024 to December 2025. Variables analysed included age group, case classification (suspected or confirmed), health facility, ward, and month of reporting. Data were cleaned and analysed using descriptive statistics, and trends were presented using tables and graphs.

Results: A total of 750 chickenpox cases were reported during the study period. Most cases were suspected 719 (96%), while 31 (4%) were laboratory confirmed. Slightly more cases were reported in 2025, 401 (53%) compared to 349 (47%) in 2024. The highest burden was observed among children aged 5–14 years 335 (45%), followed by 218 (29%) in individuals aged ≥15 years and 197 (26%) in children aged 0–4 years. Nearly half of the cases were reported from health centres (48%), with clustering observed in high-density wards including Namatama, St. Joseph, Mbita, Dambwa Site and Service, Maramba, and Mahatma Gandhi. Temporal analysis demonstrated fluctuating monthly trends with peaks suggestive of localized outbreaks.

Conclusion: Chickenpox remains endemic in Livingstone District, with school-aged children most affected. Limited laboratory confirmation and reliance on clinical diagnosis highlight the need to strengthen surveillance and diagnostic capacity to improve differentiation from other rash-like illnesses. Enhanced preparedness and surveillance are essential to ensure timely detection and response in this high-mobility border setting.

Keywords

Chicken Pox, Border, Mpox, Surveillance

28: Stigma, Social Exclusion And Mental Health Burden Among Leprosy Patients In Bongo District, Ghana.

ISAAC APELIGRE ADABRE

Regentropfen University College, Bolgatanga, Ghana. Ghana Health Services, Bolgatanga, Ghana. Centre Suisse de Recherches Scientifiques, Abidjan, Côte d'Ivoire

Title: Stigma, Social Exclusion and Mental Health Burden among Leprosy Patients in Bongo District, Ghana.

Background: Leprosy remains endemic in Ghana, with Bongo District recording a sharp rise in new cases (from 6 in 2021 to 19 in 2023). Beyond biomedical factors, stigma and social exclusion perpetuate delayed diagnosis, treatment default and psychological distress. Nearly half 8(47%) of new cases present with Grade 2 disability. This study investigated the burden of stigma, social exclusion and mental health consequences among persons affected by leprosy (PAL) in Bongo District.

Methods: A matched case-control study (17 cases, 34 controls) was complemented by five focus group discussions (FGDs) with PAL, family members, health workers and community leaders. Quantitative data on stigma and social exclusion were collected using validated scales and analyzed with STATA v17 (Fisher's exact test). Qualitative data were thematically analyzed using NVivo.

Results: Among the 34 controls, high stigma levels were found in 17 (56.7%) and high social exclusion in 17 (56.7%). Twenty-seven (90%) believed people would dislike buying food from a PAL and 23 (76.7%) felt leprosy hinders employment and marriage. FGDs revealed pervasive enacted stigma (neighbors avoiding contact, family separation), felt stigma (fear of disclosure) and courtesy stigma (discrimination extending to relatives). PAL reported emotional trauma, self-isolation and suicidal thoughts. Only 11 of 34 controls (36.7%) believed leprosy-related disability could be prevented, and no mental health support was available.

Conclusion and Public Health Implications: Stigma and social exclusion are profound drivers of leprosy persistence in Bongo District, inflicting severe mental health burdens and contributing to delayed presentation 8(47% Grade 2 disability). Integrated interventions such as community dialogue, anti-stigma campaigns, inclusion of leprosy in mental health services and livelihood support. Without addressing stigma, biomedical efforts alone will fail to achieve zero leprosy by 2030.

Keywords

Leprosy; stigma; social exclusion; mental health burden; Grade 2 disability; Bongo District; Ghana

29: Mobile Phone-Delivered Reminders To Improve Knowledge, Attitude And Timeliness Of Caregivers To Measles Second Dose Vaccination In Adamawa State, Nigeria: A Randomized Controlled Trial

TYAKARAY IBRAHIM VISA[1], Folashade Olutayo Martins[2]

[1]World Health Organization, Yola, Nigeria. [2]Modibbo Adama University Teaching Hospital, Yola, Nigeria

Background: Concern over vaccine-preventable diseases, including measles, is growing, especially in low-income areas like Sub-Saharan Africa. Reminders for vaccinations can improve caregivers' timely vaccination habits, attitudes, and knowledge. The purpose of this research is to develop, implement and evaluate the effectiveness of SMS and phone call reminders on improvement of MCV2 uptake in Adamawa State.

Method: Three-arm, parallel randomized control trial conducted in four health facilities in a three-stage multistage sampling technique was used. 351 Caregivers of 9-month-old children were assigned to one control arm and two intervention arms in a 1:1:1 ratio. Vaccination reminders were delivered seven days before the planned MCV2. Additionally, six months following the intervention, data was gathered. Study period is May 2024 - Macrh 2025

Results: Significant increase in caregivers' knowledge after intervention, with 61% showing sound knowledge ($p < 0.001$) and increase positive attitude towards MCV2 by 51% ($p < 0.001$). Significant difference observed between the knowledge of caregivers in the SMS and the control group (mean difference [d] = 56.4, 95% Confidence Interval [CI] = 47.16 – 65.56, p-value < 0.001). Also, significant difference between automated call and control group (d = 54.7, 95% CI = 45.17 – 64.22, p-value < 0.001). Both interventions significantly improved caregiver attitudes towards MCV2 vaccination. SMS group showed significant difference compared to control group (d = 50.4, 95% CI = 40.27 – 60.58, p-value < 0.001). Similarly, automated call group differed significantly from the control group (d = 52.14, 95% CI = 42.22 – 62.06, p-value < 0.001), with effect observed in the control group (p = 0.026).

Conclusion: The findings demonstrate that SMS and automated call reminders were successful in enhancing caregivers' knowledge and attitudes towards MCV2, as well as their adherence to scheduled MCV2 vaccinations. The State Ministry of Health should formulate policies requiring immunization providers in every health facility to use mobile reminders for caregivers

Keywords

Measles, Vaccination, Reminders, Knowledge, Attitude, Randomized Control Trial

30: Epidemiological Analysis Of The Cholera Outbreak In Southwest State, Somalia, 2025.

ABDISHAKUR OSMAN ABDILAHI[1,2], Osman Abdi[1]

[1]Somalia field epedemiology network(SOMFENET), Mogadisho, Somalia. [2]Al-Hayat Medical University, Mogadisho, Somalia

Background

Cholera remains a critical public health issue in Somalia, especially in regions with insufficient water and sanitation infrastructure. The 2025 cholera outbreak in Southwest State highlighted the region's vulnerability to waterborne diseases. Analyzing the outbreak's epidemiology, trends, and impact is essential for guiding public health interventions and improving future preparedness. The objective of this study was to assess the epidemiological characteristics of the 2025 cholera outbreak in Southwest State, Somalia.

Methods

A retrospective descriptive study was conducted to assess the temporal and geographical distribution of cholera cases reported between Week 1 and Week 32 of 2025 in seven districts of Southwest State, Somalia.

Results:

A total of 5,508 cholera cases, including 18 deaths, were reported across the seven districts. Afgoi District experienced the highest burden with 1,913 cases and 8 deaths. The case fatality rate (CFR) varied by district, with Kurtunwarey having the highest CFR at 0.68%. Males accounted for a slightly higher proportion (52%) than females (48%). When disaggregated by age, children aged ≤5 years constituted 45% (2,479 cases) of the total burden, while individuals aged ≥5 years represented 55% (3,029 cases). The temporal analysis revealed a steady reporting of cases from Week 1 to Week 5, starting with the highest count of 1120 cases. By Week 26 to 32, a 33.24% decrease in cases was observed, suggesting that public health interventions were beginning to control the outbreak.

Conclusion:

The 2025 cholera outbreak in Southwest State revealed critical gaps in WASH infrastructure, early detection, and response systems, particularly in Afgoi and other high-burden districts. Children under five were disproportionately affected. Strengthening surveillance, rapid response capacity, and community-based WASH interventions is essential to prevent future outbreaks and reduce cholera-related morbidity and mortality.

Keywords

Cholera, Southwest state, Outbreak, Surveillance, Somalia

31: Investigation Of A Probable Human Rabies Case In Yanguileu, Danané Health District, Côte d'Ivoire, December 2025

SEVERIN YAN[1], Emile BOHOUSSOU[2], Pierre WILNIQUE[3], Moussa SORO[3]

[1]DISTRICT, DANANE, Côte d'Ivoire. [2]DISTRICT, GUIGLO, Côte d'Ivoire. [3]FETP, ABIDJAN, Côte d'Ivoire

Background: Human rabies remains zoonotic disease that is almost invariably fatal once clinical symptoms appear, despite being entirely preventable through timely and appropriate post-exposure prophylaxis . In Côte d'Ivoire, rabies continues to persist in rural areas where animal-bite surveillance, community awareness, and access to healthcare services remain limited. This study reports the investigation of a probable human rabies case that occurred in Yanguileu, rural community in the Danané Health District.

Methods: A descriptive investigation was conducted on December 12, 2025, following the World Health Organization and Integrated Disease Surveillance and Response guidelines. Data were collected through review of clinical records, interviews with family members, healthcare workers, and community contacts, as well as active contact tracing. Sociodemographic, clinical, temporal, and spatial characteristics of exposures were analyzed, together with the patient's healthcare-seeking pathway.

Results: The index case was six-year-old boy who was bitten on November 7, 2025, by an unidentified stray dog and did not receive post-exposure prophylaxis. Following an incubation period of approximately one month, he developed clinical signs consistent with rabies, including anxiety, hydrophobia, muscle spasms, and flaccid paralysis, and died on December 11, 2025. A total of 35 contacts were identified, of whom 74.3% had handled the dead animal and 14.3% had received partial rabies vaccination. Children aged 14 years or younger accounted for 62.8% of contacts, while males represented 68.6%. Students (40.0%) and healthcare workers (25.7%) were the most exposed groups. Spatial analysis showed that exposures were clustered within a densely populated community located near forested areas.

Conclusions: This investigation highlights severe rabies exposure, absence of post-exposure management, and delayed case detection, resulting in a preventable death. Strengthening community awareness, animal-bite reporting, canine and human rabies vaccination, and implementation of One Health approach are essential to prevent human rabies and achieve the goal of zero rabies deaths by 2030.

Keywords

Rabies, Human Rabies, Outbreak Investigation, One Health, Animal Bite, Danané, Côte d'Ivoire.

32: Prevalence Of Adverse Drug Reactions (Adrs) Due To Herbal Medicine Use And Its Associated Factors Among Adults In Madina, Accra

JEMIMA ANYANAH, Harriet Affran Bonful

University of Ghana, Legon, Accra, Ghana

Background: Herbal medicine is widely used in Ghana, driven by cultural acceptance, affordability and accessibility. Despite the common perception that herbal products are inherently safe, evidence increasingly links their use to adverse drug reactions (ADRs). Community-level data on the burden and determinants of herbal medicine-related ADRs in urban Ghana remain limited.

Methods: An analytic cross-sectional study was conducted among 230 adults aged ≥ 18 years who had used herbal medicines in the preceding 12 months. Participants were recruited from herbal shops, traditional healing centres, and community health facilities. Data were collected via a structed, interviewer-administered questionnaire covering socio-demographic characteristics, herbal medicine use patterns, health status and ADR experiences. Descriptive statistics summarized ADR prevalence and Characteristics, while chi-square test and Multivariable logistic regression identified factors independently associated with ADR occurrence at a 5% significance level.

Results: The 12-month prevalence of self-reported ADRs was 31.3% (95% CI:0.256 - 0.376). the most frequently reported reactions were headache or fatigue and gastrointestinal symptoms such as nausea and abdominal discomfort. Most ADRs were mild to moderate in severity, although nearly one-fifth were classified as severe. After adjustment for potential confounders, disclosure of herbal medicine use to a healthcare professional remained independently associated with ADR occurrence (AOR = 2.76; 95% CI : 1.37- 2.55; p= 0.004), while other socio-demographic factors were not statistically significant.

Conclusion: Approximately one in three herbal medicine users in Madina experience an ADR with 12 months. Improving patient-provider communication and promoting education on safe herbal medicine practices are essential to reduce preventable adverse outcomes and support the safe integration of herbal medicine into Ghana's healthcare system.

Keywords

Herbal medicine, adverse drug reactions, prevalence, pharmacovigilance, traditional medicine

33: Nutritional And Dietary Determinants Of Suspected Konzo In Mutondo Community, Zambia: Evidence From A Household Cross-Sectional Survey

Benaiah Silishebo Simatele[1,2], Kadolo Muntanga[1,2], Dabwitso Banda[1,2], Nyambe Sinyange[1,2]

[1]Zambia Field Epidemiology Training Program, Lusaka, Zambia. [2]Zambia National Public Health Institute, Lusaka, Zambia

Background: Konzo is a sudden-onset, irreversible spastic paraparesis linked to chronic cyanide exposure from inadequately processed bitter cassava and exacerbated by protein deficiency. Mutondo community in Luampa District, Western Zambia, has reported increasing suspected cases since 2024. We assessed household-level nutritional and dietary risk factors and estimated the crude prevalence of suspected Konzo in this high-risk setting.

Methods: We conducted a descriptive cross-sectional household survey in July 2025 across four randomly selected villages in Mutondo zone. One adult respondent per household provided information on demographics, cassava dependency, processing practices, protein intake, and water access. A suspected Konzo case met the WHO definition: sudden onset of symmetric, non-progressive spastic paraparesis in a previously healthy individual. Frequencies and proportions were computed for household- and individual-level characteristics.

Results: Fifty households (≈300 individuals) were surveyed. We identified 37 suspected Konzo cases, yielding a crude prevalence of 12% (37/300). Most cases were children (median age 8 years) and females (54%). Cassava was the primary staple in 94% (47/50) of households, with 26% (13/50) reporting inadequate soaking (<3 days). Protein intake was low, with 92% (46/50) consuming protein-rich foods ≤2 times weekly. Although 94% (47/50) had heard of Konzo, only 38% (19/50) recognized cassava toxicity or proper processing as preventive.

Conclusion: Konzo in Mutondo is strongly driven by nutritional vulnerabilities—heavy cassava dependence, inadequate processing, and protein deficiency—combined with limited actionable knowledge. Following the survey, district health authorities initiated community sensitization on safe cassava processing and began exploring protein supplementation strategies. Clinical and biochemical confirmation studies are needed to refine prevalence estimates and guide targeted interventions

Keywords

Konzo, nutritional epidemiology, cyanide toxicity, cassava, food safety, Zambia

36: Climate Change, Environmental Stressors And Sexual, Reproductive Health Rights Of Women In A Fishing Community In Ghana

FRED YAO GBAGBO

University of Education, Winneba, Winneba, Ghana

Background: Climate change and environmental stressors have adversely affected fishing communities in Ghana, particularly impacting the sexual and reproductive health and rights of women. Declining fish catches and environmental hazards have diminished economic stability, resulting in higher rates of gender-based violence, forced migration, and reduced access to healthcare services.

Methods: A cross-sectional survey of 387 women aged 18–35 years was conducted in a fishing community in Ghana. Six climate-related stressors (excessive heat, flooding, income loss, food insecurity, disruption of sexual and reproductive health services, and displacement) were examined in relation to four domains of SRHR (sexual and reproductive autonomy, maternal health and service continuity, sexual safety and privacy, and psychosocial and bodily wellbeing). Multivariate logistic regression models were used to assess association, adjusting for relevant sociodemographic factors.

Results: Economic and service-related stressors were the strongest predictors of SRHR disruptions. Loss of income (OR = 1.88; 95% CI: 1.42–2.49), food insecurity (OR = 1.67; 95% CI: 1.28–2.18), and disruption in SRHR services (OR = 2.11; 95% CI: 1.58–2.82) were significantly associated with reduced reproductive autonomy. Flooding (OR = 1.73; 95% CI: 1.29–2.33) and displacement (OR = 2.08; 95% CI: 1.53–2.83) were linked to increased risks to sexual safety and dignity. Excessive heat and livelihood stressors were consistently associated with psychosocial and bodily well-being disruptions, while women with disabilities experienced significantly higher odds of adverse outcomes (OR = 2.27; 95% CI: 1.21–4.26).

Conclusions: Climate change significantly impacts sexual and reproductive health rights among women in fishing communities in Ghana. Environmental stressors related to climate change affect women's sexual and reproductive health and rights directly and indirectly, necessitating adaptive measures and resilience-building strategies to mitigate adverse effects.

Keywords

Climate change, Environmental stressors sexual, reproductive health rights

38: Air Pollution And Hospital Admissions In Urban Gambia

SAIKOU CAMARA[1], Julius O. David[2], Lamin Bojang[1], Dr. Dawda Badjie[3], Dr. Sunkary Touray[2]

[1]Ministry of Health, Banjul, Gambia. [2]Permian Health Lung Institute, Banjul, Gambia. [3]National Environment Agency, Banjul, Gambia

Background: Ambient air pollution is a major contributor to global morbidity and mortality, yet evidence linking particulate matter exposure to health outcomes in West Africa remains scarce due to limited ground-based air quality monitoring. We examined seasonal patterns in particulate matter concentrations and their relationship with hospital admissions in urban areas of The Gambia.

Methods: We conducted a 12-month ecological study across the Greater Banjul Area (Banjul, Kanifing, and Brikama), which comprises approximately 64% of the national population. Monthly mean concentrations of fine particulate matter ($PM_{2.5}$) and PM_{10} were obtained from a national network of ground-based air quality sensors deployed through the Clean Air Initiative. Monthly hospital admission counts were obtained from the national Demographic and Health Information System (DHIS). Seasonal differences in $PM_{2.5}$ concentrations were assessed using the Wilcoxon rank-sum test, and monthly patterns in particulate matter and hospital admissions were examined descriptively.

Results: Mean $PM_{2.5}$ concentrations were significantly higher during the dry season than the rainy season (43.3 ± 16.0 vs 19.8 ± 6.9 µg/m³; $p < 0.001$). Across urban areas, mean $PM_{2.5}$ ranged from 27.8 µg/m³ in Banjul to 37.5 µg/m³ in Brikama, with monthly values ranging from 8.0 to 101.1 µg/m³. Monthly trends showed that periods of higher particulate matter concentrations—particularly during the dry season—coincided with increases in hospital admissions.

Conclusion: Using newly available ground-based air quality monitoring data, this study provides some of the first evidence from The Gambia that seasonal variation in particulate matter concentrations may correspond with patterns in hospital admissions. These findings highlight the importance of expanding air quality monitoring and integrating environmental exposures into health system planning in climate-vulnerable regions.

Keywords

Ambient air pollution, particulate matter ($PM_{2.5}$), seasonal variation, hospital admissions, urban health

39: Community Awareness Of Climate Change And Its Public Health Impacts In The North Bank Region, The Gambia: A Community-Based Cross-Sectional Study

BAKARY KINTEH

School of Public Health, Brikama, Gambia. Medical Research Council Gamiba atLondon School of Hygiene and Tropical Medicine, Fajara, Gambia

Background: Climate change poses significant public health challenges globally, particularly in vulnerable regions such as The Gambia. Despite growing recognition of environmental impacts, limited research has examined community-level awareness of climate change health effects in West African settings. This study aimed to assess household awareness and perceptions of climate change impacts on public health among vulnerable communities in the North Bank Region, The Gambia, and identify sociodemographic determinants of climate change awareness.

Methods: In this study, we conducted a community-based cross-sectional study. Using multistage sampling, we selected 35 communities across seven districts. Data were collected via structured questionnaires administered in local languages (Mandinka, Wolof, Fula) using Kobo Toolbox. This study was conducted among 868 residents aged ≥18 years in the North Bank Region between Jan – Feb 2024.

Results: Overall, 85.7% (n=744) of respondents had heard about climate change, with radio (53.6%) being the primary information source. Participants demonstrated high awareness of climate hazards, including excessive heat (76.4%), altered rainfall patterns (55.2%), and flooding (30.3%). Respondents correctly identified multiple health impacts: heat stress (65.8%), dehydration (57.3%), respiratory diseases (73.6%), waterborne diseases (59.0%), and crop failure (86.4%). Multivariable analysis revealed that older age (>39 years: aOR = 2.50, 95% CI: 1.49-4.21) and tertiary education (aOR = 3.93, 95% CI: 1.50-10.30) were independent predictors of climate change awareness. Approximately 77% of participants reported experiencing climate change effects in their communities within the past five years.

Conclusion: This first comprehensive assessment of climate-health awareness in The Gambia reveals substantial community recognition of climate change and its health consequences. However, educational interventions targeting younger populations and those with limited formal education are needed. Findings support integrating climate change considerations into national health policies and developing community-specific adaptation strategies to protect public health from climate-related hazards.

Keywords

Climate change; Public health; Community awareness; Environmental health; The Gambia.

41: Seasonal Variation In Physicochemical Parameters And Heavy Metal Contamination In Rivers Within The Abuakwa South Municipality Of Ghana

NATHANIEL ANNANG ARMAH[1], Benedicta Y. Fosu-Mensah[2], Ted Y. Annang[2], Joseph Opoku Fening[3]

[1]University of Health and Allied Sciences, Ho, Ghana. [2]University of Ghana, Legon. Ghana, Legon, Ghana. [3]3. Soil Research Institute, Council for Scientific and Industrial Research. Ghana, Kumasi, Ghana

Background: Water quality is a key determinant of public health, economic development, and ecological balance. In rapidly growing communities, natural processes and human activities particularly mining and agriculture can compromise the integrity of water resources. The Birim River and its tributaries are vital for domestic and agricultural use, yet they face increasing pressure from these stressors. This study aimed to assess the seasonal variability of physicochemical parameters and heavy metal (HM) concentrations across eleven sites along the Birim River and its tributaries, namely Atiwa, Apapam, Adadientem, Kibi Deaf, Nsu Abrewa, Oben ne Obeng, Okyerema, Appetite, Supong, Esikam, and Steel Bridge.

Methods: Water samples were collected and analyzed for Fe, Mn, Ni, Cr, Cu, Zn, As, and Hg using a PerkinElmer PinAAcle 900T atomic absorption spectrophotometer after acid digestion. Physicochemical parameters, including pH, electrical conductivity (EC), total dissolved solids (TDS), dissolved oxygen (DO), turbidity, total suspended solids (TSS), and biochemical oxygen demand (BOD), were also measured to capture seasonal variations.

Results: showed marked seasonal differences. During the dry season, TDS (401 mg/L) and EC (548 µS/cm) peaked at Esikam, while pH fluctuations were recorded at Okyerema and Oben ne Obeng. Turbidity (556.67 NTU at Okyerema) and TSS (100 mg/L at Supong) were significantly higher during the wet season, whereas BOD increased in the dry season, indicating greater organic pollution. Heavy metal contamination was also more pronounced during the dry season, with high levels of Cr and Mn at Atiwa and Apapam, respectively, and Ni exceeding WHO guidelines at nearly all sites.

Conclusion: These findings demonstrate the strong influence of seasonal dynamics on water quality in the Birim River system. The results underscore the pressing need for monitoring and targeted interventions to protect public health and aquatic ecosystems.

Keywords

Surface Water; Seasonal variations; Heavy Metal; Physicochemical quality

42: Assessing The Future Impact Of Rts,S Malaria Vaccination As A Control Intervention In Children Under Five In Ghana Using Predictive Ai Disease Modelling

BRIGHT ARHIN, CHARLES LWANGA NOORA

University of Ghana, Accra, Ghana

Background: Malaria remains a major public health concern in Ghana. The roll-out campaign of the Recombinant Truncated Surface antigen (RTS, S) vaccine against malaria represents an innovative intervention in addition to the existing traditional control measures. Nevertheless, the future contribution of the vaccine in controlling the disease, especially in combination with predictive AI models, remains unclear in the Ghanaian setting. This study investigated the future effect of the RTS, S vaccine in controlling child malaria in Ghana using predictive AI models.

Method: The study employed an analytical and predictive modelling approach, using secondary data from the District Health Information Management System (DHIMS-2). Descriptive analysis was conducted with respect to vaccine coverage and malaria prevalence. Furthermore, the study involved the construction of a Predictive Artificial Intelligence (AI) model to predict the future effect of different scenarios of RTS, S vaccine coverage on morbidity and mortality due to malaria.

Results: There was a considerable decrease in the morbidity (-31.1%) and mortality (-58.2%) cases of malaria in children under the age of five due to the implementation of the RTS, S vaccine. The average vaccination coverage for the complete series of four doses was 53.6%. Machine learning algorithms, namely Extreme Gradient Boosting (XGBoost) with $R^2 = 0.86$, showed outstanding performance while predicting malaria cases. Simulations revealed that increasing vaccine coverage to 150% of the baseline would reduce mortality by 47.2% by 2029.

Conclusion: The conclusion drawn from this analysis is that the RTS, S malaria vaccine has proven vital in combating the spread of malaria among children under five in Ghana. AI models for predicting diseases provide an effective and accurate means of making future projections. This analysis has offered empirical proof that the RTS, S vaccine is not only efficient in hospitals but has been transformative in real-world implementation.

Keywords

RTS,S Vaccine, Child Malaria, Vaccine coverage, Predictive Artificial Intelligence, XGBoost, DHIMS 2

43: Survival Outcomes And Predictors Of Mortality Among Cervical Cancer Patients In Malawi: A Retrospective Cohort Study

HAMILTON WALES KAINGA[1,2], Miriam Nakalembe[1], Patience Muwanguzi[3], Grace Chiudzu[4], Joan Kalyango[1], Noel Kasomokela[5], Moses Aaron[6], Fabien Munyaneza[6], Charles Karamagi[1]

[1]School of Medicine, Makerere University, Kampala, Uganda. [2]Ministry of Health, Lilongwe, Malawi. [3]School of Health Sciences, Makerere University, Kampala, Uganda. [4]College of Medicine, Kamuzu University of Health Sciences, Lilongwe, Malawi. [5]Partners In Health, Lilongwe, Malawi. [6]Partners In Health, Blantyre, Malawi

Background: Malawi has the highest age-standardized mortality rate of cervical cancer globally. Despite this burden, there is limited evidence on factors influencing patient survival. This study aimed to determine survival outcomes and predictors of mortality among cervical cancer patients in Malawi.

Methods: A retrospective cohort study was conducted using hospital records and cancer registry data for patients diagnosed between January 2020 and December 2025. Participants were selected using systematic sampling. Data were extracted using a structured tool. The primary outcomes were recurrence and death. Kaplan–Meier methods estimated survival probabilities, with log-rank tests comparing groups. A Gompertz parametric model identified predictors of mortality.

Results: A total of 1,251 patients were included, with a median age of 52 years (IQR: 45–62), and 43.6% were HIV-positive. After adjustment, age, HIV status, histological subtype, cancer stage, tumuor diameter, treatment type, treatment duration, and treatment completion were significantly associated with survival. Patients aged ≥53 years had poorer survival than those aged 25–52 years (HR=1.559, p=0.002), while HIV-negative patients had better survival than HIV-positive patients (HR=0.659, p<0.001). Squamous cell carcinoma was associated with higher mortality than Adenocarcinoma (HR=1.346, p=0.031). Advanced stage (HR=2.009, p=0.007) and tumuor diameter ≥5 cm (HR=1.285, p=0.038) increased the risk of recurrence or death. Neoadjuvant chemotherapy followed by surgery reduced recurrence risk (HR=0.292, p=0.041), and longer treatment duration (≥16 months) improved survival (HR=0.299, p<0.001). HIV-negative patients aged **≥**53 years had a 37.9% lower hazard of death (HR = 0.621, *p* = 0.020). HIV-negative patients with squamous cell carcinoma had a 71.6% lower hazard of death (HR = 0.284, *p* = 0.006).

Conclusion: Survival outcomes among cervical cancer patients in Malawi are influenced by patient-, disease-, and treatment-related factors. Strengthening early detection, integrating HIV and cancer care, and improving access to comprehensive treatment are essential to improve survival in resource-limited settings.

Keywords

Cervical Cancer Survival Outcomes.

44: Factors Associated With Waterborne Diseases And Community Vulnerability Index In Southern Mozambique, First Quarter, 2026.

HÉLIO MILITÃO, Nádia Muate, Samuel Nuvunga, Jéssica Lemos, Emilia Fumane, Edna Viegas

Instituto Nacional de Saúde, Delegação Provincial da Cidade de Maputo, Maputo, Mozambique

Background: Waterborne diseases remain a major global public health concern, with approximately 1.7 billion diarrheal cases and over 443,000 child deaths annually (WHO, 2024). It is estimated that 1.4 million deaths could be prevented through adequate water, sanitation and hygiene WASH, (WHO,2024). In Africa, recurrent cholera outbreaks continue to affect several countries, including Mozambique, which reported over 5,000 cases in 2023 (WHO,2024), with recent increases observed in Southern Africa in 2026 (WHO AFRO, 2024). This study aimed to assess factors associated with waterborne diseases and evaluate the community vulnerability index.

Methods: An analytical cross-sectional study was conducted in the first quarter of 2026. Logistic regression was used to estimate Odds Ratios (OR) and statistical significance ($p<0.05$). A vulnerability index was constructed based on sanitation, healthcare access, and socio-environmental variables, comparing two assessment periods (*baseline and endline*).

Results: Diarrheal diseases were significantly associated with time to health facility (OR=2.50; p=0.01), lack of preventive knowledge (OR=2.03; p=0.04), and higher household vulnerability (p=0.02). Malaria was strongly associated with lack of mosquito net use (OR=3.59; $p<0.01$). A reduction in vulnerability index was observed in several districts, notably Kamavota (79.8 to 21.75), while Moamba showed an increase (1.3 to 68.2).

Conclusion and Recommendations: Structural and behavioral factors significantly influence waterborne disease occurrence. Strengthening WASH interventions, health education, and access to healthcare is recommended, particularly in high-risk districts.

Keywords

Waterborne Diseases; Sanitation; Vulnerability, Mozambique.

46: Influência Das Redes Sociais Na Saúde Mental Dos Estudantes Universitários, Tete, 2024

OSVALDO MARQUES ANTIQUE

Universidade Zambeze, Beira, Mozambique

Introdução: O uso crescente de redes sociais pode impactar negativamente a saúde mental de estudantes universitários.

Objetivo: Avaliar a influência do uso de redes sociais na saúde mental de estudantes universitários da cidade de Tete.

Método: Estudo descritivo-correlacional realizado entre Outubro a Dezembro de 2024 na cidade de Tete com 262 estudantes, selecionados por amostragem não probabilística voluntária. Foram aplicados questionário sociodemográfico, Social Media Addiction Scale (SMAS) e escalas de ansiedade, depressão e autoestima, além de medidas sobre padrões de uso de redes sociais. As análises foram conduzidas no Excel v.15 e SPSS v.20.0.

Resultados: A amostra incluiu 122 mulheres e 140 homens. O WhatsApp foi a rede mais utilizada (72,5%), seguido do Instagram (10,7%), Facebook (6,5%) Tiktok (5,3%) e YouTube (5%) com tempo médio de uso diário entre 2–4 horas. Identificou-se possível vício em 43,9% dos estudantes, níveis moderados em 32,1% e baixos em 24%. Não houve diferença significativa entre os sexos ($p > 0,05$). Verificou-se associação significativa entre tempo de uso e vício ($\chi^2 = 45,11$; $p < 0,001$), sendo maior o risco entre usuários com ≤ 2h/dia (RR = 1,48; IC95%: 1,21–1,81; OR = 2,69; IC95%: 1,54–4,69). O vício correlacionou-se positivamente com ansiedade ($\rho = 0,565$; $p < 0,001$) e depressão ($\rho = 0,566$; $p < 0,001$), mas não com autoestima ($\rho = -0,024$; $p = 0,701$). A autoestima, por sua vez, correlacionou-se negativamente com ansiedade ($\rho = -0,188$; $p = 0,002$) e depressão ($\rho = -0,231$; $p < 0,001$).

Conclusão: O vício em redes sociais é prevalente entre estudantes universitários de Tete e apresenta associação significativa com ansiedade e depressão, mas não com autoestima. Os resultados evidenciam a necessidade de intervenções que estimulem o uso equilibrado das redes sociais como medida preventiva em saúde mental.

Keywords

Redes sociais; Estudantes universitários; saúde mental.

49: Strengthening HIV/TB Community Systems To Improve Client Outcomes Through The Global Fund CSS Project In Ghana.

GEORGE TWUM AHADZIE[1], Cecilia Senoo[1], Glayds Damalin[1], Daniel Adu-Ampong[1], Ethel Ameworwor[2]

[1]Hope For Future Generations, Accra, Ghana. [2]Hope For Future Generations, Accra, Greenland

Background: People Living with HIV (PLHIV) and individuals affected by TB in Ghana face persistent challenges in access, adherence, psychosocial support, and continuity of care, resulting in missed appointments, treatment interruptions, and slowed progress toward the 95-95-95 targets. To address these gaps, Hope for Future Generations (HFFG), as a Sub-Recipient under CHAG, implemented the HIV component of the Community Systems Strengthening (CSS) intervention under Global Fund NFM III (2021–2023) across six regions to reduce new infections, improve TB diagnosis, strengthen service responsiveness, enhance well-being, contribute toward improved treatment outcomes, and strengthened progress toward epidemic control goals.

Methods: The CSS intervention strengthened community systems through Models of Hope (MoH), Mentor Mothers (MM), and Community Adolescent Treatment Supporters (CATS). These cadres provided HIV education, psychosocial and nutritional counseling, ARV adherence support, and tracing of missed appointments and lost-to-follow-up clients. Case managers developed individualized care plans to address complex client needs and support 95-95-95 progress. In 2023, HFFG engaged 267 MoH, 204 MM, and 51 CATS, reaching 17,488 PLHIV against a target of 15,876 (110%). MoH enrolled 13,288 (104%), MM 3,391 (139%), and CATS 809 (132%). Regular review meetings improved capacity and quality of care and strengthened GBV/IPV awareness and referral linkages. Coordination with health facilities also strengthened referral completion and continuity of care and improved retention in care.

Results: The cadre model improved community service delivery, adherence support, and client follow-up. High enrollment reflected strong collaboration, trust, and service uptake. Routine review meetings and improved data quality enhanced accountability and responsiveness within the intervention and strengthened community trust in services.

Conclusion: Expanding cadre capacity, strengthening GBV/IPV referral networks, and integrating community insights into national HIV/TB strategies will enhance service delivery and support Ghana's epidemic control progress and sustainability efforts.

Keywords

HIV, Community Systems Strengthening, Models of Hope, Mentor Mothers, TB, Global Fund, Ghana

51: A Comparative End-User Survey To Assess Bed Net Use Following Mass Distribution In Fodome, Ghana (2025)

OSCAR BARNABAS KWAME ANUMU[1,2], Professor Frank Ekow Baiden[1]

[1]University of Health and Allied Sciences, Ho, Ghana. [2]National Malaria Elimination Programme, Ghana Health Service, Accra, Ghana

Background: Malaria remains a major public health and economic burden in Ghana, contributing to healthcare costs, reduced productivity, and household income loss. Although insecticide-treated nets (ITNs) are widely distributed, gaps between ownership and utilization persist, limiting their effectiveness.

Objective: To assess ITN utilization following the 2024 mass distribution campaign in the Fodome community and identify socio-demographic, behavioural, and structural determinants influencing use.

Methods: A community-based comparative cross-sectional study was conducted among 931 households (621 ITN-recipient and 310 non-recipient households). Systematic sampling was used for recipient households, while neighbourhood-matched sampling was used for non-recipients. Data were collected using a pre-tested questionnaire. ITN use (slept under an ITN the previous night) was the primary outcome. Data were analysed using descriptive statistics, chi-square tests, and logistic regression to estimate adjusted odds ratios with 95% confidence intervals.

Results: Overall, ITN use was low (33.4%), with significantly higher use among ITN-recipient households compared to non-recipients (45.3% vs. 9.7%, $p < 0.001$). ITN receipt was the strongest predictor of use (aOR = 9.12; 95% CI: 5.49–15.13). Households with ≥3 sleeping spaces had increased odds of ITN use (aOR = 2.59; 95% CI: 1.66–4.05), while household heads aged ≥50 years had lower odds of use (aOR = 0.32; 95% CI: 0.17–0.59). Key barriers identified included heat discomfort (aOR = 0.62; 95% CI: 0.39–0.97) and preference for alternative malaria prevention methods (aOR = 0.33; 95% CI: 0.17–0.65). Despite high malaria knowledge levels, positive attitudes toward ITN use were low, indicating a knowledge–practice gap.

Conclusion: ITN distribution significantly improves ownership, it does not guarantee utilization. Addressing behavioural and structural barriers particularly thermal discomfort and competing prevention preferences is essential to improve sustained use. Enhancing ITN utilization can reduce malaria-related morbidity, lower healthcare expenditure, and improve productivity, thereby contributing to economic development in malaria-endemic communities.

Keywords

Insecticide-Treated Nets (ITNs); Malaria Prevention; ITN Utilization; Mass Distribution Campaign

55: Prevalence, Patterns And Predictors Of Concurrent Use Of Herbal And Orthodox Medicines Among Hypertensive And Diabetic Patients In Selected Hospitals In The Eastern Region Of Ghana

JUSTICE KOBINA MENSAH ENNIN[1,2], Philip Lartey[1], Michael Opoku-Mireku[3], Elizabeth Awini[3], Harriet Affran Bonful[2]

[1]Eastern Regional Hospital, Koforidua, Koforidua, Ghana. [2]School of Public Health, UG, Accra, Ghana. [3]Ghana Health Service, Accra, Ghana

Background: Non-communicable diseases such as hypertension and diabetes are increasing in Ghana, leading many patients to combine herbal medicine (HM) and orthodox medicine (OM) within the pluralistic healthcare system - a practice that may result in potential herb–drug interactions.

Objective: To determine the prevalence, patterns, and predictors of concurrent use of HM and OM among hypertensive and diabetic patients in selected hospitals in the Eastern Region of Ghana.

Methods: An analytical cross-sectional design was employed, using semi-structured questionnaire for data collection in three selected hospitals in Eastern Region of Ghana. Systematic random sampling was used to select 420 patients attending diabetes and hypertension clinics in these hospitals. Data were analysed using descriptive statistics, chi-square/ fisher's exact tests, and logistic regression at 5% significance level.

Results: About 20.95% (95% CI: 17.31 – 25.13) of respondents concurrently used HM and OM for the management of hypertension and/or diabetes. Among those who did not, a substantial proportion (65%) reported using both therapies for other comorbid conditions. Key motivating factors for concurrent use include recommendations from family and friends, and the availability of HMs. Top two sources of herbal medicines included Centre for Plant Medicine Research and through self-collection. Non-disclosure of herbal medicine use to healthcare providers was high (88%), mainly due to the perception that it was unnecessary or because healthcare providers did not inquire. Significant factors influencing concurrent use of OM and HM after adjusted analysis were; educational level, affordability of orthodox medications, perceived effectiveness and disease type.

Conclusion: Concurrent use remains common among patients with hypertension and diabetes in the Eastern Region of Ghana. This underscores the need for cooperation between orthodox and herbal practitioners to educate the public on risks involved, while promoting research into HM to ascertain its efficacy thereby enhancing its integration in managing hypertension and diabetes.

Keywords

Hypertension, Diabetes, Concurrent use, Herbal medicine, Orthodox medicine

59: Prevalence And Socioeconomic Determinants Of Tobacco Use Among Ivorian Males Aged 15–49 Years: Analysis Of The 2021 Côte d'Ivoire Demographic And Health Survey

FIIFI ASUMA-PERPREM

Ensign Global University, Kpong, Ghana

Background: Tobacco use remains a leading preventable cause of morbidity and mortality in sub-Saharan Africa, yet nationally representative data on its determinants in Côte d'Ivoire remain scarce. As the country undergoes an epidemiological transition marked by rising noncommunicable diseases, evidence on who is most at risk is critical for targeted intervention.

Methods: This cross-sectional study analysed data from the 2021 Côte d'Ivoire Demographic and Health Survey (DHS). The study population comprised 7,591 males aged 15–49 years. Current tobacco use (smoked and smokeless) was the dependent variable. Bivariate chi-square analyses and multivariable logistic regression were performed, adjusting for age, educational level, household wealth quintile, place of residence, region, marital status, employment, media exposure, and religion.

Results: The overall prevalence of tobacco use was 12.48%. Tobacco use was more common among older men, with prevalence peaking among those aged 35–44 years (17.01%) and lowest among those aged 15–24 years (8.08%). Men with primary education had the highest prevalence (16.15%), declining markedly among those with higher education (5.39%). Higher tobacco use was also observed among the poorest wealth quintile (14.90%) and rural residents (14.22%). In the multivariable model, age was the strongest independent predictor — men aged 25–34 (AOR = 1.68; 95% CI: 1.27–2.22) and 35–44 (AOR = 2.17; 95% CI: 1.59–2.95) had significantly elevated odds compared to those aged 15–24. While education, wealth, and residence showed protective trends in bivariate analyses, they did not retain statistical significance after adjustment.

Conclusions: Tobacco use among Ivorian men is patterned along socioeconomic lines, with age as the most consistent independent predictor. Interventions should prioritise older men with lower educational attainment, and tobacco control policies should be strengthened through improved FCTC implementation, higher taxation, and targeted health literacy campaigns.

Keywords

Tobacco use, Côte d'Ivoire, Demographic and Health Survey, socioeconomic determinants

60: Potential Pathogenesis Of Helicobacter Pylori Strains Circulating In Cameroon; Prevalence Of Proteins Involved In The Pathogenesis Of Helicobacter Pylori-Related Gastro-Duodenal Diseases And A Plausible Explanation Of Africa Enigma.

LAURE BRIGITTE KOUITCHEU MABEKU, Viny Adrien Fouomene Kenne

University of Yaoundé 1, Yaoundé, Cameroon

Background: There is a contradictory observation referring as the "African enigma" illustrating that in sub-Saharan Africa where *Helicobacter pylori* (*H. pylori*) infection prevalence is high, gastric cancer incidence is lower. The pathogenicity of *H. pylori* is mediated by an interplay of several virulence factors that might serves as potential predictors for the development of gastric diseases. This study aims to evaluate the prevalence of *H. pylori* proteins involved in its pathogenicity such as *H. pylori* iron binding (GroEL), flagella (FliD), adhesin A (HpaA), γ-glutamyl transferase (gGT), neutrophil-Activating Protein (NapA), cell translocation kinase (CtkA), high-temperature requirement A protein (HtrA), disulfide bonds (HP0231) proteins, and cytotoxin-associated gene A (CagA) and vacuolating cytotoxin A (VacA) known as carcinogenic proteins among infected patients.

Methods: This descriptive analysis study was based on 272 serums from *H. pylori* IgM-positive dyspeptic patients enrolled from June to September 2024 in Cameroon. *H. pylori* CagA, VacA, GroEL, FliD, HpaA, gGT, NapA, CtkA, HtrA, and HP0231 proteins were detected using multiplex serology method. The detected *H. pylori* antigens were classified as antigens for colonization (HpaA, FliD), chaperone systems (gGT, GroEL), carcinogenic factors (CagA, VacA), modulatory factors of CagA/VacA functions (HP023, HtrA), and immunomodulatory factors (NapA, CtkA). Statistical analysis was performed using SPSS software 25.0.

Results: *H. pylori* CagA, VacA, FliD, HpaA, GroEL, gGT, HtrA, HP0231, CtkA, and NapA proteins were present in 97.1, 77.2, 77.2, 73.2, 61.1, 34.2, 25.4, 18.8, 11.4, and 9.9% respectively. Proteins involved in colonization, carcinogenesis, chaperone systems, immune response, and those modulating carcinogenesis were detected in 81.9, 76.1, 70.5, 19.8, and 11.7%, respectively.

Conclusion: Our results showed that *H. pylori* strains in our milieu have strong ability to colonize the gastric mucosa, but a low carcinogenic potential despite of their high carcinogenic factors due to the scarcity of the proteins modulating their detrimental effect.

Keywords

H. pylori, virulence proteins, Sub-Saharan Africa.

61: Access And Utilization Of Dental Health Services Among Elderly Residents In Suhum Municipality In The Eastern Region Of Ghana

ROSE KERSTING OTU

Ensign Global University, Kpong, Ghana

Background: Oral health is a frequently neglected yet critical component of overall well-being, particularly among older adults in low- and middle-income countries. In Ghana's Suhum Municipality, elderly residents face significant barriers to dental care, including limited service availability, financial hardship, and low oral health literacy. With a growing aging population and inadequate dental infrastructure, this study seeks to generate evidence to inform policies that promote equitable oral health service delivery for the elderly.

Methodology: A quantitative, cross-sectional study design was employed, with data collected from a sample of 404 elderly participants using structured questionnaires. A multistage sampling technique was used to ensure broad representation across different communities in Suhum. Data analysis was conducted using STATA 18.

Results: A total of 304 elderly respondents participated in the study, with 58.9% being female. Slightly more than half (58.6%) had heard about oral health, and 51.6% demonstrated good oral health knowledge. However, utilization of dental services was low, with only 24.0% reporting that they had ever visited a dentist or oral health provider. Bivariate analysis showed that educational level, marital status, family support, knowledge of nearby health facilities, and proximity to oral health providers were significantly associated with dental service utilization ($p < 0.05$). Additionally, transportation difficulties, cost of treatment, fear, oralhealth knowledge, and employment status were also found to be significantly associated with dental service utilization ($p < 0.05$).

Conclusion: The study revealed low utilization of dental health services among elderly residents in Suhum Municipality despite moderate levels of oral health awareness. Key factors influencing dental service utilization included advanced age, higher educational attainment, knowledge of nearby health facilities, and good oral health knowledge. These findings highlight the need for targeted health education, improved awareness of available oral health services, and strengthened community-based oral health programs to enhance access and utilization among the elderly.

Keywords

Oral health, dental service utilization, geriatric oral health, health-seeking behaviour

62: Epidemiological Analysis Of Insecticide Resistance To Indoor Residual Spraying In Obuasi Municipality

ALI UMAR

University of Health and Allied Sciences, Fred Newton Binka School of Public Health, Hohoe, Ghana

Background: Malaria remains a major public health concern in sub-Saharan Africa. In moderate- to high-transmission settings, Indoor Residual Spraying (IRS) has been implemented as a key malaria control strategy. Although it has contributed to reductions in malaria burden, its effectiveness is threatened by insecticide resistance among mosquitoes. Obuasi Municipality, a beneficiary of a sustained IRS program, has reported insecticide resistance; however, evidence on how this resistance affects program effectiveness over time remains limited. This study examined how insecticide resistance affects the effectiveness of IRS in malaria control in Obuasi Municipality.

Methods: A retrospective ecological study design was employed using malaria data, IRS records, and insecticide resistance data. Malaria incidence trends were visualised using R, and Joinpoint was used to estimate Average Annual Percent Change. Generalised least-squares regression was applied to assess how IRS, climate, and insecticide type influence malaria incidence, while trends in insecticide resistance were visualised using R. Statistical significance was assessed at the 5% level.

Results: Malaria incidence declined significantly from 2008 to 2024, with an AAPC of −9.16%. One annual IRS cycle was associated with a reduction of 183 cases per 1,000 population ($p < 0.001$). Deltamethrin (Pali 25 WG) showed a strong initial reduction in malaria incidence ($p < 0.001$); however, its effectiveness declined significantly with repeated use ($p < 0.001$). Entomological data supported this finding, showing a decline in mosquito susceptibility, with mortality decreasing by an average of 3.8% per year during the two IRS cycle period ($p = 0.008$).

Conclusion: IRS has been very impactful in reducing malaria burden in Obuasi Municipality; however, its effectiveness has declined over time, with insecticide resistance among *Anopheles* mosquito populations. IRS implementation should be guided by resistance-informed strategies to sustain malaria control.

Keywords

Malaria; Indoor Residual Spraying; Insecticide Resistance; Anopheles Mosquitoes; Obuasi Municipality

63: Epidemiology Of Malaria Cases In The Hohoe Municipality, Ghana: A Surveillance-Based Secondary Data Analysis

LAVISH EMMANUEL AFORMALEH

Department of Epidemiology and Biostatistics, Fred N. Binka School of Public Health, University of Health and Allied Sciences, Hohoe, Ghana

Background: Malaria remains a significant public health concern in Hohoe Municipality, Ghana, affecting children under five and pregnant women. Despite ongoing control efforts, there is limited evidence on trends in malaria morbidity, mortality, and preventive coverage at the sub-national level. This study aimed to assess malaria trends from 2019 to 2023, examining variations by age, sex, pregnancy status, and sub-districts in the Hohoe Municipality, Ghana.

Methods: We conducted a retrospective analysis of malaria surveillance data from the DHIMS 2. Key indicators included suspected, tested, and confirmed malaria cases, positivity rates, inpatient admissions, malaria in pregnancy, IPT3 coverage and mortality. Demographic and spatial trends were analyzed using descriptive statistics and visualizations.

Results: A total of 43,428 suspected cases were reported in 2019, declining to 29,026 in 2023 (−33.1%). Tested and confirmed cases decreased from 41,132 to 28,368 (−31.0%) and 14,520 to 9,358 (−35.6%), respectively. The malaria test positivity rate remained relatively stable (31.3–40.3%). Inpatient admissions fell from 1,413 to 899 (−36.4%), with children <5 showing the largest reduction (−55.9%). Malaria-related mortality was concentrated among children <5, peaking at 38.2 per 100,000 population in 2020. Male cases were higher, but females exhibited a larger proportional decline (40.3% vs. 31.5%). Pregnant women maintained high testing coverage (99–100%), with IPT3 coverage increasing from 55.7% to 76.9%. Spatial analysis revealed higher malaria burdens in Hohoe and Agumatsa sub-districts. Seasonal patterns showed a unimodal peak between July and September each year.

Conclusion: Malaria indicators in Hohoe Municipality declined substantially between 2019 and 2023.Transmission remains heterogeneous across age, sex, and geography. Children <5 and specific sub-districts continue to bear the highest burden, emphasizing the need for targeted interventions. Strengthened surveillance, enhanced preventive coverage, and adaptive seasonal planning are recommended to sustain progress toward malaria control. Future research should focus on community-level prevalence and hotspot-targeted strategies.

Keywords

Malaria, Trends, Surveillance, Ghana, Children under five, Pregnancy, DHIMS 2

64: Exploring The Perceptions And Effectiveness Of Engage Now Africa's Interventions For Persons Living With Albinism In Ghana

EDMUND ENAM AMOABENG

ENSIGN GLOBAL UNIVERSITY, Kpong, Ghana

Background: Persons living with albinism (PLWA) in Ghana experience significant health, educational, and social challenges, including skin cancer risks, visual impairment, stigma, and exclusion. In response, non-governmental organizations such as Engage Now Africa have implemented interventions aimed at improving the wellbeing and inclusion of PLWA. However, limited evidence exists on how beneficiaries perceive the relevance and effectiveness of these interventions. This study explored the perceptions and effectiveness of Engage Now Africa's interventions for PLWA in Ghana.

Methods: The study employed an exploratory qualitative design using secondary data from a project evaluation conducted by Engage Now Africa between 2024 and 2025. Forty in-depth interview transcripts involving PLWA and caregivers from the Northern, Upper East, and Volta Regions of Ghana were re-analysed. Data were analysed thematically using Braun and Clarke's six-phase framework with support from ATLAS.ti software. Both deductive and inductive coding approaches were applied.

Results: Findings showed that Engage Now Africa's interventions positively influenced the wellbeing of PLWA. Health interventions, including sunscreen provision and health education, improved skin protection and awareness of preventive care. Educational support through scholarships and school advocacy reduced school dropout and enhanced educational participation. Advocacy and sensitisation programmes contributed to reduced stigma, improved community attitudes, and increased social inclusion. Livelihood and skills training initiatives also promoted self-confidence and economic empowerment. Despite these gains, participants reported challenges related to inconsistent support, limited coverage, and persistent misconceptions about albinism.

Conclusion and Public Health Implications: Engage Now Africa's interventions were perceived as relevant and effective in addressing critical health, educational, and social needs of PLWA in Ghana. Strengthening sustainability through government integration, broader stakeholder collaboration, and continuous community sensitisation is essential to advancing inclusion, equity, and long-term wellbeing for PLWA.

Keywords

Albinism, Persons Living with Albinism (PLWA),Social Inclusion, Stigma Reduction, Qualitative Research

66: Evaluation Of The Food Service Establishment Inspection Surveillance System In The Greater Accra Region, Ghana, 2025

LLOYD OWURA KOFI ADU-KUMI[1], Belinda Nsiah Opoku[2], Rita Agyekumwaa Asante[2,1], Wilhemina Quarcoopome[1]

[1]Food and Drugs Authority, Accra, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Program, Accra, Ghana

Background: Food service establishment (FSE) inspections are essential for reducing the risk of foodborne illness outbreaks. About 77% of foodborne illnesses in Ghana are attributed to improper food handling. In Ghana, the Food and Drugs Authority's FSE Inspection surveillance system of the Food Service Establishment Department (FSED) inspects FSEs to ensure compliance with Good Hygienic Practices (GHPs), thereby reducing this risk. Compliant FSEs are issued a Food Hygiene Permit (FHP). Since 2020, this system has not been evaluated. Thus, this evaluation assessed whether the surveillance system's objectives were being met, its attributes, and its usefulness.

Method: A descriptive cross-sectional design, guided by the Centres for Disease Control and Prevention updated guidelines for evaluating public health surveillance systems, was used. A semi-structured questionnaire was administered to FSED staff in the Greater Accra Region to collect data on system attributes. The GHP inspection, FHP application, and issuance records from 2020 to 2024 were reviewed. Quantitative data were summarised into frequencies and proportions and presented in tables and graphs using Microsoft Excel. Qualitative responses were analysed into themes.

Results: From 2020 to 2024, 8,483 GHP inspections were conducted. During this period, FHP applications increased from 3.7% (285/7602) in 2020 to 13.6% (1037/7602) in 2024. FSEs were inspected in 28 of the 29 districts. Fifty-two per cent (37/58) of the sampled first GHP inspections of the FSEs were done within the 30-day benchmark. System-informed data led to the creation of the Institutional Catering and Surveillance Unit (ICSU) in 2022 and risk-based inspections in 2024.

Conclusion: The Food Service Establishment Inspection surveillance system in the Greater Accra Region was found to be useful and achieved its objective. The system was found to be flexible. Timeliness, simplicity, and representativeness were moderate. Acceptability was poor. FSED should collaborate with MMDAs to improve acceptability.

Keywords

Food Safety, Food service establishment, Food Hygiene, Surveillance System Evaluation,

67: Evaluation Of Viral Hepatitis Surveillance System, Western North Region Ghana, 2025

PATRICK ASANTE-KUMAH[1,2], George Akowuah[2], Magdalene Akos Odikro[2], Joseph Asamoah Frimpong[2], Ernest Kenu[2]

[1]Ghana Health Service, Western North, Sefwi Bodi, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Programme, University of Ghana, Accra, Accra, Ghana

Background: Viral hepatitis is a major public health challenge in Ghana, yet the Western North Region's surveillance system aimed to detect outbreaks, identify high-risk groups and estimate burden, has never been evaluated. We evaluated the region's surveillance system to determine whether it meets its objectives, assess its key attributes, and examine its usefulness for public health action.

Methods: We conducted a descriptive cross-sectional study from April to May 2025 in Sefwi Wiawso and Juaboso Districts in the region The assessment was guided by the Centers for Disease Control and Prevention surveillance system evaluation framework. Data from 2022–2024 was obtained through interviews, record reviews, and direct observation of system operations. Quantitative findings were summarized using frequencies and percentages. We used thematic analysis for qualitative data. The data was presented as tables, graphs and text.

Results: Among the 32 respondents, 56.3% (18/32) were male, and 43.8% (14/32) were from hospitals. None of the 6 facilities assessed had the standard case definition. Reporting forms remained unchanged over the five-year period. Acceptability was 83% (5/6) and report completeness and timeliness was 98%, laboratories experiencing stockouts was 25% (1/4). Average turnaround time for laboratory results was 50 minutes. Five out 20 (25%) IDSR forms were incomplete. Positive Predictive Value was 21.6% (736/3,407). Surveillance data was not disaggregated. No evidence of surveillance data being used for decision making.

Conclusion: The surveillance system did not achieve its objectives in outbreak detection or burden assessment. While strong in acceptability, timeliness, and data quality, it lacked representativeness, limiting its usefulness. User training and Provision of standard case definitions is recommended

Keywords

Viral hepatitis, Surveillance system, Western North, Public health, Data quality, Outbreak detection

68: Assessing Male Involvement In Maternal And Newborn Health In Ghana.

NAANA ADWOA SAFOAA

Ensign Global University, Kpong, Ghana

Background: Male involvement in maternal and newborn health (MNH) is essential for improving maternal and child health outcomes. Despite global and national efforts to encourage men's participation, involvement in Ghana remains limited due to socio-cultural beliefs, gender norms, and male-dominated household decision-making. This study assessed men's involvement in MNH in Ghana by examining gender attitudes and shared decision-making in maternal and reproductive health.

Methods: The study used a cross-sectional secondary data analysis of the 2022 Ghana Demographic and Health Survey (GDHS) men's dataset. A total of 3,726 men aged 15–59 years were included in the analysis. Gender-equitable attitudes and household decision-making practices were assessed using descriptive statistics, chi-square tests, and logistic regression in Stata version 18.

Results: The findings showed that 83.3% of respondents demonstrated gender-equitable attitudes, with over 90% rejecting wife-beating in all scenarios. However, healthcare decision-making remained partly male-dominated, as 47.4% of men reported making healthcare decisions alone, while 43.8% reported joint decision-making with their partners. Gender-equitable attitudes were significantly associated with age, education, wealth status, religion, residence, and region. Older, wealthier, and more educated men were more likely to hold equitable views. Male involvement in maternal health was relatively high, with 73.6% reporting participation in antenatal care and related activities. Men with gender-equitable attitudes were more likely to be involved in maternal health (AOR = 1.65). Higher involvement was also associated with older age, tertiary education, Muslim religion, and residence in the Northern, Upper East, and Upper West regions. Wealth status and place of residence were not significant after adjustment.

Conclusion: Although many Ghanaian men exhibit gender-equitable attitudes, these attitudes do not always translate into equitable household decision-making. The study highlights the importance of gender-transformative interventions aimed at promoting shared decision-making and increasing male participation in maternal and newborn health.

Keywords

Gender norms, Gender equitable attitudes, Women's autonomy, Socio Ecological Model

69: Molecular Characterization And Antimicrobial Resistance Profile Of ESBL-Producing *Escherichia Coli* And *Klebsiella* Species Isolated From Free-Range Chickens In Cape Coast Metropolis, Ghana

DESMOND SARFO BOAMPONG[1], Richael Odarkor Mills[1], Matilda Ayim Akonor[2], Rita Ohene Larbi[3,4], Williams Ogaja[1], Emmanuel Azurre[1], Emmanuella Agyemang Amoako[1], Justice Opare Odoi*[2]

[1]Department of Biomedical Sciences, School of Allied Health Sciences, University of Cape Coast, PMB UCC Post Office, Cape Coast, Ghana, Cape Coast, Ghana. [2]Animal Health Division, Council for Scientific and Industrial Research - Animal Research, Accra, Ghana. [3]1Department of Biomedical Sciences, School of Allied Health Sciences, University of Cape Coast, Cape Coast, Ghana. [4]2Animal Health Division, Council for Scientific and Industrial Research - Animal Research Institute, Accra, Ghana

Background: Extended-spectrum β-lactamase (ESBL)-producing *Enterobacteriaceae* are classified by the WHO as priority pathogens due to their resistance to third-generation cephalosporins. In Ghana, keeping free-range chickens is a common practice where they serve as both a source of meat and income for many households. These chickens roam freely in communities in search of food, during which they interact with humans, the environment and other animals. This creates opportunities for acquiring bacteria species that are multi-drug resistant (MDR). This study investigated the molecular characteristics and antimicrobial resistance profile of ESBL-producing *Escherichia coli* and *Klebsiella* spp. isolated from free-range chickens in Ghana.

Methods: Cross-sectional study design was used. Faecal samples were taken from 218 households. A structured questionnaire was used to assess chicken owners' practices and antibiotic use. The faecal samples from the chickens were cultured on MacConkey agar supplemented with cefotaxime. The presence of ESBL was confirmed using the combination disc diffusion test. Antimicrobial resistance profiling was done on the confirmed ESBLs to determine multidrug resistance, and also, ESBL genes were detected using PCR. GPS coordinates were obtained for geospatial analysis.

Results: Overall prevalence of ESBL was 33.9% (74/218); *E. coli* accounted for 31.7% and *Klebsiella* spp., 2.3%. Among ESBL-producing *E. coli,* MDR was 50.7%. The dominant ESBL genes were $bla_{CTX\text{-}M}$ (94.2%) and bla_{TEM} (97.1%). Most owners treated sick birds using synthetic drugs (41.3%) and herbal drugs (16.5%). No household practice (antibiotic use, hygiene) was associated with MDR. However, spatial analysis showed significant MDR clustering (Moran's I = 0.189, $p < 0.001$). The mean MAR index was higher in the identified hotspot location (Apewosika) compared to the rest (0.46, p=0.054).

Conclusion: Despite the absence of an association between antimicrobial use and MDR, the spatial clustering and MAR index in the hotspot point to community-level environmental reservoirs as drivers of resistance.

Keywords

Extended-spectrum beta-lactamase, Klebsiella, Free-range chickens, Antimicrobial resistance, Spatial analysis.

72: Precancerous Cervical Lesions And Associated Factors Among Women In Mining Communities In The Obuasi East Municipality, Ghana: A Community-Based Study

ENYONAM AMA KWAWUKUME[1], Maxwell Afranie Appiah[2], Mawuli Gohoho[3], Thelma Akyaamah Manu[4], Joshua Appiah Arthur[5]

[1]Ghana Health Service, Bekwai, Ghana. [2]Ghana Health Service, Obuasi, Ghana. [3]Ghana Health Service, Jasikan, Ghana. [4]Komfo Anokye Teaching Hospital, Kumasi, Ghana. [5]Ghana Health Service, Accra, Ghana

Background: Despite the importance of early detection, cervical cancer screening uptake in Ghana remains low, and community-based evidence on precancerous cervical lesions and associated factors remains limited, particularly in mining communities. This study assessed the prevalence of precancerous cervical lesions and associated factors among women in mining communities in Obuasi East Municipality in Ghana.

Methods: A community-based cross-sectional study was conducted among 421 women in Obuasi East Municipality from March 24 to June 23, 2025. Participants were selected using a multistage sampling technique. Visual inspection with acetic acid (VIA) test was used as the primary screening method to detect precancerous cervical lesions. However, those who tested VIA-positive underwent confirmatory cervical cytology using a Pap smear. Participants completed an interviewer-administered structured questionnaire before the VIA procedure. Multivariable logistic regression analysis was performed to identify the factors associated with VIA-positive precancerous cervical lesions at a 5% significance level.

Results: The prevalence of VIA-positive precancerous cervical lesions was 11.16%. Among VIA-positive women, 40.43% (19/47) had cytological abnormalities confirmed by Pap smear. The VIA positivity was highest among those aged 25 to 49 years (13.57%), followed by those aged 15 to 24 years (10.42%) and those aged 50 to 65 years (6.41%). HIV infection (AOR=10.20; 95% CI: 1.12–17.34) and employment (AOR=0.37; 95% CI: 0.16–0.82) were statistically associated with VIA positivity.

Conclusion: The study showed that about one in ten women screened in this mining municipality had VIA-positive precancerous cervical lesions, and HIV infection and employment were independently associated. We recommend enhancing cervical cancer prevention strategies in Ghana by expanding access to community-based screening services and prioritising women living with HIV for screening and follow-up care.

Keywords

Visual inspection with acetic acid, Pap smear, precancerous cervical lesions, Obuasi East Municipal

Assessing Factors Associated with Hepatitis B Virus Infection Among University of Professional Studies, Accra Students.

Ramatu Adamu[1 2] and Bismark Sarfo[1]

Author Affiliations

[1]University of Ghana, School of Public Health, [2]Direct Aid Ghana

Introduction: Hepatitis B virus (HBV) infection remains a major public health challenge, particularly in sub-Saharan Africa, where transmission continues despite the availability of effective vaccines. University students represent an important population for HBV prevention; however, evidence on the prevalence of infection and its associated factors among students in non-health-related academic settings in Ghana remains limited. This study assessed the prevalence of HBV infection and factors associated with infection among students at the University of Professional Studies, Accra (UPSA), Ghana.

Methods: An analytical cross-sectional study was conducted among 414 undergraduate students at UPSA. Data was collected using a structured questionnaire and HBV screening. Descriptive statistics were used to summarize participants' characteristics and estimate HBV prevalence. Bivariate analyses and multivariable logistic regression were performed to identify factors associated with HBV infection. Adjusted odds ratios (AORs), 95% confidence intervals (CIs), and p-values were used to assess the strength and statistical significance of associations.

Results: The prevalence of HBV infection was 8.7%. In the multivariable analysis, healthcare exposure was significantly associated with HBV infection (AOR = 6.95; 95% CI: 1.96–24.64; p = 0.003). Students aged 25–29 years also had higher odds of infection (AOR = 6.68; 95% CI: 1.30–34.46; p = 0.023). Educational level was also associated with infection in the adjusted analysis. These findings identify healthcare exposure, age, and educational level as factors associated with HBV infection in the study population.

Conclusion: HBV infection remains an important public health concern among university students in this setting. The observed associations highlight the need to strengthen campus-based HBV prevention through accessible screening, vaccination, health education, and assessment of potential exposure risks. Further research is needed to clarify the pathways linking healthcare exposure and HBV infection among university students.

Keywords: Hepatitis B virus; prevalence; associated factors; university students; healthcare exposure; Ghana.

74: Navigating Resilience And Vulnerability: A Systematic Review Of Mental Health Outcomes In Immigrant Children Resettling In High-Income Countries

JOHN OLUSOLA OJO[1,2], Shaun Liverpool[2]

[1]Cradle of Wellbeing CIC, Liverpool, United Kingdom. [2]Edge Hill University, Ormskirk, United Kingdom

Background: Children and young people who migrate may face stressors that accumulate across transit and resettlement. We synthesised evidence on mental health outcomes among immigrant children resettling in high-income countries and the factors linked to risk and resilience.

Methods: Following PRISMA guidance, we searched PsycINFO, PubMed and Google Scholar for peer-reviewed studies published between January 2019 and September 2024. Using a PEO framework, we included studies of immigrant children (aged 4-17) reporting mental health outcomes. Included studies were appraised using CASP. An embedded mixed-methods synthesis combined narrative synthesis of quantitative findings with thematic analysis of qualitative data.

Results: Ten studies met inclusion criteria (Canada 30%, USA 20%, and Chile, Sweden, Germany, the UK and Belgium 10% each). Most were community-based (70%), with 30% conducted in schools; designs were largely cross-sectional (80%), with two longitudinal studies. Findings were mixed: several studies reported higher internalising/externalising symptoms, while others found no differences versus non-immigrant peers or suggested an "immigrant paradox". In one US study, 32% had elevated emotional problems and 17% screened positive for probable PTSD. In Belgian school samples, 25% scored high/very high for emotional and behavioural problems and 30% screened in the clinical/borderline range for PTSD. Qualitative evidence linked distress to transit violence, administrative stress, family separation, language barriers and racism, while protective factors included free education, school re-entry, friendships and future-oriented hope. Barriers to care included cost and limited culturally or language-matched services.

Conclusion and public health implications: Outcomes vary, but are strongly shaped by environmental and service factors. Health and education systems should strengthen trauma-informed, culturally responsive pathways, reduce avoidable administrative stressors, and improve access to support through schools and community settings.

Keywords

Immigrant children; Mental health outcomes; Resettlement; Post-traumatic stress disorder (PTSD)

76: Willingness Of Adults To Accept Malaria Mass Drug Administration Using The Theoretical Framework Of Acceptability In An Urban Municipality Of Ghana: A Cross-Sectional Study

PERFECT AMEGAH[1], Hainau Iddrisu[2], Harriet Affran Bonful[1]

[1]University of Ghana, Accra, Ghana. [2]The Ruby Osmo Girls Foundation, Accra, Ghana

Background: Malaria continues to pose a major public health threat in sub-Saharan Africa, with Ghana accounting for 2.5% of all malaria cases in the region. Mass drug administration (MDA) has emerged as a viable intervention for malaria elimination, yet its success largely depends on community acceptance and adherence, particularly when asymptomatic individuals are required to take antimalarial drugs. This study assessed the willingness of adults in the La Dade-Kotopon Municipality (LaDMA), Ghana, to accept Malaria MDA programs and explore factors influencing its acceptability.

Methods: This study employed a cross-sectional study design involving 421 adults from two communities in LaDMA. A step-by-step stratified procedure was used to select participants at random by sampling at the community and household levels A structured questionnaire was administered to participants. Acceptability of MDA was assessed using Sekhon *et al* seven Theoretical Framework of Acceptability (TFA) constructs. Both descriptive and inferential analyses were conducted at an alpha level of 0.05.

Results: The median age of the participants was 33 years and 57.5% were females. Majority (58.7%) of the participants were willing to accept malaria MDA. The factors associated with acceptability of the malaria MDA include age (aOR = 0.34, 95% CI: 0.11 – 0.95, p = 0.040), level of education (aOR = 0.28, 95% CI: 0.09–0.86, p = 0.027), religion (aOR = 0.10, 95% CI: 0.04–0.25, p < 0.001), tribe (aOR = 0.32, 95% CI: 0.12–0.82, p = 0.019), and participants' perception of community wellbeing (aOR = 46.29, 95% CI: 18.32–116.99, p < 0.001).

Conclusion: Willingness to accept malaria MDA program is moderate. Residents who agreed to participate in MDA programs for purposes of community wellbeing found MDA more acceptable compared to those who disagreed. Emphasizing community-wide benefits may enhance participation in future MDA programs.

Keywords

Keywords: Acceptability, Willingness, Malaria, MDA, LaDMA

77: Analyse préliminaire de l'impact de l'introduction du vaccin antipaludique sur l'incidence du paludisme grave chez les enfants de moins de 5 ans dans les districts de santé d'Edea, Japoma et Mbanga (2020-2024)

ALEX STEPHANE NDJIP NDJOCK

EDEA HEALTH DISTRICT, EDEA, Cameroon

Contexte : Le vaccin antipaludique (VAP) a été introduit au Cameroun en 2024. Dans sa première phase 42 districts repartis dans les 10 régions sanitaires y ont été enrôlés. Trois districts de la région du Littoral l'implémentent. Cette étude vise à analyser son impact précoce sur les cas de paludisme grave chez les enfants de moins de 5 ans.

Méthodes : Une analyse descriptive et comparative des tendances annuelles (2020-2024) des cas recensés dans le DHIS 2 a été réalisée. Les variations en 2024 ont été comparées aux tendances pré-vaccinales (2020-2023).

Résultats : En 2024, on observe une augmentation de 11,2% des cas de paludisme grave par rapport à 2023, inversant la tendance à la baisse observée depuis 2021. Les districts affichant les couvertures vaccinales les plus basses (VAP 3 à 28,75% et 32,03%) sont ceux où l'incidence des cas graves a le plus augmenté. Une corrélation négative significative (r = -0,86) est observée entre le taux de couverture de la 3ème dose et la variation des cas graves en 2024.

Conclusion : Bien que préliminaires, ces données suggèrent qu'une couverture vaccinale complète est cruciale pour contrôler le paludisme grave. L'augmentation globale des cas en 2024 souligne l'importance de facteurs confondants et la nécessité de renforcer la complétion du schéma vaccinal.

Keywords

PALUDISME, VACCIN, EDEA, JAPOMA, MBANGA, INCIDENCE

81: Profil Épidémiologique Des Recrues De La Fonction Publique : La Visite Médicale D'aptitude Comme Outil De Depistage En Santé Publique

BAGNA BABY[1], Dadé Ben Sidi HAIDARA[2,3], Kadiatou Thérèse DEMBELE[4], Ousmane SY[5]

[1]Centre de Médecine de Sport du Mali, Bamako, Mali. [2]Ministere enseignement Superieur et de la Recherche Scientifique, Bamako, Mali. [3]Hopital Sikasso, Sikasso, Mali. [4]Minitere de l'Enseignement Supérieur et de la Recherche Scientifique, Bamako, Mali. [5]Organisation Mondiale Santé, Bamako, Mali

Contexte : La visite médicale d'aptitude constitue une étape réglementaire et obligatoire pour l'intégration des recrues au sein de la Fonction Publique au Mali. Au-delà de sa finalité administrative, elle constitue une opportunité majeure de dépistage des maladies silencieuses chez les jeunes de 18 à 45 ans. Le but de ce travail était de décrire le profil épidémiologique et analyser la contribution de la visite médicale au dépistage des maladies silencieuses.

Méthodes : il s'agissait d'une étude transversale descriptive basée sur l'analyse rétrospective des données biologiques extraites des dossiers des recrues de la 6eme cohorte du Service National des Jeunes. Les données ont été saisies et consolidées sous Microsoft Excel, puis analysées à l'aide du langage Python, exécutées via Visual Studio Code. Au total 1 459 recrues de 18 à 45 ans ont été incluses avec un intervalle de confiance à 95 %.

Résultats : les anomalies du métabolisme glucidique concernaient 18,8 % de recrues dont 10,7 % d'hyperglycémie modérée et 1,7 % d'hyperglycémie élevée. La prévalence de l'antigène HBs a été de 8,9 %, celle du VIH, 0,8 %. La positivité du test d'Emmel a été de 0,7 %.

Conclusion : La visite médicale d'aptitude a permis d'identifier des anomalies biologiques non négligeables chez les recrues jeunes et majoritairement asymptomatiques. Elle constitue un outil pertinent de dépistage opportuniste et de production de données utiles à la surveillance et à la planification des interventions de Santé Publique.

Recommandation Majeure : Exploiter les données issues des visites médicales d'aptitude pour le suivi épidémiologique des anomalies glycémiques.

Keywords

Visite médicale d'aptitude , Dépistage , maladies silencieuses, recrues,Mali

82: Multimorbidity, Mental Health, And Frailty Among Older Adults In Rwanda: Epidemiological Insights For Integrated Noncommunicable Disease Care

MICHAEL BOAH[1,2], Callixte Cyuzuzo[1], Francios Uwinkindi[3], Chester Kalinda[1], Tsion Yohannes[1], Carolyn Greig[4], Justine Davies[4], Lisa Ruth Hirschhorn[5], Alemayehu Amberbir[1]

[1]University of Global Health Equity, Kigali, Rwanda. [2]University for Development Studies, Tamale, Ghana. [3]Rwandan Biomedical Center, Ministry of Health, Kigali, Rwanda. [4]University of Birmingham, Birmingham, United Kingdom. [5]Northwestern University, Chicago, United States

Background: Population ageing in sub-Saharan Africa is driving a growing burden of physical non-communicable diseases, alongside increasing mental health conditions and functional decline. However, integrated evidence examining these domains together remains limited in low-resource settings such as Rwanda.

Methods: We conducted a cross-sectional, population-based study among 4,369 adults aged ≥40 years across rural and urban Rwanda from March 2024 to June 2024. Multimorbidity (≥2 chronic conditions) and frailty (Fried phenotype) were assessed using validated tools. Mental health outcomes included anxiety (GAD-2), depression (PHQ-9), and cognitive impairment (CSI-D). Multivariable regression models examined associations of outcomes with demographic and socioeconomic factors.

Results: Among 4,369 adults aged ≥40 years, overall multimorbidity prevalence was 55.2% (95% CI: 53.7, 56.6). Multimorbidity in physical chronic conditions affected 37.0% (95% CI: 35.6–38.4), with hypertension being the most common (40.1%; 95% CI: 38.6–41.5). Symptoms of anxiety and depression were reported by 31.9% (95% CI: 30.6–33.3) and 23.3% (95% CI: 22.1–24.6), respectively, and 11.4% (95% CI: 10.5–12.4) had cognitive impairment; 18.3% (95% CI: 17.1–19.4) had ≥2 mental health conditions. Overlap was substantial: 23.9% of those with multimorbidity in physical chronic conditions also had mental multimorbidity, and 48.4% of those with mental multimorbidity had physical conditions. Frailty prevalence was 14.5% (95% CI: 13.5–15.6). Older age, female sex, and lower socioeconomic status were consistently associated with worse physical and mental health outcomes. Urban residents had higher multimorbidity but lower frailty.

Conclusion and Public Health Implications: Older adults in Rwanda experience a high and overlapping burden of NCDs and mental health conditions. Integrated, person-centred care models that address both physical and mental health, alongside social determinants, are essential to support healthy ageing and strengthen NCD response systems in Africa.

Keywords

Multimorbidity, mental health, frailty, noncommunicable diseases, Rwanda

83: Epidemiological profile and factors associated with cases of acute malnutrition in the Nazinon region, Burkina Faso, 2015–2024

PINGUEDWINDÉ ABDOU RAHIM SAWADOGO[1], Charles Lamou KI ZERBO[2], Madi NIKIEMA[1]

[1]Field Epidemiology and Laboratory Training Program, Ouagadougou, Burkina Faso.
[2]Regional hospital, Koudougou, Burkina Faso

Background: Malnutrition remains a major public health concern, contributing to approximately 45% of global child deaths. In Burkina Faso, despite a decline in national prevalence to 9.2% in 2023, the situation remains concerning. This study aims to analyze a decade's worth of malnutrition surveillance data from the Nazinon region to describe its epidemiological profile and identify associated factors.

Methods: This was a cross-sectional analytical study using surveillance data on malnutrition among children aged 6 to 59 months. We calculated proportions with their 95% confidence intervals (95% CI) and means to describe the epidemiological profile, and we calculated odds ratios (OR) to test for associations.

Results: Of the 10,139 children screened, 594 cases of acute malnutrition were identified (5.85%), of which 87.20% were moderate acute malnutrition and 12.80% were severe acute malnutrition. The median age was 24 months, with a predominance of boys (53.19%). A peak of 128 cases was observed in 2020, and Zoundwéogo province recorded the highest number of cases (170). Factors associated with malnutrition were age [aOR=1.89; 95%CI (1.58–2.26); p=0.001], diarrhea [aOR=1.51; 95%CI (1.20–1.88); p=0.001], lack of vitamin A supplementation [aOR=1.35; 95%CI (1.06–1.69); p=0.015], and lack of maternal education [aOR=1.45; 95%CI (1.11–1.91); p=0.005].

Conclusion: Acute malnutrition persists in Nazinon, particularly among children under two years of age who have had an episode of diarrhea, have not received vitamin A supplementation, or have uneducated mothers.

Strengthening vitamin A supplementation, managing diarrheal diseases, and providing maternal education are essential to reducing the burden of malnutrition in this region.

Keywords

Acute malnutrition, nutritional surveillance, risk factors, Nazinon region, SMART survey

84: Genomic Evidence of Cross Host Transmission of ESBL Producing Escherichia coli Between Livestock and Abattoir Workers in Ghana

FREDERICK OBENG AMOAH, Sylvester Chinbuah, Benjamin Apagya Mensah, Solomon Asante Sefa, Ebenezer Kofi Mensah

Sekondi Public Health Laboratory, Sekondi-Takoradi, Ghana

Background: Extended spectrum beta-lactamase-producing Escherichia coli (ESBL-E. coli) is an increasing public health concern because resistance to third-generation cephalosporins limits treatment options and complicates infection prevention. Abattoirs may serve as important points for transmission between animals and humans. This study assessed the prevalence, risk factors, and genomic evidence of transmission of ESBL-E. coli among livestock and abattoir workers (AW) in Ghana.

Methods: A cross-sectional study was conducted from October to November 2024 at the Sekondi-Takoradi abattoir in Ghana. Stool samples were collected from AW, non-abattoir workers (NAW), and livestock. Isolation, identification, and antimicrobial susceptibility testing were performed following 2024 Clinical and Laboratory Standards Institute guidelines. Whole genome sequencing was conducted on 81 isolates to identify resistance genes, determine multilocus sequence types, and assess genetic relatedness using core genome single nucleotide polymorphism analysis. Logistic regression was used to identify factors associated with ESBL carriage at $p < 0.05$.

Results: A total of 729 samples were analysed, including 219 AW, 210 livestock, and 300 NAW samples. ESBL-E. coli carriage was highest among livestock (34.8%), followed by AW (24.2%) and NAW (15.7%). Carriage among AW was significantly higher compared with NAW ($p = 0.005$). Whole genome sequencing identified blaCTXM-15 as the dominant ESBL gene, detected in more than 96% of isolates. Thirty-one sequence types were identified, with ST3580 detected in both livestock and AW. Phylogenetic analysis revealed 6 clusters of closely related isolates shared between humans and animals. Eating at the abattoir during work ($p=0.039$) and knowledge of zoonotic bacterial spread ($p=0.031$) were associated with ESBL carriage.

Conclusion: High faecal carriage of ESBL-E. coli among livestock and abattoir workers, together with genomic evidence of closely related strains across hosts, suggests possible transmission within the abattoir setting. Strengthened infection prevention, workplace hygiene, and antimicrobial stewardship are needed to reduce transmission at the human-animal interface.

Keywords

Escherichia coli; beta Lactamases; Drug Resistance, Bacterial; Zoonoses; Occupational Exposure

85: A Systematic Assessment Of Conditions Targeted In Ghana's Clinical Trials And Their Alignment With National Health Priorities And Disease Burden: Findings From The Itrace-Ghana Project

RICHMOND NKETIA[1,2], Naomi Adotei[3,4], Miranda Abisiba Apo-era[5], Abigail Charity Ekeleba Johnson[6], Latifa Abubakari[1,7], Jumoke Victoria Olorunleke[8], Elliot Tettey Cudjoe Nartey[9], Sheila Agyeiwaa Owusu[10,11]

[1]Sub-Saharan Africa Research for Sustainable Development Project, Berekum, Ghana. [2]HEHTA, School of Health and Wellbeing, University of Glasgow, Glasgow, United Kingdom. [3]Department of Paediatrics, St. Luke Hospital, Kasei, Ghana. [4]Catholic University of Ghana, Sunyani, Ghana. [5]Department of Obstetrics and Gynaecology, Upper East Regional Hospital, Bolgatanga, Ghana. [6]Department of Paediatrics, St. Martin de Porres Hospital, Eikwe, Ghana. [7]Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana. [8]Faculty of Pharmacy, Obafemi Awolowo University, Ile-Ife, Nigeria. [9]Department of Obstetrics and Gynaecology, Manhyia District Hospital, Kumasi, Ghana. [10]Department of Paediatrics and Child Health, University for Development Studies, Tamale, Ghana. [11]London School of Hygiene and Tropical Medicine, London, United Kingdom

Background: Concerns exist about whether clinical trials conducted in low- and middle-income countries (LMICs) truly address their disease burden. As part of a national effort to strengthen Ghana's clinical trial ecosystem, we systematically examined the International Clinical Trial Registry (ICTR) to identify conditions targeted in trials and assess their alignment with the country's health needs.

Methods: We conducted a repeated cross-sectional analysis of the World Health Organisation's (WHO) ICTR through 14 April 2026. Clinical trials recruiting participants in Ghana were extracted from the ICTR Platform. Two reviewers independently screened all records, extracted the condition(s) targeted in each trial, and assigned International Classification of Diseases (ICD)-11 chapter codes. Standard network analysis (degree and strength) and the Louvain algorithm were applied to the data to assess the structure of condition co-occurrence. The results were compared with the 2023 Global Burden of Disease (GBD) disability-adjusted life years (DALYs) and WHO's Current Health Expenditure data (a proxy for national health priority) for Ghana.

Results: Of the 752 records extracted from the ICTR Platform, 589 met our pre-specified eligibility criteria and were analysed. The condition co-occurrence network comprised 250 nodes (conditions) connected by 1 142 edges. Although most conditions did not co-occur in the same trials (density = 0·04), those that did formed well-defined, meaningful clusters (average path length = 3·22). The network was dominated by malnutrition, non-communicable diseases (NCDs), and maternal–child health. Malaria, HIV/AIDS, and tuberculosis were also frequently studied. However, neglected tropical diseases (NTDs), including snakebite and yaws, were seldom addressed in trials.

Conclusion: The findings suggest a general alignment between conditions targeted in trials and Ghana's health needs. However, future clinical trials must prioritise underrepresented NTDs known to be prevalent among people living in impoverished communities in Ghana and populations with less access to healthcare services.

Keywords

Ghana; clinical trials; disease burden; health priorities; iTRACE-Ghana Project

86: Antibiotic Resistance Profile Of Enterobacteriaceae At The National Institute Of Hygiene, Togo, January 2020–February 2025

NORBERT KOWAMI MONDJRO[1,2], Koffi AKOLLY[1,2], Adodo Yao SADJI[3], Christelle NIKIEMA[4], Rebecca KINDE[4,5], Didier Koumavi EKOUEVI[1,2]

[1]Centre de Formation et de Recherche en Santé Publique-University of Lome, Lome, Togo. [2]West African Field Epidemiology and Laboratory Training Program, Lome, Togo. [3]Institut National d'Hygiene, Togo, Lome, Togo. [4]Ministry of Health, Togo, Epidemiological Surveillance Division, Lome, Togo. [5]AFENET, Togo, Lome, Togo

Background: Antimicrobial resistance constitutes a silent, unreported pandemic that undermines the effectiveness of antibiotic therapy. This study aims to determine the antibiotic susceptibility profile of Enterobacteriaceae to help update treatment protocols

Method: This was a descriptive cross-sectional study of antibiotic susceptibility test reports for Enterobacteriaceae strains isolated from biological samples at the INH bacteriology laboratory from January 2020 to February 2025. Using R software, resistance rates were estimated with a 95% confidence interval (95% CI).

Results: A total of 22,960 samples were analyzed at the bacteriology laboratory. Urine and pus samples were predominant, accounting for 75.04% and 16.5% of the total, respectively. Cultures were positive for 3,198 samples, including 2,128 Gram-negative bacterial strains and 1,070 Gram-positive bacterial strains. Enterobacteriace (66.5%) and Staphylococcaceae and Streptococcaceae (33.5%). Escherichia coli was resistant to piperacillin at rates of 85.36%, 82.5%, 66.67%, 68.0%, and 100%, respectively, from 2020 to 2024. This represents an acquired resistance rate of 14.36%. Trimethoprim/sulfamethoxazole resistance was 80.95% and 87.96% in 2020 and 2024, respectively; norfloxacin resistance increased by 13.14% between 2020 and 2024. Klebsiella pneumoniae was resistant to ciprofloxacin at 35.7% in 2020 and 40.6% in 2024, and to ofloxacin at 39.2% in 2020 and 40.75% in 2024. Only cefoxitin (90.38%) and imipenem (98.6%) still retain activity against the isolated Enterobacteriaceae strains. The production of penicillinases, extended-spectrum beta-lactamases (ESBL), and carbapenemases was observed in 91.31%, 74.93%, and 0.91% of Enterobacteriaceae strains, respectively.

Conclusion: The phenomenon of antibiotic resistance is real, with only a small proportion of Enterobacteriaceae strains isolated at the INH still susceptible to antibiotics. Extending this study to several healthcare facilities in Togo and communicating with infectious disease specialists are essential to help adapt treatment protocols for infections.

Keywords

Antimicrobial, Resistance, Togo, Public Health.

91: Perfil Da Resistência Antimicrobiana No Hospital Batista De Sousa, Cabo Verde: Uma Análise Da Vigilância Laboratorial Em 2023Autores E Filiação

MARIA DA LUZ LIMA MENDONÇA[1], Vera Rodrigues[2], Janilza Silva[1], Flávia Semedo[3], Sarah Mendes[4]

[1]Instituto Nacional de Saúde Pública, Praia, Cape Verde. [2]Ministério da Saúde, Praia, Cape Verde. [3]Escritório da OMS de Cabo Verde, Praia, Cape Verde. [4]Associação Brasileira de Profissionais de Epidemiologia de Campo, Brasília, Brazil

Contexte: A resistência antimicrobiana (RAM) é uma das maiores ameaças à saúde global, comprometendo o tratamento eficaz de infeções bacterianas e aumentando a morbilidade e mortalidade hospitalar. Em Cabo Verde, a problemática da resistência aos antimicrobianos ainda constitui um desafio para a saúde pública

Objetivos: Caracterizar o perfil de resistência aos antimicrobianos das bactérias isoladas no Laboratório de Microbiologia do Hospital Dr. Baptista de Sousa (HBS) durante o ano de 2023.

Métodos: Estudo descritivo transversal baseado na análise de dados laboratoriais de amostras processados no HBS. A identificação bacteriana e os testes de sensibilidade aos antimicrobianos (TSA) foram realizados seguindo normas internacionais. Foram analisadas as frequências de isolamento e as taxas de resistência para os principais grupos de antibióticos.

Resultados: foram realizadas 2848 TSA, de 5 tipos de amostras, das quais foram 940 resultados resistentes. Destes, a Escherichia coli e o Staphylococcus aureus foram os agentes patogénicos com maior frequência sendo, respetivamente, 773 (82.23%) e 76 (8.08%). Ambos mostraram maior frequência na faixa etária dos 55 aos 74 anos. Das 773 resistências identificadas para a Escherichia coli, 37 amostras, todas de urina, mostraram multirresistência para Ampicilina, Ciprofloxacino, Ceftriaxone, Gentamicina e Cotrimoxazole.

Conclusão: O perfil de resistência observado no HBS em 2023 sublinha a necessidade urgente de implementar um sistema robusto de vigilância da resistência aos antimicrobianos. Este estudo fornece contribuições importantes para a atualização e implementação de protocolos de tratamento a nível do hospital e quiçá a nível nacional e que ajudam a controlar este problema no país.

Keywords

Resistência Antimicrobiana, Vigilância laboratorial, Multiresistência, Cabo Verde,

92: Prevalence And Severity Of Preoperative Anxiety In Patients Undergoing General Surgery At The University Of Ghana Medical Center

AUGUSTINE KUMI[1], Augustine Tandoh[2], Fareeda Brobbey[3], Daniel Freeman Owusu Ansah[3]

[1]Ghana Health Serrvice, Ahafo, Ghana. [2]University of health and allied sciences, Ho, Ghana. [3]University of Ghana Medical Center, Accra, Ghana

Background: Preoperative anxiety is a pervasive clinical challenge that can precipitate physiological complications, exacerbate postoperative pain, and delay recovery. At the University of Ghana Medical Centre (UGMC), understanding the epidemiological burden and drivers of this anxiety is vital for optimizing perioperative protocols and patient outcomes. This study aimed to determine the prevalence, severity, and contributing risk factors of preoperative anxiety among general surgery patients.

Methods: A descriptive cross-sectional survey was conducted among 148 patients undergoing elective and emergency general surgical operations at UGMC. Preoperative anxiety was assessed using the validated Hamilton Anxiety Rating Scale (HAM-A), alongside a structured questionnaire evaluating patient-centric sociodemographic and clinical factors.

Results: A significant majority of patients (81.1%) experienced preoperative anxiety. Among those anxious, mild anxiety was the most prevalent manifestation, affecting 78.4% (n = 116) of patients. Female patients exhibited a significantly higher risk of experiencing preoperative anxiety compared to males (88% vs. 74%, $P < 0.029$). Bivariate analysis identified severe post-surgery pain expectations, lack of preoperative procedural awareness, and larger family sizes as statistically significant contributors to elevated anxiety scores.

Conclusion and Public Health Implications: Preoperative anxiety represents a highly prevalent yet addressable public health concern at major referral facilities. These findings highlight a critical need to design and implement targeted, gender-sensitive preoperative counseling and robust patient-education frameworks. Addressing modifiable drivers, such as procedural awareness and pain management expectations, can significantly mitigate patient anxiety, reduce surgical complications, and optimize institutional healthcare delivery efficiency in Ghana.

Keywords

Preoperative, General surgery, UGMC, HAM-A

94: Determinants Of Tuberculosis Medication Non-Adherence Among Patients Receiving Treatment At Nsawam Government Hospital, Ghana, A Cross-Sectional Study.

ESTHER TAKYIWAAH PREMPEH

Ghana Institute of Management and Public Administration, Accra, Ghana

Background: Tuberculosis (TB) remains a major public health challenge globally, particularly in low- and middle-income countries where poor medication adherence contributes to treatment failure, relapse, prolonged infectiousness, and drug resistance. In Ghana, medication non-adherence among TB patients continues to undermine disease control efforts despite the availability of effective treatment. This study assessed the determinants of TB medication non-adherence and associated complications among patients receiving treatment at Nsawam Government Hospital in Ghana.

Methods: A cross-sectional study was conducted among 277 adult TB patients receiving care at Nsawam Government Hospital. Participants were selected using random sampling techniques. Structured questionnaires were used for data collection, and data were analyzed using STATA version 17.0. Descriptive statistics, chi-square tests, and binary logistic regression analyses were performed at a 95% confidence interval to determine factors associated with medication non-adherence.

Results: The mean age of participants was 37.6 ± 11.2 years, and 63.9% were females. The prevalence of medication non-adherence was 36.1%. Significant determinants of non-adherence included low income (p=0.023), occupation (p=0.023), and the presence of complications (p=0.002). Patients with complications were nearly three times more likely to be non-adherent (aOR=2.81, p<0.001), while low-income patients had higher odds of non-adherence (aOR=8.85, p=0.013). Joint pains (85.3%) and spinal pain (59.0%) were the most commonly reported complications.

Conclusion: Medication non-adherence remains a significant challenge among TB patients at Nsawam Government Hospital. Strengthening adherence monitoring systems, patient education, counseling services, and socioeconomic support interventions may improve treatment outcomes and reduce treatment-related complications. Public health stakeholders should prioritize targeted adherence support strategies to enhance TB prevention and control efforts in Ghana.

Keywords

Tuberculosis, Medication adherence, Non-adherence, Treatment outcomes, patient compliance

96: Factors Associated With HIV Sero-Status Disclosure Among People Living With HIV In La-Nkwantanang-Madina Municipality, Ghana (2024)

ROSALINE DAPILAH[1], Eunice Baiden-Laryea[2], Magdalene Akos Odikro[1], Charles Lwanga Noora[1], PRISCILLIA AWO NORTEY[1]

[1]University of Ghana, School of Public Health, Accra, Ghana. [2]Center for Disease Control, Accra, Ghana

Background: HIV sero-status disclosure among people living with HIV (PLHIV) is essential for partner support, adherence, and linkage to prevention and care services, but is often hindered by stigma and social concerns. Clinic records from Pentecost Hospital indicated that only 4% of 494 clients receiving antiretroviral therapy (ART) had documented HIV sero-status disclosure in 2023. This study assessed factors associated with HIV sero-status disclosure among PLHIV attending Pentecost Hospital in the La-Nkwantanang-Madina Municipality (LaNMMA), Greater Accra Region, Ghana.

Methods: A facility-based cross-sectional study was conducted among PLHIV aged ≥18 years attending the ART clinic at Pentecost Hospital. Proportionate stratified random sampling was used to ensure representation of both sexes, and participants were selected using simple random sampling within strata. HIV sero-status disclosure was defined as self-reported voluntary disclosure of one's HIV-positive status to another person. Data were collected using a pretested structured questionnaire covering socio-demographic, community, and health facility factors. Descriptive statistics and binary and multivariable logistic regression were used to identify factors associated with disclosure.

Results: A total of 232 PLHIV participated in the study. The prevalence of HIV sero-status disclosure was 52.2% (121/232; 95% CI: 45.8%–58.6%). Married participants had higher odds of disclosure compared to single participants (OR = 2.64; 95% CI: 1.45–4.93; p = 0.002). Participants earning GH₵500–GH₵1000 monthly had lower odds of disclosure compared to those earning <GH₵500 (OR = 0.23; 95% CI: 0.05–0.85; p = 0.039). Participants who disagreed with discussing HIV-related issues within the community had lower odds of disclosure (OR = 0.26; 95% CI: 0.11–0.57; p = 0.001).

Conclusion: Slightly over half of PLHIV disclosed their HIV sero-status. Marital status, income level, and community perceptions were significantly associated with disclosure, while health facility-related factors were not.

Keywords

Keywords: HIV sero-status disclosure, antiretroviral therapy, stigma

97: Prostate Cancer Knowledge And Screening Uptake Among Military Personnel In Ho Municipality, Ghana

SEIBA HARUNA NDEOGO, FATAWU TAMBUGA YAKUBU, ERIC OSEI

UNIVERSITY OF HEALTH AND ALLIED SCIENCES FRED N. BINKA SCHOOL OF PUBLIC HEALTH, HOHOE, HO, Ghana

Background: Prostate cancer remains one of the leading causes of cancer morbidity and mortality among men globally, with a rising burden in Sub-Saharan Africa, including Ghana. Despite the benefits of early detection, screening uptake remains low among military personnel. This study assessed knowledge and factors associated with screening uptake of prostate cancer among military personnel in Ho Municipality, Ghana.

Methods: A cross-sectional study was conducted among 268 male military personnel in the 7 Garrisons of the Ghana Armed Force using Stratified random sampling. Data were collected using a structured questionnaire adapted from the WHO STEPS through Kobo Collect. Descriptive statistics and binary logistic regression analyses were performed using STATA version 17.0 to determine factors associated with prostate cancer screening uptake at a 95% confidence interval and $p<0.05$.

Results: The results show that 57.8% of participants had poor knowledge of prostate cancer, while 22.0% had ever undergone prostate cancer screening. The most common barriers to screening were lack of time (30.8%), perceived low risk (20.3%), and cost of screening (9.0%). More than half (55.6%) of respondents had multiple prostate cancer risk factors, including overweight/obesity, alcohol use, and physical inactivity. Multivariable logistic regression shows that participants aged 40–58 years were ten times more likely to undergo screening compared to those aged 22–30 years (AOR=10.8; 95% CI: 1.63–72.02). Participants with good knowledge of prostate cancer were also nearly three times more likely to screen (AOR=2.6; 95% CI: 1.20–5.88).

Conclusion: This study found that prostate cancer knowledge and screening uptake were low among military personnel. Factors associated with knowledge and screening uptake included lack of time, poor awareness, and cost. To achieve Sustainable Development Goal 3 (Good Health and Well-being), the Ghana Armed Forces should implement targeted health education, routine and affordable screening, and workplace-friendly services for military personnel.

Keywords

Prostate cancer; Knowledge; Screening uptake; Military personnel; Ghana

99: Mpox Transmission In Zambia, 2025: Evidence Of Household And Community Spread And Implications For The Clade Ib Response In Southern Africa

BRYSON MUSONDA

World Health Organization, Lusaka, Zambia

Background: The 2022–2023 global mpox outbreak was largely characterised by clade IIb transmission through sexual networks, predominantly among men who have sex with men. It remains unclear whether this profile applies in southern African settings bordering the Democratic Republic of the Congo (DRC), where clade Ib transmission is ongoing. We analysed Zambia's 2025 mpox epidemic to assess whether the expected clade IIb transmission pattern holds in this context.

Methods: We analysed national weekly mpox surveillance data for epidemiological weeks 1–52, 2025, including 2,094 suspected and 374 confirmed cases. Disease burden, demographic characteristics, spatial distribution, and predictors of provincial case counts were assessed using descriptive statistics, Moran's I, negative binomial panel regression, and time-varying reproduction number (Rt) estimation.

Results: Zambia recorded 374 confirmed cases and three deaths (case fatality ratio 0.8%; 95% CI 0.17–2.33%), with an attack rate of 1.90 per 100,000 population. The sex ratio was nearly balanced (male-to-female ratio 1.04:1), and children under 15 years accounted for 33.4% of cases, strikingly different from the <1% paediatric burden seen in high-income clade IIb settings. Transmission remained sustained at endemic intensity throughout the year (mean Rt 1.26–1.37). Muchinga Province had the highest burden (10.8 per 100,000; IRR 6.38, 95% CI 3.44–11.84; $p < 0.001$). Spatial autocorrelation was significantly negative (Moran's I = −0.349; $p = 0.024$), indicating geographically dispersed rather than clustered spread.

Conclusion: The observed pattern is more consistent with household and community transmission than with sexual network-driven spread. These findings highlight the need for household-targeted ring vaccination, strengthened provincial surveillance, and genomic sequencing, and provide important evidence for the ongoing clade Ib preparedness response in southern Africa.

Keywords

Mpox; Zambia; Household transmission; Spatial epidemiology; Clade Ib preparedness

100: Influência Do Programa Alargado De Vacinação (PAV) Na Incidência De Doenças Preveníveis Em Crianças Menores De 5 Anos Em Cabo Verde (2018-2022).

VANESSA DOS SANTOS BESNA

Ministério da saúde, São Filipe, Cape Verde

Contexte: A vacinação constitui uma das intervenções de saúde pública mais eficazes, cruciais na prevenção de doenças infecciosas graves e com impacto direto na melhoria dos indicadores de saúde globais. Em Cabo Verde, o Programa Alargado de Vacinação (PAV), iniciado após a independência, tem sido fundamental no combate à elevada morbimortalidade por doenças evitáveis, alcançando marcos como a certificação de país livre da poliomielite.

Objetivo: Analisar a influência da vacinação na redução da incidência de doenças preveníveis por vacinação (DPV) em crianças menores de 5 anos em Cabo Verde, no período de janeiro de 2018 a janeiro de 2022.

Métodos: Consiste em um estudo observacional, descritivo ecológico e de abordagem quantitativa, baseado nos dados do PAV.

Resultados: Demonstram que Cabo Verde mantém ausência de epidemias, zero casos e zero óbitos por DPV desde a epidemia de rubéola em 2008. No período analisado, o país desenvolvido e manteve taxas de cobertura vacinal consistentemente acima de 95% para todos os antígenos.

Conclusão: A proposta estratégica do PAV e a manutenção de altas taxas de coberturas vacinais (acima de 95%) foram cruciais para a eliminação e controle do DPV, contribuindo de forma significativa para o sucesso em indicadores de saúde como a redução da mortalidade infantil e o aumento da esperança de vida no país.

Keywords

Vacinas; Doenças preveníveis por vacinação; Cobertura vacinal; Programa Alargado de Vacinação

102: Human Rabies Following Failure To Access Post-Exposure Prophylaxis: An Outbreak Investigation In Monze District, Zambia, 2025

HOPE CHISANGA[1,2,3,4], William Nsemani[1,2,4], Cheepa Haabeenzu[1,2,4], Mwatisausa Zulu[1,5], Moobola Habwanda[5], Gocho Kapoba[5], Brian Habasimbi[4], Callistus Kaayunga[4], Dabwitso Banda[1,2], Nyambe Sinyange[1,2] [1]Zambia National Public Health Institute, Lusaka, Zambia. [2]Zambia Field Epidemiology Training Program, Lusaka, Zambia. [3]University of Zambia, Lusaka, Zambia. [4]Southern Provincial Health Office, Choma, Zambia. [5]Monze District Health Office, Monze, Zambia

Introduction

Dog-mediated rabies causes an estimated 59,000 deaths annually, with sub-Saharan Africa bearing the heaviest burden. Post-exposure prophylaxis (PEP) prevents death if given promptly. Despite the availability of effective PEP, human rabies deaths continue to occur due to delayed care-seeking, vaccine shortages, and weak One Health coordination. We investigated a laboratory-confirmed human rabies death in Monze District to describe the case, assess 7-1-7 compliance, evaluate dog vaccination coverage, and identify barriers to PEP access.

Methods

We conducted a mixed-methods investigation involving medical record review, laboratory testing, stakeholder interviews, focus group discussions, geospatial analysis, and assessment of the 7-1-7 framework.

Results

A 15-year-old male was bitten by an unidentified stray dog on 27 November 2025 and presented to Makonka Rural Health Centre that day. The patient did not receive wound cleansing or PEP because of district-wide vaccine stock-outs despite presenting to a health facility on the day of exposure. The family applied traditional remedies for 18 days. He was admitted to hospital with encephalitis on 21 December and died on 30 December 2025, 33 days after the bite. Detection was 24 days after exposure, notification was outside the 1-day target and response actions were initiated within five days. Only 662 of an estimated 20,000 dogs (3.3%) had been vaccinated, substantially below the WHO target of 70%. The District Anti-Rabies Task Force constituted in November 2025 had not convened by April 2026.

Conclusions

This preventable rabies death resulted from missed opportunities for wound management, lack of PEP availability, and weak implementation of district-level One Health response mechanisms. Three priority actions may prevent further rabies deaths: stocking PEP at rural health centres, conducting emergency ring dog vaccination within 5 km of confirmed exposures, and convening the multisectoral anti-rabies task force under district-level One Health leadership.

Keywords

Rabies; Post-exposure prophylaxis; One Health; 7-1-7 framework; Zambia

103: Dengue Fever Outbreak Investigation In Kadjebi District, Ghana 2024

LAMBERT NYAMEKYE ASAMOAH[1], John Sonnyinado Duako Baffoe[2,3], Mawuli Gohoho[4,2], Thomas Vigbedor[3,2], Eric Takyi[1], Emmanuel Agbodogli[1], Derrick Jack Atitsu[1], Vida Koma[1], , Charles Gedzeah[1]

[1]1.Kadjebi District Health Directorate, Ghana Health Service, Kadjebi, Ghana, Kadjebi, Ghana. [2]4.Ghana Field Epidemiology and Laboratory Training Programme, Ghana, Accra, Ghana. [3]2.Oti Regional Health Directorate, Ghana Health Service, Worawora, Ghana, Worawora, Ghana. [4]3.Jasikan Municipal Health Directorate, Ghana Health Service, Jasikan, Ghana, Jasikan, Ghana

Background: Dengue fever is an arboviral disease transmitted by Aedes mosquitoes and is increasingly recognized in tropical areas where clinical overlap with malaria complicates diagnosis. In July 2024, two confirmed dengue cases were notified in Kadjebi District, Ghana, prompting a field outbreak investigation to confirm, characterize the outbreak, and guide control measures.

Methods: A descriptive outbreak investigation was conducted using line list data, active case search, and environmental assessment. Suspected cases were defined as residents of the district presenting with acute febrile illness of 2–7 days' duration with at least two compatible symptoms from July 1, 2024, to August 16, 2024. Serum samples were tested using rapid antigen detection and serological assays (IgM and IgG). Descriptive analysis summarized person, place, and time characteristics.

Results: A total of 62 suspected cases were identified, with a median age of 19 years (IQR: 5–58); 54.8% were female. Farmers (48.4%) and students (24.2%) were the most affected groups. Only 9.7% of cases were IgG positive, while all samples tested negative for antigen and IgM. The epidemic curve showed a sharp rise in early August 2024, followed by a rapid decline. Environmental assessment for 60 households identified multiple potential Aedes breeding sites, including discarded tyres 18(30%), natural water-holding sites 14(23.3%), blocked gutters 10 (16.7%), and uncovered water containers 7(11.7%).

Conclusion: The investigation identified a cluster of past infections of dengue fever illness in Kadjebi district with ecological conditions favorable for Aedes breeding. However, laboratory findings did not indicate acute dengue infection. Integrated vector control and household environmental sanitation targeted at elimination of mosquito breeding sites, alongside improved surveillance is recommended to prevent potential dengue transmission.

Keywords

Dengue-like illness, Outbreak investigation, Kadjebi District, Aedes mosquito, Acute febrile illness

104: Delayed Cgas-STING Activation Facilitates Intracellular Survival Of *Salmonella* Typhimurium ST313 In Iron-Stressed Macrophages

DERRICK DAAH[1,2], Samuel Duodu[1,2], Yaw Aniweh[1,2]

[1]University of Ghana, Accra, Ghana. [2]West African Center for Cell Biology of Infectious Pathogens, Accra, Ghana

Background: Invasive non typhoidal *Salmonella* (iNTS) serovars cause bloodstream infections predominantly in sub-Saharan Africa. *Salmonella* Typhimurium ST313 accounts for majority of these infections and exhibits enhanced survival in host macrophages, a niche defined by iron limitation which stifles pathogen growth. The cGAS-STING signaling pathway which induces Type-I interferon responses is activated during *Salmonella* infection. Iron overload also activates this pathway linking iron to immune responses. However, the interplay between iron limitation and macrophage cGAS–STING signaling on *Salmonella* intracellular replication remain unexplored

Methods: Growth kinetics of ST313 under iron limitation were determined by measuring absorbance at 600nm for 24 hours in media supplemented with 2,2'-dipyridyl, an iron chelator. Macrophage monolayers pretreated with 600µM 2,2'-dipyridyl were subsequently infected with ST313 (MOI=10). Intracellular viable *Salmonella* bacteria were enumerated at 3 and 24 hours following gentamicin treatment. Total RNAs were extracted for RT-qPCR analysis of ST313 iron-acquisition systems (*entD*, *iroB*, *tonB*, *fur*) and host markers of nutritional and innate immunity (*lcn2*, *cgas*, *sting*, *ifnb1*).

Results: Intracellular infection showed ST313 maintains survival in iron-restricted macrophages. Transcriptional profiling demonstrated downregulation of siderophore-associated genes 3 hours post-infection with selective upregulation of *entD* at 24 hours post-infection. Host responses to iron limitation attenuated nutritional immunity where *lcn2* remained non-differentially expressed during both infection timepoints. Iron stress in uninfected macrophages was associated with *sting* downregulation. However, during infection, the cGAS-STING-IFNB1 axis exhibited delayed activation, with significant upregulation observed only at 24 hours post-infection.

Conclusion: Iron limitation may facilitate ST313 survival in macrophages by inducing selective upregulation of siderophores and attenuation of early host defenses. This highlights vulnerabilities in host nutritional immunity and suggests targeting bacterial iron acquisition systems or restoring host immunity may be better alternative strategies to combat invasive *Salmonella* in at-risk populations. These observations contribute to ongoing efforts towards eliminating *Salmonella* bloodstream infections.

Keywords

Salmonella, ST313, macrophages, iron stress, cGAS-STING

105: Nutritional Knowledge And Dietary Practices Among Women Of Reproductive Age In Agortime Ziope District In Volta Region, Ghana.

IRENE AKORFA AGBEMESLI[1,2], Professor Emmanuel Komla Senanu Morhe[3]

[1]Catholic University of Ghana, Sunyani, Ghana. [2]Ghana Health Service, Agortime Ziope, Kpetoe, Ghana. [3]University of Health and Allied sciences, Ho, Ghana

Background: Maternal nutrition is a major determinant of maternal and child health, and contributes significantly to overall population health outcomes. Dietary practices among women are influenced by nutritional knowledge, socio-demographic characteristics, and cultural beliefs, many of which are modifiable through appropriate interventions. This study assessed nutritional knowledge, dietary practices, and factors associated with healthy dietary practices among women of reproductive age in the Agortime Ziope District.

Methodology: A community-based analytical cross-sectional study was conducted among 400 women of reproductive age selected using a multistage sampling technique. Data were collected using a structured interviewer-administered questionnaire assessing socio-demographic characteristics, nutritional knowledge, and dietary practices. Data were analyzed using SPSS version 25. Descriptive statistics including frequencies, percentages, means, and standard deviations. Composite scores for nutritional knowledge and dietary practices were generated and categorized using median cut-off values. Chi-square tests assessed associations between independent variables and dietary practices, while variables with $p<0.20$ were included in multivariable logistic regression analysis to identify factors associated with healthy dietary practices. Adjusted odds ratios (AORs), 95% confidence intervals (CIs), and p-values were reported.

Results: A total of 400 respondents participated.Their mean age was 27.6 ± 7.3 years. In all 235(58.8%) demonstrated good nutritional knowledge, while 234(58.5%) practiced healthy dietary behaviors. Most respondents recognized the importance of balanced diets and healthy eating. Educational level ($p<0.001$), marital status ($p<0.001$), and occupation ($p<0.001$) were significantly associated with dietary practices. Religion was not significantly associated with dietary practices ($p=0.632$). Multivariable logistic regression identified age as a significant predictor of healthy dietary practices (AOR=1.05; 95% CI: 1.02–1.09; $p=0.001$).

Conclusion: Although most women in this study demonstrated good nutritional knowledge and healthy dietary practices, unhealthy dietary behaviors still existed among a considerable proportion of respondents. Strengthening nutrition education and community-based interventions may improve healthy dietary practices among women of reproductive age.

Keywords

Nutritional knowledge, Dietary practices,Women in reproductive age

106: Coping Mechanisms Among Women Diagnosed With Breast Cancer In West Africa: A Systematic Review

ANTOINETTE AMA AIDOO[1,2], Julie Jones[1], Anthonia Orimolade[1], Minakshi Bhardwaj[1]

[1]University of West London, London, United Kingdom. [2]Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Background: Breast cancer (BC) remains a public health challenge and the leading cause of cancer-related mortality among women globally. Despite the increasing incidence and psychological burden, there is a dearth of literature on coping mechanisms among women diagnosed with breast cancer in West Africa. This systematic review aimed to bridge literature gap and synthesize available evidence on the coping mechanisms adopted by women diagnosed with breast cancer in West Africa.

Methods: This review was conducted in accordance with the 2020 Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. Literature were searched in PubMed, CINAHL, Scopus, Embase, PsycINFO, Web of Science, African Index Medicus, Global Health and Google Scholar, with no language restrictions, to identify studies from 2006 until March 2026. We included articles on coping mechanisms among women diagnosed with BC. The study was registered in the International Prospective Register for Systematic Reviews (**CRD420261329096**).

Results: The search yielded 2,776 documents, 38 full-text papers were retrieved and reviewed, and 16 were included. The study revealed that BC patients in West Africa adopt both adaptive and maladaptive coping mechanisms. Specifically, religious and emotional support were frequently adopted, and planning and positive reframing were the least adopted adaptive coping strategies. Also, self-distraction and denial were the most adopted whilst substance use and self-blame were the least cited maladaptive coping mechanisms.

Conclusion and public health implication: Women with BC in West Africa adopt both adaptive and maladaptive coping mechanisms, with a clear dominance of religious coping and reinforced by emotional support. Maladaptive coping strategies including self-distraction and denial are present but are less central. There is the need for culturally responsive interventions integrating religion and family systems into cancer care. Additionally, oncology services should incorporate routine psychosocial screening, to identify patients relying on maladaptive coping and provide swift assistance.

Keywords

Coping mechanisms; coping strategies; breast cancer survivors; women; cancer care; West Africa

107: Co-Occurrence Of Urogenital Schistosomiasis And Urinary Tract Infections Among Children In A Persistently Endemic Rural Community In Ghana.

PHILIPA POKUAA AGYAKWA

Centre for Research in Applied Biology, Sunyani, Ghana

Background: Urogenital schistosomiasis, caused by *Schistosoma haematobium*, remains a major public health challenge in rural African communities, particularly among children exposed to infested freshwater. Damage caused by schistosome eggs predisposes to bacterial invasion, making urinary tract infections (UTIs) a frequent complication. Overlapping symptoms such as hematuria and dysuria contribute to misdiagnosis and increased morbidity. This study assessed the prevalence, co-infection, and risk factors of schistosomiasis and UTIs among school-aged children in Banda District, Ghana.

Method: A cross-sectional study recruited 410 children aged 2–15 years from four riparian communities. Structured questionnaires were administered to gather demographic, environmental, and behavioural information. Midstream urine samples (15 mL) were collected and examined for S. haematobium ova by microscopy, and dipsticks were used to detect hematuria, proteinuria, and other biomarkers. Parallel cultures on CLED agar identified bacterial isolates associated with UTIs. Data were analysed using descriptive statistics and chi-square tests.

Results: Findings showed that 63.4% of participants were aged 2–9 years, with most relying on river/stream water (66.8%) and engaging in daily water contact (55.9%). Open defecation was common (69.8%), and parental occupations were predominantly fishing (44.6%) and farming (37.8%). Painful urination (64.6%), frequent urination (64.9%), and bathing with dirty water (62.9%) were notable risk factors. Schistosomiasis prevalence was 21.3% among children without bacteriuria but rose to 30.8% among those with UTIs, highlighting significant co-infection.

Conclusion: Unsafe water practices, poor sanitation, and high exposure sustain schistosomiasis and UTIs in Banda. Integrated WASH interventions, routine screening, and combined treatment strategies are essential to reduce disease burden in endemic communities.

Keywords

Ghana, Urogenital Schistosomiasis, Urinary Tract Infection, Schistosoma haematobium

108: Epidemiological Profile Of Measles In The Centrale Region Of Togo From 2016 To 2024

EKOUÉ LAGNON AHATEFOU[1,2], Akawulu N'DJAO[3], Koffi AKOLLY[2,1], Anne THOMAS[2,1], Takpaya GNARO[2,1], Fifonsi Adjidossi GBEASOR-KOMLANVI[2,1], Christelle NIKIEME-PESSINABA[4], Sena FEDA[4], Didier Koumavi EKOUEVI[2,1]

[1]Centre de Formation et de Recherche en Santé Publique (CFRSP), Lomé, Togo. [2]West Africa Field Epidemiology and Laboratory Training Program (WA-FELTP), Lomé, Togo. [3]Direction Régionale de la Santé (DRS), Région Centrale, Sokodé, Togo. [4]Division de la Surveillance Intégrée des Urgences Sanitaires et de la Riposte (DSIUSR), Lomé, Togo

Background : Measles remains a significant public health concern in Togo, with recurring outbreaks persisting despite ongoing vaccination campaigns. This study was conducted to characterize the epidemiological profile of measles cases in the Centrale region between 2016 and 2024, with the aim of contributing to incidence reduction.

Methods : This was a descriptive cross-sectional study based on secondary data from the National Institute of Hygiene of Togo, covering the period from 2016 to 2024.

Results : Of 446 suspected cases reported between 2016 and 2024 with samples collected, 31.2% (139/446) were laboratory-confirmed. Among confirmed cases, the annual incidence rate peaked in 2022 and 2023, reaching 7.5 and 6.8 confirmed cases per 100,000 population, respectively. The average incidence rate over the study period was 1.9 cases per 100,000 population, with the Mô district recording the highest rate at 5.5 confirmed cases per 100,000 population. The median age of confirmed cases was 4 years (IQR: 1–7). Children under 5 years of age were the most affected (59.7%), followed by those aged 5–14 years (34.6%). The sex ratio (male to female) was 0.8. Regarding vaccination status, 62.0% of confirmed cases had an unknown status, and 28.0% had not received any dose of measles vaccine. Suspected cases were reported within 24 hours in 79.3% of cases. Samples were adequate in 71.1% of cases, and laboratory results were available within the recommended timeframe for 39.6% of samples received.

Conclusion : Measles is endemic in the Centrale Region of Togo, predominantly affecting children under 15 years of age. Strengthening vaccination coverage appears essential to reduce incidence.

Keywords

Measles, surveillance, incidence, Centrale Region, Togo.

109: Preparedness Of The Ghana Health Service For Field Epidemiology And Applied Biostatistics: A Systematic Review Of Infectious Disease Surveillance, Outbreak Investigation Methodologies, And Statistical Modeling Capacities In Resource-Limited Settings

VICTOR LUCKYBOY DZRAMADO[1,2,3], Obed U. Lasim[1], William Wilberforce Amoah[2], Samuel Antwi[4], Joana Edem Koto[5]

[1]University of Cape Coast, Cape Coast, Ghana. [2]Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. [3]Cape Coast Teaching Hospital, Cape Coast, Ghana. [4]University of Ghana, Accra, Ghana. [5]Kintampo Health Research Centre, Techiman, Ghana

Background: Infectious disease outbreaks impose a disproportionate burden on resource-limited West African settings, where surveillance capacities frequently fall short of WHO International Health Regulations (IHR) core capacity requirements. Despite sustained investments in field epidemiology training, no comprehensive synthesis of Ghana Health Service (GHS) preparedness across surveillance, outbreak investigation, workforce, and statistical modeling domains existed.

Methods: Following PRISMA 2020 guidelines (PROSPERO: CRD420261299788), we searched PubMed/MEDLINE, African Index Medicus, African Journals Online, and grey literature for studies published January 2010 to April 2026 addressing GHS field epidemiology capacity, IDSR performance, GFELTP outcomes, biostatistical capacity, or surveillance infrastructure. Quality was assessed using design-appropriate tools; results were narratively synthesized against eight IHR core capacity domains.

Results: Thirty-eight studies were included. Ghana's overall IHR core capacity score of 67% positioned it as a regional ECOWAS leader, yet significant domain-specific deficits persisted: laboratory systems (58%) and workforce development (63%) fell below required thresholds. GFELTP produced 52 advanced, 158 intermediate, and 210 frontline graduates from 2007-2017, contributing to 87 documented outbreak investigations, representing 45% of required ECOWAS workforce. Graduate retention reached 68%; however, geographic maldistribution concentrated 30% of advanced epidemiologists in Greater Accra (18% of population), leaving northern regions critically underserved. IDSR and DHIMS2 implementation improved surveillance completeness and timeliness, yet persistent deficits were documented at district and sub-district levels. Biostatistical and epidemic modeling capacity represented the most critical gap, with a complete absence of literature addressing statistical modeling or predictive analytics within GHS.

Conclusion and Public Health Implications: Ghana has made measurable progress in field epidemiology preparedness, though workforce geographic maldistribution, laboratory constraints, and acute deficits in biostatistical capacity limit IHR compliance. Targeted investment in equitable workforce deployment, GFELTP scale-up with mandatory service incentives, and dedicated biostatistics training are urgently required to achieve sustainable epidemic preparedness in Ghana and comparable resource-limited African settings.

Keywords

Epidemic preparedness; applied biostatistics; health systems strengthening; IHR core capacities

110: Spatial Impact Of Larviciding In The Control Of Malaria Incidence Among Persons Aged 5years And Above In Bono Region, Ghana

EMMANUEL GEORGE BACHAN[1], Martin Nyaaba Adokiya[2], Charles Tobin-West[3]

[1]Bono Regional Health Directorate, Ghana Health Service, Sunyani, Ghana. [2]School of Public Health, University for Development Studies, Tamale, Ghana. [3]3School of Public Health, University of Port Harcourt, Portharcourt, Nigeria

Background: Malaria remains a major public health challenge in Ghana's Bono Region, with persistent transmission gaps despite conventional malaria control interventions. While larviciding shows promise, its localized impact on transmission hotspots remains inadequately quantified. This study evaluated its effectiveness in reducing malaria incidence among individuals aged ≥5 years, emphasizing the role of spatial surveillance in guiding targeted malaria control efforts.

Methods: A quasi-experimental study with a control group was conducted using a multi-stage sampling technique to select participants for the household malaria incidence survey. Within a quasi-experimental design, we compared an intervention district (with larvicide intervention) and a control district (without larvicide intervention).Data were collected via household malaria surveys in 2024 using structure questionnaire. Additionally, health facility monthly malaria records were reviewed and extracted from the DHIMS database from 2020 to 2023. Spatial analysis using SaTScan and QGIS was conducted to map positive malaria cases and population density, evaluate the intervention's geographic impact on hotspot formation, and guide resource allocation.

Results: SaTScan analysis identified four statistically significant malaria clusters (all with p=0.001) in control sub-districts. In contrast, intervention sub-districts exhibited no significant hotspots (p=0.1 - 0.8), demonstrating that larvicide intervention contributed to disrupting localized malaria transmission patterns.

Health facility records post-intervention indicated 80% of sub-districts in the intervention district reported low (50-99 cases) per 1000 population, compared to only 25% of sub-districts in the control district.

Conclusion: Larviciding was spatially effective, averting transmission hotspots in the intervention district compared to the control district. Integrating routine spatial surveillance in larviciding enhances precision in vector control, supporting the adoption of comprehensive, geographically informed integrated vector management frameworks. Strengthening digital surveillance is essential for sustained impact and accelerated malaria elimination.

Keywords

Spatial surveillance, Larviciding, Malaria control, Incidence, Bono Region, Ghana

114: Determinants Of Vaccination Dropout Between PENTA1 And RR Among Children Aged 0–11 Months In Boundiali, Northern Côte d'Ivoire, 2025

DAMUS PAQUIN KOUASSI[1,2], Kmaon Landry[1], Soumahoro Sory Ibrahim[1,2], Kouamé Arsène Déby[1,2], Oussou Roland[1,2], Ahoussou Eric Martial[3,4], Sanogo Salifou[1,2], Irika Opri[1,2], Yao Gnissan Auguste[1,2], Douba Alfred[3,4], Fifonsi Gbeasor-Komlanvi[5], Akolly AKOLLY[5], Tiokang Arnold SADIO[5], Koumavi EKOUEVI[5]

[1]Alassana Ouattara University, Bouaké, Côte d'Ivoire. [2]National Institute of Public Hygiene, Bouaké, Côte d'Ivoire. [3]Félix Houphouet Boigny University, Abidjan, Côte d'Ivoire. [4]National Institute of Public Hygiene, Abidjan, Côte d'Ivoire. [5]Lomé University, Lomé, Togo

Background: Vaccination is essential for child health and contributes to the Sustainable Development Goals. Despite progress, many children remain incompletely vaccinated, particularly in Africa, especially in rural areas. Paradoxically, in Boundiali, the vaccination dropout rate between PENTA1 and RR reaches 24.53% in urban areas compared to 10% in peri-urban areas. This study therefore sought to identify community determinants associated with vaccination dropout in Boundiali.

Methods: A descriptive and analytical cross-sectional study was conducted in households in Boundiali among mothers of children aged 12 to 23 months, the age by which all EPI vaccines should have been received. Data collected through face-to-face interviews using a questionnaire were analyzed using SPSS version 20.0 software.

Results: A total of 210 mothers of children aged 12 to 23 months, of whom 55% were male, were interviewed. The vaccination dropout rate between PENTA1 and MR was 43%. Vaccination dropout was associated with lack of father's permission before vaccination (aOR = 6.04, p = 0.049), not owning a television (aOR = 4.20, p = 0.040), lack of knowledge about the age for MR vaccination (aOR = 18.18, p = 0.000) and about vaccine-preventable diseases including diphtheria (aOR = 4.80, p = 0.029), meningitis (aOR = 6.46, p = 0.011) and yellow fever (aOR = 6.4, p = 0.011), as well as mistrust of vaccination (aOR = 4.78, p = 0.029).

Conclusion: These findings highlight the need to strengthen communication and health education strategies, particularly targeting fathers and populations with limited access to mainstream media. Action aimed at building vaccine confidence and providing information on vaccine-preventable diseases could significantly reduce vaccination dropout.

Keywords

Vaccination dropout, Associated factors, Vaccine knowledge gap, Vaccine mistrust, Boundiali

115: Casos De Hidatidose Em Bovinos Na Zona Sul De Moçambique, 2020 – 2025

ANTÓNIO FRANCISCO DA SILVA SUMBANA[1], Cristolde Salomão[2], Édice Mandua[2], Dercilia Arone[1], Zacarias Massicame[1], Auria Banze Banze[2]

[1]Ministry of Agriculture, Environment and Fisheries: National Directorate of Health and Biosafety; Department of Animal Health, Maputo, Mozambique. [2]National Health Institute, Marracuene, Mozambique

Contexte: A hidatidose é uma zoonose negligenciada, causada por *Echinococcus granulosus*, parasita os hospedeiros intermediários e afecta o fígado, pulmões, rins e o cérebro. Segundo a OMS, 19.300 pessoas morrem anualmente no mundo devido à doença . No sul de Moçambique, a prevalência foi de 3,9% em bovinos e 2,9% em suínos. O objectivo foi descrever os casos de hidatidose em bovinos na zona sul de Moçambique de Janeiro de 2020 a Junho de 2025.

Metodologia: Realizou se um estudo descritivo nas províncias de Maputo, Gaza e Inhambane. Consideraram-se casos, todos os animais abatidos nos matadouros com presença de *cistos hidáticos* no fígado, rins e pulmões na inspecção *post-mortem,* registados no Sistema do Ministério da Agricultura, Ambiente e Pescas. Foram calculadas as proporções de casos positivos, do número de casos positivos sobre o total de animais abatidos, e a prevalência calculando o total de casos sobre a população de bovinos.

Resultados: No período em análise, foram registados 1.424 casos nas províncias em análise, 84,8% (1208/1424) em Gaza, 10,9% (147/1424) em Inhambane e 4,3% (61/1424) em Maputo. Quanto à distribuição anual, 2023 registou 29,4% (419/1424) dos casos; Em 2022 a prevalência de casos em Chicualacuala foi de 0,27% (120/44878) , seguidos de Mapai com 0,24% (107/44888), em 2023 a prevalência em Chicualacuala foi de 0,34% (152/49060) e Mapai 0,26% (123/47534). Registaram-se perdas de 800kg de fígado, 200kg de pulmão e 150kg de rins devido às rejeições parciais ou totais durante a inpecção *post-mortem*.

Conclusão: A inspeção post-mortem identificou uma alta taxa de hidatidose em Gaza, nos distritos de Chicualacuala e Mapai. Sendo uma zoonose, é necessário implementar programas de vigilância e rastreio de casos em humanos nas comunidades com registo de casos através da colaboração interinstitucional, no âmbito do conceito de Saúde Única (One Health), para o controlo efectivo da doença.

Keywords

Palavras Chaves: Hidatidose; Casos em bovinos; Províncias; Saúde Única; Moçambique

117: Vaccination Effective Coverage In Ghana, 2014 And 2022: A Cascade Analysis Of Card-Confirmed And Extended Schedule Coverage In Children Aged 12–23 Months

MATTHEW KONLAN[1], Hilarius Asiwome Kosi Abiwu[2], Rajan Bhandari[1], Timothy Roberton[1]

[1]The University of Western Australia, Perth, Australia. [2]Ghana Health Service, Tamale, Ghana

Background: The COVID-19 pandemic caused significant disruption to routine childhood immunisation. However, standard coverage estimates that combine all data sources may mask gaps in documentation quality. This study applies an effective coverage cascade that distinguishes between card-confirmed and any-source vaccination to assess changes in full-schedule coverage and equity in Ghana between 2014 and 2022. Additionally, we evaluated the additional coverage cost associated with the expanded 2022 immunisation schedule.

Methods: We analysed children's recode data from the Ghana Demographic and Health Surveys for 2014 (n = 1,171) and 2022 (n = 2,021), focusing on children aged 12–23 months. A seven-step cascade was constructed using DCF-verified mappings. Primary outcomes were full-schedule coverage by any source and by card confirmation, stratified by wealth quintile, residence, and region. Survey-weighted estimates were calculated using Taylor series linearisation.

Results: Card-confirmed full-schedule coverage declined from 76.5% (95% CI: 72.8–80.1%) in 2014 to 71.6% (69.0–74.1%) in 2022 (−4.9 percentage points). Measles 1 showed the largest single-antigen decline (−2.9 points). Although the national documentation gap was small (2.4 points), it masked a major equity shift. Coverage was nearly uniform in 2014 (poorest: 78.0%; richest: 74.7%), but by 2022 a 15.9-point disparity emerged (poorest: 64.5%; richest: 80.4%). Regional variation was substantial (52.0% Northern vs 85.6% Western North). Including the expanded 2022 schedule reduced coverage further to 68.7%.

Conclusions: Ghana maintained high first-dose coverage but experienced declines in full-schedule coverage and a marked rise in wealth-based inequity. Targeted investments in community outreach, especially in disadvantaged regions and among poorer households, are needed to close these gaps.

Keywords

Vaccination; effective coverage; card-confirmed coverage; childhood immunisation; equity; COVID-19

118: Disproportionate Burden Of Cholera In Rural Nampula, Mozambique: Environmental And Demographic Drivers Of Persistent Outbreaks (2022–2024)

ALEX RODRIGUES RODRIGUES MANUEL[1,2], Liliana Cândida Dengo[2], Fabião Edmundo Maússe[2,1], Érika Valeska Rossetto[1], Áuria Ribeiro Banze[1,2]

[1]Field Epidemiology Training Program, Maputo, Mozambique. [2]National Institute of Health, Maputo, Mozambique

Background: Cholera disproportionately burdens low-income countries with inadequate WASH infrastructure, yet the mechanisms driving rural-to-urban transmission remain poorly characterized in sub-Saharan Africa. In Mozambique, Nampula Province sustains endemic cholera amplified by recurrent cyclones and floods. We estimated cholera prevalence and identified environmental, climatic, and sociodemographic determinants of infection across urban and rural settings during 2022–2024.

Methods: We conducted a cross-sectional analysis of surveillance data from five sentinel sites across three Nampula districts (January 2022–October 2024), enrolling 1,382 suspected and confirmed cases. Population-weighted prevalence estimates, multivariable logistic regression, time-series (ARIMA) modeling, cross-correlation, and Granger causality analyses were used to quantify risk factors and characterize spatiotemporal transmission dynamics.

Results: Among 1,382 individuals tested at sentinel sites, 42.3% (n=584) were laboratory-confirmed cholera cases. After applying population weights, rural areas bore substantially higher prevalence (34.7%; 95% CI: 32.1–37.4%) versus urban settings (6.1%; 95% CI: 5.0–7.3%). Children aged 5–14 years had nearly three-fold higher odds of infection (AOR = 2.94; 95% CI: 1.98–4.37). Rural WASH deficits were extreme: 96.8% did not treat drinking water, 46.9% used unimproved latrines, and 37.1% had no toilet facility. Granger causality analysis confirmed that rural outbreaks preceded urban surges by 2–4 weeks, indicating directional rural-to-urban spread. Rainfall was a significant driver of rural transmission ($p<0.001$) but not urban ($p=0.096$).

Conclusion and Public Health Implications: Cholera in Nampula disproportionately afflicts rural communities and propagates to urban centers weeks later. Evidence-based priorities include rural-first WASH investment, targeted oral cholera vaccination, and rainfall-sensitive early warning systems capable of triggering pre-emptive urban responses — a model transferable across endemic provinces in Africa.

Keywords

Cholera; Water Supply; Sanitation; Rural Population

120: Evaluation Of The Syphilis Surveillance System Among Pregnant Women At Their First Antenatal Care Visit In The Maritime Region, Togo, 2025

SEDEGNAN KOUDJO ABRAHAM[1], AMENYIDO Ablagan Nyameko[2], AKOLLY Koffi[3,4], THOMAS Anne[3,4], EKOUEVI Didier Koumavi[3,4]

[1]West Africa Field Epidemiology and Laboratory Training Program, Lomé, Togo, Lomé-Kpogan, Togo. [2]Centre Hospitalier Préfectoral d'Aného, Aného, Togo, Aneho, Togo. [3]West Africa Field Epidemiology and Laboratory Training Program, Lomé, Togo, Lomé, Togo. [4]Centre de Formation et de Recherche en Santé Publique, Lomé, Togo, Lomé, Togo

Background: Syphilis remains a public health concern in sub-Saharan Africa due to its impact on maternal and neonatal morbidity and mortality. The objective of this study was to evaluate the performance of the syphilis surveillance system among pregnant women attending their first antenatal care visit (ANC1) in 2025 in the Maritime Region of Togo.

Methods: A descriptive cross-sectional study was conducted from August 18 to 30, 2025, in the Maritime Region of Togo. It combined a documentary review, analysis of routine data from the DHIS2 platform, and interviews with surveillance stakeholders. System performance was assessed using the following attributes : simplicity, acceptability, representativeness, stability, responsiveness, and usefulness.

Results: A total of 46 participants were included, of whom 43 were female. The median age was 37 years [IQR: 28–44]. The surveillance system was rated as highly simple at 91.6%, with strong understanding of case definitions, use of the HIV/syphilis rapid test, and systematic screening at ANC1. Acceptability was very high (100%), reflecting strong provider adherence to screening and reporting. The system was representative (79.1%). Stability was moderate (61.5%), mainly affected by challenges related to supply management and connectivity. Responsiveness was overall satisfactory (77.0%), with early screening of pregnant women, although partner screening and treatment coverage remained low. The system proved useful (93.2%), particularly in generating information for epidemiological monitoring and decision-making.

Conclusion : The syphilis surveillance system demonstrates overall acceptable performance, although there is still room for improvement. strengthening resources, training, and indicator monitoring is essential to enhance its effectiveness.

Keywords

Pregnant women, syphilis, surveillance, Maritime Region, Togo

123: Evaluation Of The Human Rabies Surveillance System In The Plateaux-Est Region In 2024.

WASSIOU LASSISSI[1,2], Rébecca Kinde[3], Kokou Missiaménou[4], Dzifa Nyametso[4], Sanita Lare[5], Koffi Akolly[1,2], Takpaya Gnaro[1,2], Anne Thomas[1,2], Fifonsi Adjidossi Gbeasor-Komlanvi[1,2], Didier Koumavi Ekouevi[1,2]

[1]West Africa Field Epidemiology and Laboratory Training Program (WA-FELTP), Lome, Togo. [2]Centre de formation et de recherche en santé publique (CFRSP), Lome, Togo. [3]Ministère de la Santé, de l'Hygiène Publique, de la Couverture Sanitaire Universelle et des Assurances, Lome, Togo. [4]Direction Régionale de la Santé des Plateaux, Atakpame, Togo. [5]Direction régionale de l'agriculture, de la pêche, des ressources animales et de la souveraineté alimentaires, Région des Plateaux-Est, Atakpame, Togo

Background: Human rabies (HR) is a neglected tropical disease which requires immediate notification. The objective was to evaluate the surveillance system implemented in the Plateaux-Est region in 2024.

Methods: A descriptive cross-sectional study conducted in August 2025 among human and animal health stakeholders. We considered the period from January 1, 2020, to December 31, 2024, to assess simplicity, acceptability, data quality, timeliness, representativeness, and usefulness. A purposive sample allowed us to interview 46 people at different levels of the regional pyramidal structure. The questionnaire was developed using the CDC evaluation guide, considering the level of each stakeholder. Data on human rabies cases were collected from health centers.

Results: We surveyed 45/46 people. The system's guidelines are followed by the actors. This system is simple and acceptable to the actors. However, we noted the absence of a notification form and a line list. The number of HR cases recorded in 2024 is the same in consultation registers, the RMA reports, and the DHIS2. Data validation is carried out with animal health personnel. Fifteen cases of HR were notified immediately by the hierarchy between 2020 and 2024, of which eight cases were investigated within 48 hours in 2024, with reports available. Nine out of fifteen HR cases were men. The 25–34 age group (6/15 cases) was the most represented. Twelve cases of HR (80.0%) came from rural areas. Finally, this system remains useful thanks to the public health measures implemented in the field by various stakeholders.

Conclusion: The human rabies surveillance system is simple, acceptable, responsive, and useful at both health sectors thanks to the achievements of epidemic-prone disease surveillance. It is important to establish a standard notification and investigation form and a line list for human rabies, if possible, for animal bites, and to subsidize the human rabies vaccine.

Keywords

Surveillance, Human Rabies, Togo

124: Assessment of Awareness and Knowledge of Breast and Cervical Cancer Among Female Students at Akwamuman Senior High School, Asuogyaman District, Ghana

EUNICE ASABEA ADDO[1], Godsway Commanda Osei[2], Edward Kofi Sutherland[1]

[1]Ensign Global University, Kpong, Ghana. [2]Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Background: Breast and cervical cancers remain major public health priorities in low- and middle-income countries, where delayed detection and limited preventive knowledge continue to drive avoidable morbidity and mortality among women. School-aged girls represent a critical window for establishing health literacy and preventive behaviors, yet evidence on cancer awareness among school-aged girls in Ghana remains limited. This study assessed awareness and knowledge of breast and cervical cancer among female students at Akwamuman Senior High School in the Asuogyaman District of Ghana.

Methods: A school-based cross-sectional study was conducted among 394 female students aged 13–19 years who were selected through stratified random sampling. Data was collected in August 2025 using a structured pre-tested questionnaire administered via Kobo Collect and analyzed using descriptive statistics, chi-square tests, and logistic regression in STATA 18.

Results: Breast cancer awareness was nearly universal among participants (97.2%); however, only 31.7% demonstrated good knowledge of the disease. Misconceptions were prevalent, most notably the belief that wearing tight bras causes breast cancer, held by 60.9% of respondents. While 69.3% of participants reported knowing how to perform breast self-examination, gaps in preventive literacy remained widespread. Cervical cancer awareness was comparatively lower at 75.4%, and knowledge of key prevention strategies was particularly limited: only 32.5% of participants were aware of HPV vaccination, and 42.4% were knowledgeable about Pap smear screening. Healthcare professionals were identified as the leading source of cancer information among participants. Across both cancers, awareness was strongly and positively associated with knowledge.

Conclusions and public health implications: These findings highlight a critical gap between awareness and actionable cancer knowledge among adolescent girls. Strengthening school-based cancer education and integrating evidence-informed prevention messaging into adolescent health programs could improve early detection, reduce future disease burden, and contribute to non-communicable disease prevention and improved women's health outcomes in Ghana.

Keywords

Breast Cancer; Cervical Cancer; Adolescents, Knowledge, Awareness

126: Knowledge, Attitudes, And Preventive Practices Regarding Trichomonas Vaginalis Infection Among Undergraduate Health Sciences Students In Ghana: A Cross-Sectional Study

CHRISTOPHER YAW DUMEVI[1,2], Ezekiel Kofi Kofi Vicar[3], Lorie Christla Quansah[1], Rhoda Oklu[1], Smith Joshua[1], Joyce Junior Asiamah[4], James-Paul Kretchy[4], George Boateng Kyei[5,6], Patience B. Tetteh-Quarcoo[2], Nicholas T. K. D. Dayie[2], Irene Ayi[7], Patrick F. Ayeh-Kumi[2]

[1]Department of Physician Assistantship Studies, School of Medical Sciences, Central University, Accra, Ghana, Tema, near Dawhenya, Ghana. [2]Department of Medical Microbiology, University of Ghana Medical School, Accra, Ghana, Accra, Ghana. [3]Department of Clinical Microbiology, School of Medicine, University for Development Studies, Tamale, Ghana, Tamale, Ghana. [4]Department of Public Health, School of Medical Sciences, Central University, Accra, Ghana, Tema, near Dawhenya, Ghana. [5]Department of Virology, Noguchi Memorial Institute for Medical Research, College of Health Sciences, University of Ghana, Accra, Ghana, Accra, Ghana. [6]Department of Medicine, Washington University School of Medicine, St. Louis, Missouri, USA, Missouri, United States. [7]Department of Parasitology, Noguchi Memorial Institute for Medical Research, College of Health Sciences, University of Ghana, Accra, Ghana, Accra, Ghana

Background: Trichomoniasis, caused by *Trichomonas vaginalis*, is a neglected non-viral sexually transmitted infection (STI) with high burden in sub-Saharan Africa. Undergraduate students may engage in risky sexual behaviours due to newfound autonomy. This study assessed knowledge, attitudes, and preventive practices regarding trichomoniasis among university students in Ghana.

Methods: A cross-sectional study was conducted from March to July 2024 among 387 randomly selected undergraduate health sciences students at Central University, Accra, Ghana. Data were collected via a structured 53-item questionnaire assessing socio-demographics, knowledge (23 items), attitudes (9 items), and preventive practices (11 items). Scores ≥70% were classified as "good." Multivariable logistic regression identified associated factors ($p<0.05$).

Results: Participants (81.4% female; mean 20 years): 68.0% had good trichomoniasis knowledge, yet only 9.0% identified *T. vaginalis* as a parasite. Positive attitudes were observed in 82.9%. Females had twice the likelihood of good knowledge versus males (aOR=2.02; 95% CI: 1.128–2.912; p=0.012). Older age groups (21–25 years: aOR=2.91; 95% CI: 1.621–5.001; 26–30 years: aOR=4.01; 95% CI: 1.967–8.001) and good attitudes (aOR=5.03; 95% CI: 4.220–9.121; p=0.010) were significantly associated with higher knowledge. Female sex (aOR=5.33; 95% CI: 3.900–10.21; $p<0.0001$), good knowledge (aOR=3.01; 95% CI: 2.208–5.291; $p<0.0001$), and good attitudes (aOR=3.22; 95% CI: 1.991–5.44; $p<0.0001$) independently predicted good preventive practices. Despite high condom awareness, 40.8% believed condoms reduce sexual pleasure.

Conclusion: Undergraduate health sciences students had good knowledge (68.0%) and attitudes (82.9%) toward trichomoniasis, but gaps remain: 9.0% knew *T. vaginalis* as a parasite; 40.8% believed condoms reduce pleasure. Younger males (18–20) need targeted education. Hence, Ghana's Education Ministry should integrate parasitology-focused STI content; Health Ministry and Ghana Health Service must revise guidelines to include university screening and peer educator campaigns countering condom myths; National Population Council and Youth Authority should fund interventions for younger males.

Keywords

Trichomoniasis, knowledge, attitudes, preventive practices, Ghana, sexually transmitted infections

127: Investigation Of A Suspected Human Rabies Outbreak In Chavuma District, Northwestern Province, Zambia, September -December, 2025

PHILEMON SIBESO[1], Muntanga Kadolo[2], Nyambe Sinyange[3], Dabwitso Banda[3]

[1]Zambia National Public Health Institute, Mumbwa, Zambia. [2]Zambia National Public Health Institute, Solwezi, Zambia. [3]Zambia National Public Health Institute, Lusaka, Zambia

Background: Rabies is a fatal viral zoonosis causing an estimated 59,000 human deaths annually,95% of cases resulting from dog bites in endemic regions. In Zambia, the disease remains endemic, particularly in rural districts where dog vaccination coverage is below the 70% WHO threshold. On 10 October 2025, Chavuma District reported a suspected human rabies death in a six-year-old child following a dog bite on 22 September 2025. This investigation aimed to describe the outbreak, identify gaps in prevention, and inform control measures.

Methods: We conducted a descriptive cross-sectional study from September to December 2025. Using systematic household sampling based on dog ownership parameters, 60 households were selected. Data were collected through active case finding, household interviews, and health facility record reviews using Kobo Collect. Descriptive statistics, attack rates, and bivariate analysis were performed using R.

Results: We identified 43 individuals with exposures; 11 (25.6%) were confirmed to have been bitten by dogs. Median age of bite victims was 27 years (IQR: 15–48); 63.6% (7/11) were female. Children aged 0–14 years were significantly more likely to be bitten than adults (p = 0.004). Masumba Village was the epicenter, with the highest attack rate (3.23%). Dog vaccination coverage among biting dogs was 0% (0/11). Only 63.6% (7/11) of bite victims received post-exposure prophylaxis (PEP). Interval from the first bite to outbreak notification was 18 days. Community knowledge was low; only 34.9% knew rabies is transmitted through dog bites, 60.5% were unaware it is preventable.

Conclusion: This outbreak was characterized by low dog vaccination coverage, delayed detection, suboptimal PEP uptake, and knowledge gaps, resulting in a preventable child death. These findings suggest that strengthening the One Health approach through mass dog vaccination, improved surveillance, and targeted community education, particularly for child protection, may prevent future rabies deaths in similar remote settings.

Keywords

Rabies, post-exposure prophylaxis, vaccination coverage, One Health, 7-1-7 framework; Zambia

129: The Relationship Between Social Media Usage And Adolescent Mental Health At Selected Schools In The Adenta Municipality In The Greater Accra Region Of Ghana

MARGARET DANSOWAA ASARE[1], Nuworza Kugbey[1,2], Edward Kofi Sutherland[1]

[1]Ensign Global University, Kpong, Ghana. [2]University of Environment and Sustainable Development, Somanya, Ghana

Background: Adolescence is a critical developmental stage marked by heightened vulnerability to mental health challenges. Despite growing global evidence linking social media use to depression, anxiety, stress, and low self-esteem, context-specific data remain limited in Ghana, particularly in semi-urban settings.

Methods: A cross-sectional quantitative study was conducted among 178 adolescents aged 13–19 years from West African Senior High School and Frafraha Senior High School in Adenta Municipality. Data were collected using a structured questionnaire incorporating the Depression Anxiety Stress Scale-21 (DASS-21) and Rosenberg Self-Esteem Scale (RSES). Multi-stage sampling was employed, and data were analyzed using STATA version 18 with descriptive statistics, chi-square tests, and multivariate logistic regression.

Results: Social media usage was nearly universal (93.8%), with WhatsApp (70.8%), TikTok (47.8%), and Snapchat (36.0%) being most popular. Over one-third (39.5%) spent three or more hours daily online, primarily in evenings (47.9%) and late nights (35.3%). Mental health assessments revealed that 68% experienced mild-to-extremely severe depression, 66.3% severe-to-extremely severe anxiety, 49% mild-to-extremely severe stress, and 44.9% had low self-esteem. Regression analysis showed TikTok use was associated with lower odds of anxiety (AOR = 0.52, 95% CI: 0.29–0.93, p = 0.028); spending five or more hours daily on social media increased odds of low self-esteem (AOR = 2.31, 95% CI: 1.08–4.92, p = 0.031); and non-use of social media was associated with higher stress (AOR = 3.45, 95% CI: 1.15–10.36, p = 0.027).

Conclusions and Public Health Implications: Adolescents in Adenta Municipality report high social media use alongside concerning levels of depression, anxiety, stress, and low self-esteem, with usage patterns significantly linked to mental health outcomes. These findings underscore the need for school-based digital literacy programs, parental guidance, and integration of mental health support into adolescent health services to promote safe and balanced social media use.

Keywords

Mental Health, Stress, Depression, Anxiety, Self Esteem, Adolescents, Social Media

132: Évaluation Du Système De Surveillance De L'hépatite B Chez La Femme Enceinte Dans La Région De Grand Lomé Au Togo En 2024

ATSOU SÉNAM DOGBE-TOMI[1,2], Péléké Mawaba HILIM[3], Koffi AKOLLY[1], Arnold J. SADIO[1], Koumavi EKOUEVI[1,2]

[1]West Africa Field Epidemiology and Laboratory Training Program (WA-FELTP), Lomé, Togo. [2]Centre de Formation et de Recherche en Santé Publique (CFRSP), Lomé, Togo. [3]Direction Préfectorale de la Santé de Tône, Dapaong, Togo

Contexte: L'hépatite B demeure un problème de santé publique en raison de sa forte morbidité et mortalité liée à la cirrhose et au carcinome hépatocellulaire chez les enfants infectés dès la naissance. La transmission mère-enfant est l'un des principaux modes de propagation du virus, avec un risque pouvant atteindre 90 % sans prévention. Au Togo, en 2023, seulement 48% des femmes enceintes séropositives ont bénéficié d'une prise en charge. Cette étude visait à évaluer le système de surveillance de l'hépatite B chez les femmes enceintes dans la région du Grand Lomé.

Méthodes

Une étude transversale descriptive a été menée en 2024 dans la région du Grand Lomé. L'échantillonnage raisonné a inclus 74 acteurs impliqués dans la surveillance aux niveaux central, régional, district et périphérique. Les données émises des registres, des rapports mensuels, de la plateforme DHIS2, de la revue documentaire et d'entretiens individuels via KoboCollect® ont permis d'évaluer la fidélité, la simplicité, l'acceptabilité, la poctualité, la qualité des données et l'utilité du système.

Résultats

L'âge médian des enquêtés était de 40 ans et 66,2% étaient des femmes. Les médecins représentaient 45,9% des participants et les structures publiques 56,8%. Le système présentait une très bonne fidélité (88,8%), mais une simplicité moyenne (51,3%). L'acceptabilité était insuffisante (49,2%), avec seulement 19% des femmes enceintes positives mises sous Ténofovir. La qualité des données était moyenne (69,6%). La ponctualité était insuffisante (44,7%) malgré une bonne vaccination des nouveaux-nés dans les 24 heures (82,6%). Aucun enfant exposé n'a bénéficié du dépistage à 9 mois. L'utilité du système était faible (25,7%).

Conclusion

Le système présente une bonne fidélité, mais demeure limitée par une faible acceptabilité, une faible utilité et des insuffisances du suivi postnatal. Le renforcement des capacités des acteurs et la supervision sont nécessaires pour améliorer la prévention de la transmission mère-enfant.

Keywords

Surveillance, Hépatite B, Femmes enceintes, Lomé, Togo

133: Trends In The Management Of Malaria Test-Negative Febrile Cases: A Retrospective Analysis Of Outpatient Data At Legon Hospital, Ghana

TRACY AFIA ACHAA ASIRIFI, Harriet Affran Bonful

Department of Epidemiology and Disease Control, School of Public Health, College of Health Sciences, University of Ghana., Accra, Ghana

Background: Appropriate management of malaria test-negative febrile patients remains a major challenge in sub-Saharan Africa despite widespread implementation of the Test, Treat, and Track (T3) strategy. Inappropriate antimalarial and antibiotic prescribing among test-negative patients contributes to antimicrobial misuse and weakens malaria control efforts. This study assessed trends in the management of malaria test-negative febrile cases at Legon Hospital, Ghana.

Methods: A retrospective cross-sectional analysis was conducted using outpatient malaria test records extracted from the Legon Hospital's Hospital Information System (HIS) between January 2023 and December 2025. Prescribing patterns among malaria test-negative patients were analyzed, and multivariable logistic regression was used to identify factors associated with inappropriate antimalarial prescription.

Results: A total of 72,344 outpatient malaria test records were analyzed, of which 67,038 (92.7%) were malaria-negative. Inappropriate antimalarial prescription among test-negative patients declined from 3.7% in 2023 to 1.5% in 2025, with an overall rate of 2.6% (95% CI: 2.5–2.7%). Analgesics/antipyretics (77.1%), vitamins/supplements (57.2%), and antibiotics (41.3%) were the most frequently prescribed drug classes. Antibiotic prescribing declined from 51.8% in 2023 to 32.9% in 2025. Upper respiratory tract infection was the most frequently recorded diagnosis. Male patients were more likely to receive inappropriate antimalarial prescriptions (AOR 1.39, 95% CI: 1.32–1.46), while prescriptions were less likely among patients tested using RDT compared with blood film microscopy (AOR 0.91, 95% CI: 0.85–0.98).

Conclusions: The declining trend in inappropriate antimalarial prescribing among malaria-negative febrile patients suggests improving adherence to Ghana's T3 strategy and supports the National Malaria Elimination Programme (NMEP) pre-elimination agenda aimed at reducing unnecessary antimalarial use and improving case management quality. However, persistently high antibiotic prescribing highlights the need for strengthened integrated fever management and antimicrobial stewardship interventions to support sustainable malaria pre-elimination efforts in Ghana.

Keywords

Malaria pre-elimination; Malaria-negative febrile cases; Antibiotic stewardship; Test, Treat and Track

135: Evaluating Go.Data For Mpox Contact Tracing In Zambia, 2025–2026

WILLIAM NGOSA[1], Bryson Musonda[2], Peter Funsani[1], Reuben Kaponde[1], James Sakala[1], Charles Chileshe[1]

[1]Zambia National Public Health Institute, Lusaka, Zambia. [2]World Health Organisation, Lusaka, Zambia

Background: During the 2025–2026 Mpox outbreak in Zambia, the existing e-IDSR contact tracing module faced limitations due to capacity and implementation challenges. To address these gaps, we piloted the Go. Data platform retrospectively across Lusaka, Copperbelt, and Muchinga provinces to evaluate the feasibility, coverage, and completeness of digital contact tracing.

Methods: Go. Data was securely hosted on Zambia National Public Health Institute (ZNPHI) infrastructure, and Surveillance Officers were trained in data entry. Mpox surveillance data from the outbreak period, January 2025–March 2026, across the three provinces were extracted and analyzed descriptively to assess contact tracing coverage (proportion of contacts identified per case) and completeness (proportion with a complete 21-day follow-up record).

Results: A total of 240 confirmed Mpox cases were recorded, with 688 contacts identified across the three provinces. This represented only 14% (688/4,800) of estimated target contacts, based on the WHO recommendation of 20 contacts per case. Only 10% (69/688) of identified contacts were followed up, and just 1% completed the recommended 21-day monitoring period with complete records. Only 8% of confirmed cases were identified through contact tracing.

Conclusion and Public Health Implications: Go. Data proved feasible within Zambia's surveillance ecosystem; however, contact tracing coverage and completeness were critically low. Low follow-up rates reflected inadequate financial support, limited human resources, and weak coordination. Absence of standardized tracing forms further reduced data quality. To strengthen outbreak response, frontline workforce capacity must be built and digital contact tracing integrated into routine preparedness systems before emergencies occur.

Keywords

Go.Data, contact tracing, Mpox, outbreak response, disease surveillance

136: Cause-specific Adult mortality in Kassena Nankana Municipality, Northern Ghana: Evidence from verbal Autopsy Data, 2008-2012

AKURIGO DOMINIC

Kwame Nkrumah university of science and technology, Kumasi Ghana, Kumasi, Ghana

Emmanuel Kweku Nakua[1], Akurigo Dominic[1], Daniel Boateng[1], Engelbert Nonterah[2], Gadafi Iddrisu Balali[3,4]

Background: Precise information on causes of death in adults remains restricted in many sub-Saharan African settings, in part because many deaths occur outside of health institutions and are not medically certified. Health and Demographic Surveillance Systems, together with verbal autopsy, give significant information to evaluate mortality patterns in such groups. This study investigated the common causes of deaths for persons aged 30 years and above in the Kassena-Nankana Municipality of Northern Ghana from 2008 to 2012.

Methods: We did a secondary study of mortality data from the Navrongo Health Research Centre and the Navrongo Health and Demographic Surveillance System. The analysis covered fatalities among people aged 30 years and above documented from January 2008 to December 2012. The 10 major causes of mortality were described using frequencies and percentages, and were distributed by age, sex and socioeconomic position.

Results: The main 10 causes accounted for 2,627 adult fatalities. The leading cause was unspecified non-communicable disease (543 deaths, 20.67%) followed by other infectious and parasitic diseases (316; 12.03%), cerebrovascular disease (303; 11.53%), malaria (284; 10.81%), gastrointestinal disorders (266; 10.13%), other cardiovascular diseases (249; 9.48%), intestinal infectious diseases including diarrhoeal diseases (245; 9.33%), acute respiratory infections including pneumonia (144; 5.48%), ischaemic heart disease (141; 5.37%), and tuberculosis (136; 5.18%). The majority of fatalities occurred among people aged 80 years and beyond (1,400; 53.30%) and were somewhat higher in men (1,433; 54.55%) than females (1,194; 45.45%).

Conclusion: Non-communicable and infectious illness diseases pose a twofold burden on adult mortality in Kassena-Nankana. These findings suggest integrated adult health strategies that include chronic disease prevention and ongoing infectious disease management.

Keywords

Keywords: adult mortality, cause-specific mortality, verbal autopsy, non-communicable diseases

137: Prontidão Dos Cuidados De Saúde Primários No Manejo Da Hipertensão Arterial E Diabetes Mellitus Nas Províncias De Gaza E Nampula, Moçambique 2024-2025

ANA DE LURDES ALVARO MAGAIA MUHOLOVE, Sheila Tualufo, Zuana Cossa

Ministry of Health, Maputo, Mozambique

Contexte: A hipertensão arterial (HTA) e a diabetes mellitus (DM) constituem importantes problemas de Saúde Pública em Moçambique, contribuindo para elevada morbilidade, mortalidade e sobrecarga dos serviços de saúde. Este estudo avaliou a prontidão dos cuidados de saúde primários (CSP) para o manejo destas doenças nas províncias de Gaza e Nampula.

Métodos: Realizou-se um estudo transversal descritivo, com abordagem quantitativa, em 35 unidades sanitárias das províncias de Gaza e Nampula. Foram avaliados recursos humanos, disponibilidade de normas, equipamentos, medicamentos e qualidade dos processos clínicos. Participaram 61 profissionais de saúde e foram analisados 246 processos clínicos. A prontidão foi definida pela existência de normas de manejo, kit básico funcional, processos clínicos adequadamente preenchidos e profissionais capacitados.

Resultados: Nenhuma unidade sanitária atingiu os critérios mínimos de prontidão para manejo de HTA e DM. Apenas 17,1% das unidades possuíam normas nacionais de manejo e 37,1% tinham plano de formação contínua actualizado. Somente 22,5% dos profissionais receberam formação em HTA e 7,5% em DM nos últimos 12 meses.

Os esfigmomanómetros estavam disponíveis em 88,6% das unidades, porém nenhuma possuía braçadeiras para obesos, monofilamento de nylon ou aparelho portátil para medição de colesterol. Apenas 31,4% das unidades tinham glicómetro e 20,0% fitas de glicemia.

Quanto aos medicamentos, a Metformina estava disponível em apenas 37,1% das unidades e a Gliclazida encontrava-se ausente em todas. Dos 246 processos clínicos avaliados, 85,4% apresentaram preenchimento deficiente e apenas 1,2% completo.

Conclusão: As unidades sanitárias avaliadas apresentaram importantes lacunas estruturais e funcionais para o manejo adequado da HTA e DM, evidenciando necessidade de fortalecimento dos CSP, melhoria do acesso a insumos e medicamentos essenciais, capacitação contínua dos profissionais e reforço da qualidade dos registos clínicos.

Keywords

Palavras-chave: Hipertensão arterial; Cuidados de saúde primários; Prontidão dos serviços; Doenças não transmissíveis

139: Investigation Autour D'une Épizootie Aviaire Dans Une Ferme D'élevage À Adjengré, District Sanitaire De Sotouboua, Togo, 2025

AMISSOU TCHADJOBO[1,2,3], Akawulu N'DJAO[4], Koffi AKOLLY[1], Arnold Junior SADIO[1,2], Takpaya GNARO[1,2], A. Fifonsi GBEASOR-KOMLANVI[1,2], S. Christelle NIKIEMA-PESSINABA[5], Seana FEDA[5], Didier Koumavi EKOUEVI[1,2]

[1]West Africa Field Epidemiology and Laboratory Training Program (WA-FELTP), Lomé, Togo. [2]Centre de Formation et de Recherche en Santé Publique (CFRSP), Lomé, Togo. [3]Direction régionale de l'environnement, des ressources forestières, de la protection côtière et du changement climatique, Région Centrale, Sokodé, Togo. [4]Direction Régionale de la Santé, Région Centrale, Sokodé, Togo. [5]Division de la Surveillance Intégrée des Urgences Sanitaires et de la Riposte, Lomé, Togo

Contexte; Les épizooties d'influenza aviaire hautement pathogène (IAHP) sont récurrentes et responsables de pertes économiques et sanitaires majeures dans le monde. Le 26 février 2025, une mortalité inhabituelle de volailles a été signalée à la ferme SOPURE à Adjengré, district sanitaire de Sotouboua dans la Région Centrale du Togo. Cette investigation visait à décrire l'événement, confirmer le diagnostic, identifier la source et mettre en œuvre des mesures de contrôle.

Méthodes: Une enquête a été menée du 26 février au 10 mars 2025 à la ferme SOPURE, dans les ménages et dans les fermes environnantes à Adjengré. Les données collectées portaient sur le type d'élevage, la mortalité des volailles, la gestion des carcasses, les mesures de biosécurité et les expositions humaines. La collecte a été réalisée à l'aide de l'outil KoboCollect® et les analyses ont été effectuées avec le logiciel Excel® 2016.

Résultats: La ferme SOPURE, comptant 2 928 poules pondeuses, a enregistré une mortalité cumulée de 87,8%. Le test de diagnostic rapide (TDR) était négatif, mais la réaction en chaîne par polymérase (PCR) a confirmé la présence du virus influenza aviaire H5N1. Les volailles restantes ont été abattues. Aucun cas humain n'a été détecté parmi neuf cas contacts. Dans 52 ménages proches de la ferme pratiquant l'élevage traditionnel, 67,3% ont signalé la mort de 632 volailles toutes espèces confondues, avec des pratiques de gestion des carcasses parfois à risque. Deux fermes visitées n'avaient pas enregistré de morts. Des mesures de destruction, de désinfection et de sensibilisation communautaire ont été mises en œuvre.

Conclusion: L'IAHP H5N1 a été confirmée sans cas humain associé dans la ferme SOPURE à Adjengré. Le renforcement de la surveillance, l'amélioration des pratiques de biosécurité et la sensibilisation communautaire sont essentiels pour prévenir de futurs foyers et limiter les impacts sanitaires et économiques.

Keywords

influenza aviaire, épizootie, biosécurité, Togo

140: Emergency Contraceptive Use Among Adolescent Females In KNUST Senior High School In The Oforikrom Municipality: Evaluating Knowledge, Awareness And Risk Of Misuse.

PROF ANTHONY EDUSEI, Dr Angela Sarpong Opuni

Kwame Nkrumah University of Science and Technology, School of Public Health, Kumasi-Ashanti Region, Ghana

Background: Adolescent reproductive health remains a major public health concern in Ghana due to increasing rates of unintended pregnancies, unsafe abortions, and inadequate contraceptive knowledge among young females. Emergency contraceptive pills (ECPs) are effective in preventing pregnancy after unprotected sexual intercourse; however, misconceptions, incorrect use, and potential misuse among adolescents continue to pose challenges. This study assessed the awareness, knowledge, use, and risk of misuse of emergency contraceptive pills among adolescent female students at KNUST Senior High School in the Oforikrom Municipality.

Methods: A quantitative descriptive cross-sectional study design was employed. Data were collected from 384 adolescent female students selected through stratified random sampling using structured questionnaires. Data were analysed using the Statistical Package for the Social Sciences (SPSS). Descriptive statistics including frequencies, percentages, and means were used, while inferential analyses such as chi-square tests, Spearman's correlation, and logistic regression were conducted to determine associations and predictors of ECP use.

Results: Findings revealed that awareness of ECPs was almost universal (98.2%), with 97.9% correctly identifying pregnancy prevention after unprotected sex as the primary purpose of ECPs. Most respondents (88.5%) knew the recommended timing for use within 24–72 hours after intercourse. Frequent ECP use was reported by 88.8% of users, mainly due to unprotected sex (50.8%) and condom failure (30.5%). Awareness was positively associated with personal use of ECPs (Spearman's $\rho = 0.322$, $p < 0.001$). Logistic regression indicated that older age and higher knowledge scores significantly reduced the likelihood of misuse, while boarding status increased the odds of ECP use.

Conclusion: The study concludes that although awareness of ECPs among adolescents is high, usage remains largely reactive and influenced by peers and social media. Strengthened school-based sexual and reproductive health education is recommended to promote informed and responsible contraceptive use among adolescents.

Keywords

Emergency Contraceptive pills, Adolescent, Female, Awareness, Knowledge, Senior High School

141: Epidemiology Of Injuries Presenting To The Emergency Department Of The Korle-Bu Teaching Hospital: A 2024 Review

JOSHUA TETTEH AHUAHEY[1,2], Edward Kofi Sutherland[1]

[1]Ensign Global University, Kpong, Ghana. [2]Korle Bu Teaching Hospital, Accra, Ghana

Background: Injuries represent a profound and escalating global public health crisis, contributing significantly to morbidity and mortality. Low- and middle-income countries bear 95% of the global burden of childhood injury mortality. In Ghana, trauma is a leading driver of emergency department visits, yet data at premier referral facilities remains outdated. This study characterized the epidemiology, clinical profiles, and outcomes of injury cases at the country's main tertiary center to provide foundational data for evidence-based trauma policies.

Methods: A retrospective cross-sectional study analyzed 2,874 de-identified patient records presenting with traumatic injuries to the Korle Bu Teaching Hospital (KBTH) Emergency Department between January 1 and December 31, 2024. Variables included socio-demographics, injury mechanisms, clinical diagnoses, triage severity, prehospital transport modes, and clinical dispositions. Descriptive statistical analyses were performed using Microsoft Excel 2019.

Results: Young adult males bore the highest trauma burden, accounting for 80.8% of assault cases and 68.9% of road traffic accident (RTA) cases, peaking within the 25–44 age bracket. RTAs were the most common injury mechanism, followed by falls and assaults. The most frequent diagnoses were lacerations (30.9%) and fractures (19.0%). Triage distribution showed a high volume of minor cases (78.3% Green). Ambulance services were critically underutilized at 1.6%. Presentations peaked on weekends and during afternoon hours (12:00 PM–5:59 PM), and the overall ED trauma mortality rate was 1.7%.

Conclusions and Public Health Implications: Trauma at KBTH heavily impacts economically active young men, driven primarily by road traffic collisions. While the low mortality rate reflects resilient internal stabilization workflows, the 1.6% ambulance usage rate highlights critical deficits in prehospital triage and referral networks. These findings underscore the need for integrated digital trauma registries, redistribution of emergency resources around afternoon and weekend peaks, and enhanced inter-sectoral road safety enforcement.

Keywords

Injury, Trauma, Korle Bu Teaching Hospital, Emergency Department, Road Traffic Accidents

143: Facteurs Associés À La Positivité Du Cvdpv2 À La Culture Cellulaire Chez Les Cas De Paralysie Flasque Aiguë (PFA) Au Mali De 2015 À 2024.

CHEICK OUMAR KAMISSOKO[1], Yacouba KONE[2], Dado FAROTA[2], Yacouba SANGARE[3], Sidiki COULIBALY[3], Cheick Arouna DIARRA[4], Madi NIKIEMA[5], Hermann YODA[5], Koffi AKOLLY[1], Takpaya GNARO[1], Arnold SADIO[1], Fifonsi Diane GBEASOR[1], Oumar SANGHO[6], Ekouevi KOUMAVI[1]

[1]West Africa Field Epidemiology and Laboratory Training Program (WA-FELTP), Lomé, Togo. [2]2. Section surveillance épidémiologique, DGSHP, Bamako, Mali. [3]3. Direction Générale de l'Immunisation, Bamako, Mali. [4]Centre de santé de district, Mopti, Mali. [5]5. Programme de formation B-FELTP, Ouagadougou, Burkina Faso. [6]6. Université des Sciences Techniques et de Technologies, Bamako, Mali

Contexte: La poliomyélite demeure une priorité de santé publique mondiale, malgré des progrès notables vers son éradication. Le Mali, déclaré exempt de poliovirus sauvage depuis 2008, continue toutefois d'enregistrer des cas de poliovirus dérivés de souches vaccinales (cVDPV). Cette étude visait à identifier les facteurs associés à la positivité au cVDPV2 à la culture cellulaire chez les cas de paralysie flasque aiguë (PFA) au Mali de 2015 à 2024.

Méthodes: Il s'est agi d'une étude transversale analytique basée sur les données nationales de surveillance des PFA. Une analyse univariée et une régression logistique multiple ont été utilisées, avec l'odd ratio (OR) et l'intervalle de confiance (IC) à 95% calculés et ajustés au seuil de 0,05 à l'aide du logiciel R version 4.5.1.

Résultats: Au total, 5 473 cas de PFA ont été notifiés, dont 73 cas confirmés (1,33 %) de poliovirus circulant dérivé de souche vaccinale (cVDPV2). L'âge médian était de 2 ans (IIQ: 1–4 ans) et 55,3 % étaient des garçons (sex-ratio = 1,2). Cliniquement, 75,7 % présentaient une fièvre au début de la paralysie, 92,6 % avaient une paralysie flasque et soudaine. L'incidence des cas confirmés de cVDPV2 était particulièrement élevée en 2020 (8,91 %), alors qu'aucun cas n'avait été observé entre 2015 et 2019. La période 2019–2021 (ORa≈6,88; IC95% 3,59–13,16; p<0,001), l'âge de 2 à 4 ans (ORa≈2,61; IC95% 1,19–5,76; p=0,017) et l'absence d'une vaccination complète contre la poliomyélite demeuraient les principaux facteurs associés. À l'inverse, la réception d'au moins 4 doses de vaccin polio avait un effet protecteur (ORa≈0,16; IC95% 0,06–0,40; p<0,001).

Conclusion: La circulation du cVDPV2 apparaît principalement favorisée par les périodes de flambée et par une immunité vaccinale insuffisante, tandis qu'une vaccination complète exerce un effet protecteur.

Keywords

Paralysie flasque aiguë, cVDPV2, surveillance épidémiologique, Mali.

144: Public Health Emergency Response Workforce For Flooding In Southern Mozambique, January–March 2026

IZILDA MATIMBE, Nádia Muate, Hélio Militão, Octávio Alfredo, Áuria Tovele, Denise Langa

Instituto Nacional de Saúde, Maputo, Mozambique

Background: Between December 2025-January 2026, severe flooding in southern Mozambique affected >724,000 people and displaced >100,000 into temporary shelters, across Gaza Province (n=43), Maputo Province (n=35), and Maputo City (n=26), heightening disease outbreak risks. We described the post-event emergency response.

Methods: A descriptive-study was conducted (January 17-March 11, 2026), in Gaza and Maputo (City and Province) by 12 advanced and 14 frontline Field Epidemiology Training Program graduates. Shelters and households were mapped and conveniently selected. Standardized interviews with shelter staff and household heads assessed disease prevention practices and identified outbreaks. To investigate the identified outbreaks, we defined suspected cholera case as acute "rice-water" diarrhea (with/without vomiting) with dehydration, and general diarrhea case as >3 watery episodes within 24 hours with dehydration. We conducted descriptive analysis.

Results: We assessed 58 shelters in Maputo City (n=22/26), Maputo Province (n=31/35), and Gaza (n=5/43), and interviewed 7,383 households (16,709 individuals; mean age=47years; 87% female). Water treatment was reported in 50.0%, 81.0%, and 62.5% of shelters, per province respectively. Functional solid waste systems were observed in 71.4% of shelters in Maputo City, 96.2% in Maputo Province, and 100% in Gaza. Mosquito-net use ranged from 40% in Gaza to 57.0% in Maputo Province and 67.0% in Maputo City. Active surveillance detected diarrhea/cholera cases in Maputo City and Gaza, and a spike in diarrheal cases in Maputo Province. In Maputo City, one laboratory-confirmed cholera case and three asymptomatic contacts were identified. In Gaza six suspected cases tested negative and one laboratory-confirmed case caused by *Vibrio cholerae*-O1 serotype Ogawa. In Maputo Province, 32 diarrhea cases were investigated, 78% (25/32) female; 75% (24/32) aged 15years.

Conclusions: Despite satisfactory sanitation indicators in some shelters, gaps in water treatment and vector-control persisted, while cholera/diarrheal outbreaks in flood-affected areas highlighted the need to strengthen preventive measures during humanitarian emergencies.

Keywords

Floods, Public Health Surveillance, Mozambique

146: Analysis Of Survival, Biochemical Failure, And Clinical Management Modalities Among Prostate Cancer Patients In Ghana: A Ten-Year Retrospective Longitudinal Study At The Korle-Bu Teaching Hospital

PHILIP PIYIM ODURO[1], Fred Binka[2], Joel Yarney[3,4], Frank Ekow Baiden[5]

[1]Georgia Southern University, Statesboro, United States. [2]University of Health and Allied Sciences, Accra, Ghana. [3]Korle-Bu Teaching Hospital, Accra, Ghana. [4]University of Cape Coast, Accra, Ghana. [5]University of Health and Allied Sciences, Hohoe, Ghana

Background: Prostate cancer remains a major public health concern and one of the leading causes of cancer-related morbidity and mortality among men in Ghana. Despite advances in diagnostic and treatment technologies, survival outcomes among prostate cancer patients vary significantly depending on the treatment modalities employed. There is limited empirical evidence in Ghana on the comparative survival benefits of different therapeutic approaches. This study evaluated the survival outcomes and biochemical failure rates among prostate cancer patients treated at the Korle-Bu Teaching Hospital, Ghana, from 2010 to 2020.

Methods: A retrospective cohort study design was adopted using secondary data extracted from the medical records of 1,206 patients. The study examined socio-demographic, clinical, and treatment-related variables. Kaplan-Meier survival estimates and Cox proportional hazards regression models were employed to determine survival probabilities and the factors influencing disease-free, progression-free, biochemical failure-free, and overall survival outcomes across different treatment modalities.

Results: Patients who received radiotherapy and hormonal therapy exhibited the highest 10-year overall survival rate (86.3%), followed by those treated with radiotherapy alone (78.4%). Hormonal therapy alone yielded the lowest survival rate (62.7%). Combined therapy was significantly associated with improved disease-free and biochemical failure-free survival compared to single-treatment regimens ($p < 0.05$). Age, Gleason score, prostate-specific antigen levels, and cancer stage were significant predictors of survival outcomes.

Conclusion: The study demonstrates that multimodal treatment, particularly the combination of radiotherapy and androgen deprivation therapy, offers superior survival benefits for prostate cancer patients. These findings highlight the importance of integrating multimodal approaches into standard oncology practice in Ghana. Given the demonstrated survival benefits of multimodal treatment, the facility should adopt combined radiotherapy and hormonal therapy as standard care for high-risk prostate cancer. Strengthening early detection programs, multidisciplinary cancer management, and continuous investment in radiotherapy infrastructure are essential to enhance survival rates and reduce disease recurrence.

Keywords

Prostate cancer, Biochemical Failure , Hormonal Therapy, Survival Analysis, Clinical Outcome,

147: Aspects Épidémiologiques De La COVID-19 Au Mali De 2020 À 2024

CHEICK AROUNA DIARRA[1,2], Dado Farota[3], Yacouba Koné[3], Souleymane Coulibaly[4], Cheick Oumar Kamissoko[1,2], Koffi Akolly[1], Gnaro Takpaya[2], Sadio Arnold Tiokang[2], Komlanvi-Gbeasor Fifonsi[2], Koumavi Ekouevi[2]

[1]West-African Field Epidemiology and Laboratory Training Program (WA-FETP), Lomé, Togo. [2]Centre de Formation et de Recherche en Santé Publique (CFRSP, Lomé, Togo. [3]Direction Générale de la Santé et de l'Hygiène Publique (DGHSP, Bamako, Mali. [4]Institut National de Santé Publique (INSP), Bamako, Mali

Contexte: La pandémie de la COVID-19 a éprouvé les systèmes de santé. Devant l'absence d'études publiées portant sur toute la durée de la pandémie, nous avons conduit ce travail pour étudier les aspects épidémiologiques de la COVID-19 au Mali de 2020 à 2024.

Méthodes : Une étude transversale analytique basée sur les données de surveillance de COVID-19 de 2020–2024 a été menée. Les facteurs associés aux cas confirmés ont été recherchés à l'aide d'une régression logistique univariée et multivariée. Les variables avec une p-value < 0,20 en analyse univariée ont été incluses dans le modèle multivarié. Le seuil de significativité a été fixé à 0,05.

Résultats : Sur 241 207 cas suspects, 27 976 (11,6 %) ont été confirmés, avec un sex-ratio H/F de 1,6. Les 25–34 ans (24,4 %) et 35–44 ans (22,0 %) ont été les plus concernés. Les cas confirmés étaient plus fréquents en saison fraîche, à Bamako (62,9 %) et Koulikoro (15,5 %). Les facteurs de risque de la COVID-19 étaient l'âge ≥60 ans (ORa=1,64 ; $IC_{95\%}$ [1,57–1,70] ; p<0,001), le sexe féminin (ORa=1,23 ; $IC_{95\%}$ [1,20–1,27] ; p<0,001) et l'existence de lien épidémiologique (ORa=1,13 ; $IC_{95\%}$ [1,09–1,16] ; p<0,001). Les professions non sanitaires (ORa=0,71 ; $IC_{95\%}$ [0,69–0,73] ; p<0,001) et la résidence dans les régions nord (ORa=0,27 ; $IC_{95\%}$ [0,26–0,29] ; p<0,001) étaient protectrices.

Conclusion : L'âge ≥60 ans, le sexe féminin, la profession non sanitaire, la résidence dans les régions nord et l'existence de lien épidémiologique ont influencés la COVID-19 au Mali. Le renforcement de la surveillance épidémiologique est capital devant cette maladie ré-émergeante. Aussi, les éventuelles stratégies doivent cibler les groupes les plus exposés.

Keywords

Surveillance, épidémiologie, COVID-19, Mali.

150: Beneath The Epidemic: The Persistent Whisper Of Sylvatic Dengue In Senegal

IDRISSA DIENG

Institut Pasteur de Dakar, Dakar, Senegal

Background: Dengue virus (DENV) is an increasing public health concern in Africa, where surveillance data on circulating variants remain limited. Senegal has experienced annual dengue outbreaks since 2017 in a hyperendemic context, yet the diversity, origin, and persistence of DENV lineages particularly sylvatic strains are poorly understood. This study aimed to characterize circulating DENV serotypes and genotypes in Senegal and investigate unexplained serotyping failures.

Methods: Between 2019 and 2023, remnant sera from 8,746 individuals enrolled in the national 4S sentinel syndromic surveillance network were analyzed. Viral RNA was detected using real-time RT-PCR, followed by molecular serotyping with the CDC Dengue Typing Kit. Whole-genome sequencing was performed using a serotype-specific multiplex PCR tiling approach and Oxford Nanopore MinION sequencing. Phylogenetic and phylogeographic analyses were conducted to infer viral diversity, origin, and dispersal. In silico analyses assessed primer and probe mismatches.

Results: A total of 434 samples (4.96%) tested positive for DENV RNA, revealing co-circulation of DENV-1, DENV-2, and DENV-3. Among serotyped samples, DENV-3 predominated (72.82%), followed by DENV-1 (17.41%) and DENV-2 (1.05%). Several samples from southern Senegal failed molecular serotyping and were identified through sequencing as sylvatic DENV-2 genotype VI (DENV-2/GVI). In silico analysis revealed critical mismatches in CDC serotyping probe binding sites. Sequencing generated 39 near-complete genomes, identifying multiple clades within DENV-3 genotype III and DENV-1 genotype V. Phylogeographic reconstruction dated the introduction of DENV-2/GVI to approximately 2009, indicating sustained cryptic circulation.

Conclusion: The detection of persistent sylvatic DENV-2 circulation within a hyperendemic setting highlights significant gaps in dengue diagnostics and surveillance. These findings underscore the need for genomic-informed surveillance, One Health approaches integrating non-human primates and arboreal vectors, and reassessment of diagnostic and vaccine strategies in Senegal and across Africa.

Keywords

Dengue, Senegal, Genomic Surveillance, Co-Circulation, Serotypes, Sylvatic

152: Environmental Neglect, Urban Pollution And Community Health Vulnerability In Informal Settlements: Insights From Old Fadama And Agbogbloshie, Accra

RONALD IKECHUKWU KENNETH, Miracle Chinemenma Chukwu, Kassaw Tebabal Tesfa

University of Ghana, Accra, Ghana

Background: Rapid urbanization in developing countries has led to the expansion of informal settlements characterized by poor sanitation, environmental neglect, and increasing pollution. In Accra, Ghana, Old Fadama and Agbogbloshie are among the most vulnerable communities due to overcrowding, inadequate waste management and exposure to environmental hazards. This study examined the relationship between environmental neglect, urban pollution, and community health vulnerability in these settlements.

Method: This study adopted a qualitative case study approach using secondary data obtained from published journal articles, government reports, policy documents, and public health records related to Old Fadama and Agbogbloshie. Relevant literature on waste management, sanitation, pollution, and health conditions in informal settlements was systematically reviewed and analysed. Thematic analysis was employed to identify major environmental challenges and associated health risks.

Results: The findings revealed widespread environmental degradation, including indiscriminate waste disposal, blocked drainage systems, air pollution from electronic waste burning, and contamination of water sources. These conditions were associated with increased cases of respiratory infections, malaria, diarrhea, and skin diseases among residents. Children, women, and the elderly were identified as the most vulnerable groups due to prolonged exposure to unhealthy environmental conditions and limited access to healthcare and sanitation facilities.

Conclusion: Environmental neglect and urban pollution significantly contribute to health vulnerability in informal settlements. Strengthening environmental policies, improving waste management systems and promoting sustainable urban planning and public health interventions are essential for reducing disease burden and improving the wellbeing of vulnerable urban populations.

Keywords

Urbanization, health, vulnerability, pollution, sanitation

153: APOL1 Risk Variants Are Associated With Early Onset Preeclampsia In Ghana: The SPOT-BIO Study

KINGSLEY BOAKYE[1,2], Patricia Goedecke[3], Linda Ahenkorah Fondjo[4], Emmanuel Kwabla Srofenyoh[5], Nana Ampofo[5], Gabrielle Dupigny[2], Hannah Brown Amoakoh[2,6], Kwame Adu-Bonsaffoh[7], Joyce Browne[2], Robert Davis[3,8], Claire L Simpson[3]

[1]School of Public Health, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. [2]University Medical Center, Utrecht University, Utrecht, Netherlands. [3]University of Tennessee Health Science Center, Memphis, Tennessee, United States. [4]School of Medical Sciences, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. [5]Ghana Health Service, Greater Accra Regional Hospital (Ridge), Accra, Ghana. [6]Noguchi Memorial Institute for Biomedical Research, University of Ghana, Accra, Ghana. [7]University of Ghana Medical School, University of Ghana, Accra, Ghana. [8]University of Tennessee, Knoxville, Tennessee, United States

Background: Despite the growing evidence linking apolipoprotein L1 (APOL 1) to the development of early-onset preeclampsia, literature remains scarce among indigenous women in Ghana. We investigated the association between maternal and fetal APOL 1 genotypes in pregnant Ghanaian women with preeclampsia and normotensive controls.

Methods: We conducted a nested case-control study within the main Severe Preeclampsia adverse Outcome Triage (SPOT) study to examine the association between APOL 1 and early-onset preeclampsia among pregnant women (N = 976; cases=539, controls=437) from Ghana. Maternal blood and urine, cord blood, and placental tissue samples were collected for biomarker analyses. Maternal and fetal APOL1 variants were genotyped using validated Applied Biosystems TaqMan real-time PCR assays. Low-pass whole-genome sequencing was performed to derive principal components for adjustment of population stratification. Logistic regression models were used to determine the association between APOL 1 and early-onset preeclampsia, adjusted for demographic and clinical factors.

Results: Maternal APOL1 risk variants were associated with increased odds of early-onset preeclampsia. In the unadjusted model, women carrying two APOL1 risk alleles had 60% higher odds of early-onset preeclampsia [OR=1.60, 95% CI=1.13, 2.30], which remained significant even after multivariable adjustment [AOR=1.48, 95% CI=1.03, 2.14]. Fetal APOL1 risk variants were insignificantly associated with increased odds of early-onset preeclampsia, both in the unadjusted [OR=0.87, 95% CI=0.57, 1.32] and adjusted models [AOR=0.73, 95% CI=0.45, 1.18]. Additionally, our sub-analyses (with sFlt-1/PlGF ratios) revealed maternal APOL1 high-risk genotypes remained significantly associated with early-onset preeclampsia.

Conclusion and public health implications: Maternal (not fetal) APOL1 high-risk genotypes were independently associated with higher odds of early-onset preeclampsia among pregnant Ghanaian women. These findings call for incorporating genetic risk stratification into targeted antenatal care and precision maternal health approaches to support timely interventions and improve maternal and neonatal outcomes in high-risk African populations

Keywords

Early-onset preeclampsia; Apolipoprotein L1; Ghanaian women; precision maternal health; Ghana

157: Co-Circulation And Genetic Characterization Of DENV-1 And DENV-3 In Aedes Aegypti Mosquitoes During The Dengue Epidemic In Cabo Verde, 2023–2024

CELIVIANNE MARISIA RAMOS DE SOUSA[1], Hélida Ariane Rodrigues Freitas Pires[1], Adéritow Augusto Lopes Gonçalves[1], Davidson Daniel Sousa Monteiro[1], Ana Elisa Lopes Santiago[1], Isaías Baptista Fernandes Varela[2], Idrissa DIENG[3], Silvânia Da Veiga Leal[1,4]

[1]Medical Entomology Laboratory, National Institute of Public Health, Praia, Cape Verde. [2]Genomic Sequencing Department of the INSP, Praia, Cape Verde. [3]Epidemiology Clinical Research and Data Sciences, Institut Pasteur de Dakar, Dakar, Senegal. [4]Global Health and Tropical Medicine (GHTM), Associate Laboratory in Translation and Innovation Towards Global Health (LA-REAL), Instituto de Higiene e Medicina Tropical (IHMT), Universidade NOVA de Lisboa, Lisbon, Portugal., Lisboa, Portugal

Background: Dengue virus (DENV) infections are an increasing public health concern worldwide. In 2023–2024, Cabo Verde experienced its largest dengue epidemic, with more than 18,000 confirmed cases and eight deaths across all inhabited islands. Praia and São Filipe recorded the highest number of cases. To support outbreak response and strengthen surveillance, virological monitoring of field-collected Aedes aegypti mosquitoes was conducted.

Methods: Adult mosquitoes were collected between December 2023 and August 2024 in the municipalities of Praia, São Filipe, and Mosteiros using BG-Sentinel traps and Prokopack aspirators. Specimens were morphologically identified and grouped into pools of 30–50 individuals. DENV RNA was extracted and detected by real-time RT-qPCR using flavivirus screening followed by DENV-specific and serotyping assays. The minimum infection rate (MIR) was calculated per 1,000 mosquitoes. Selected DENV-positive samples underwent whole-genome sequencing and maximum-likelihood phylogenetic analysis.

Results: A total of 9,691 mosquitoes were collected, of which 4,898 (51.1%) were *Aedes aegypti*. Of 533 pools analysed, 21 (3.9%) tested positive for DENV. DENV-1 and DENV-3 were detected in Praia, while only DENV-3 circulated in São Filipe. The overall MIR was 4.3 per 1,000 mosquitoes, with the highest value in Praia (5.28/1,000). DENV RNA was identified in two male mosquito pools, suggesting possible vertical transmission. Phylogenetic analysis classified DENV-1 isolates as genotype III lineage A, and DENV-3 as genotype III lineage B.

Conclusion: This study confirms active DENV-1 and DENV-3 co-circulation in *Aedes aegypti* during the 2023–2024 Cabo Verde epidemic. Detection of DENV in male mosquitoes suggests vertical transmission, which may sustain viral persistence between epidemics. The co-circulation of two serotypes may increase the risk of antibody-dependent enhancement and severe dengue outcomes in future outbreaks. These findings highlight the importance of integrating entomological and virological surveillance into national dengue control strategies to enable early detection and targeted vector control.

Keywords

Aedes aegypti; dengue vírus (DENV); Co-circulation, Cabo Verde

158: Phytochemical Analysis And Antimicrobial Activity Of Cymbopogon Citratus Essential Oil And Hydrosol Against Candida Albicans, Escherichia Coli, And Pseudomonas Aeruginosa

FAZILA ARDE SAIDE[1], Graciano Cumaquela[2], Alfredo Salomão Dique[3], Alice Manjate[4], Sancho Pedro Xavier[5]

[1]Universidade de Cabo verde, Praia, Cape Verde. [2]Universidade Lurio, Nampula, Mozambique. [3]Centro de Investigacao e Desevolvimento Etnobotanico-Namaacha, Maputo, Mozambique. [4]Universidade Eduardo Mondlane, Maputo, Mozambique. [5]Federal University of Mato Grosso-Institute of Collective Health, Mato Grosso, Brazil

Background: Natural therapeutic agents, such as Cymbopogon citratus essential oil, have gained prominence for their potential antimicrobial properties. This study aimed to evaluate the antimicrobial activity of the essential oil and hydrolate of Cymbopogon against clinically relevant strains of Candida albicans, Escherichia coli, and Pseudomonas aeruginosa.

Methods: Essential oil was extracted using the steam distillation method with a Clevenger apparatus, and prepared in three concentrations (50, 75 and 100%) using Dimethyl Sulfoxide. Component quantification was performed using gas chromatography coupled with mass spectrometry. Antimicrobial activity was evaluated using the Kirby-Bauer disk diffusion technique, employing discs impregnated with essential oil. Pure cultures of microorganisms, including Escherichia coli, Pseudomonas aeruginosa, and Candida albicans isolated from Leukorrhea samples, were utilized. The Welch Test was applied to analyze potential differences in inhibition zones of microorganisms in response to essential oil at different concentrations.

Results: The essential oil exhibited a yield of 0.98%, with a yellow coloration, clear appearance, and pH of 5.65. Major compounds identified through gas chromatography coupled with mass spectrometry included Beta Myrcene, 6-Methyl-5-hepten-2-one, Ethanol, 2-(3,3 dimethylcyclohexylidene)-, (Z), (1R)-2,6,6-Trimethylbicyclo [3.1.1] hept-2-ene, Isoneral, and Isogeranial.

Conclusion: Antimicrobial activity was observed against all three tested species, where the complete inhibition of C. albicans growth was observed with an inhibitory concentration of 50%. However, the hydrosol exhibited modest antibacterial activity against the tested strains. Statistically significant differences in inhibition diameters were observed for the different studied concentrations ($p<0.05$). Conclusion: The C. citratus essential oil possesses effective antimicrobial activity, proposing a potential antimicrobial alternative. Therefore, the importance of future investigations to explore its therapeutic applicability is underscored.

Keywords

Antimicrobial activity; Candida albicans; Cymbopogon citratus; Pseudomonas aeruginosa.

159: Dietary Habits, Nutritional Status, And Related Factors Among Adolescents At Selected Basic Schools In The Ashaiman Municipality Of The Greater Accra Region, Ghana.

ESTHER EWURABENA NAADU APEANYO, Edward Kofi Sutherland

Ensign Global University, Kpong, Ghana

Background: Adolescence is a vital developmental stage marked by increased nutritional demands for optimal physical growth and cognitive performance. In urbanizing areas like Ashaiman, adolescents face dietary challenges due to socioeconomic inequalities, food insecurity, and shifting eating patterns. Limited localized data exist on adolescent dietary habits and their determinants in peri-urban Ghanaian contexts.

Methods: A quantitative school-based cross-sectional study was conducted among 422 adolescents aged 10–19 years at Ashaiman No.5A Basic School, Blessed Clementina Basic School, and Ashaiman Presby A Basic School in Ashaiman Municipality, Greater Accra Region, Ghana. Stratified random sampling ensured proportional representation. Data were collected in July 2025 using a semi-structured questionnaire based on the Socio-Ecological Model, alongside anthropometric measurements. Nutritional status was assessed using BMI-for-age Z-scores and analyzed with STATA version 18 using descriptive statistics, chi-square tests, and logistic regression.

Results: While 71.1% consumed three meals daily, breakfast (41.9%) and lunch (41.2%) were the most commonly skipped meals. Sugary drink consumption was high (70.6% consuming two or more times per week), while only 22.8% consumed fruits and 21.8% consumed vegetables daily. Snacking was widespread, with biscuits (27.3%) and fried foods (19.2%) most common. Nutritional assessment revealed 9.5% were underweight, 78.9% had normal BMI-for-age, and 11.6% were overweight or obese, indicating a double burden of malnutrition. Gender, parental education, household size, and barriers such as affordability and time constraints were significantly associated with dietary habits and nutritional outcomes ($p < 0.05$).

Conclusions and Public Health Implications: Adolescents in Ashaiman exhibit mixed dietary practices, with healthy behaviors overshadowed by frequent meal skipping and high intake of energy-dense, nutrient-poor foods, reflecting both undernutrition and overweight. Targeted school-based nutrition education, parental involvement, and community-level strategies are urgently needed to improve dietary habits and nutritional outcomes among adolescents in Ashaiman Municipality.

Keywords

Adolescents, Nutrition, Dietary Habits, Body Mass Index, Ashaiman

161: Assessing Community-Level Vital Event Reporting Challenges Within Digital Civil Registration Systems In Zambia: A Formative Research For A Mortality Surveillance Sample-Based Registration System In Zambia 2025

THELMA M SHINJEKA[1], Stephen Longa Chanda[1], Maureen N Chileshe[1], Amos Hamukale[1], Mwila D Ngandu[2], Davie Simwaba[1], Roma Chilengi[1]

[1]Zambia National Public Health Institute, Lusaka, Zambia. [2]CIRDZ, Lusaka, Zambia

Background: A robust Civil Registration and Vital Statistics system is the cornerstone of public health planning, policy formulation and resource allocation. In Zambia, significant gaps persist in the timely and accurate registration of vital events, particularly births and deaths, hindering the country's ability to comprehensively monitor mortality trends and strengthen epidemic intelligence. We conducted a formative assessment to explore community perceptions and cultural beliefs surrounding the registration of births and deaths.

Methods: We employed a qualitative study design, utilising Focus Group Discussions and In-depth Interviews across six provinces of Zambia. Participants were purposively selected from distinct groups to ensure representation of diverse perspectives: mothers and fathers of young children, women of reproductive age without children, community health workers, and leaders. Thematic analysis using grounded theory was used to identify recurrent patterns, key themes and actionable insights from the transcribed discussions.

Results: A total of 60 interviews were conducted through FGDs, KIIs and IDIs across various provinces. Regarding birth registration, critical knowledge gaps about its importance, systemic failures, and the low perceived urgency of obtaining birth certificates were key barriers to timely registration. By contrast, death reporting and registration were hindered by inconsistent processes and logistical and social barriers, such as limited access to reporting facilities and transport challenges. Notably, social stigmas attached to specific causes of death, including HIV/AIDS-related deaths, emerged as key drivers of non-reporting or misreporting.

Conclusion: The study findings reveal that under-registration of vital events in these communities is due to several factors. The current CRVS system is perceived as inaccessible, bureaucratic, and poorly communicated to the populace. While cultural beliefs influence the timing and nature of reporting, community members are open to engaging with official registration systems when the value is clearly communicated, and the process is respectful, confidential, and convenient.

Keywords

Death, Birth, Civil Registration and Vital Statistics system, Mortality Trends, Community, Zambia

163: Diagnóstico Dos Factores De Risco Socioambientais E Comportamentais Da Cólera Em Moradores Do Bairro Utomba, Benguela, Abril 2026

FERNANDO NIOCA, Leopoldina Mouzinho, Maria Castelo

Faculdade de Medicina da Universidade Agostinho Neto, Luanda, Angola

Contexte: Angola enfrentou epidemia de cólera desde Janeiro de 2025, tendo acumulado 40.688 casos até 26.05.2026. A província de Benguela é a segunda mais afectada com 7.199 casos (17,7%). O bairro Utomba em Benguela, começou a notificar casos de cólera apenas a partir de 25.04.2026, tendo acumulado 16 casos e dois óbitos até 26.05.2026. Diante desta situação, urge uma tomada de medidas para conter o surto no bairro. Este estudo teve por objectivo caracterizar os factores de risco socioambientais e comportamentais associados à transmissão da cólera, de modos a fornecer subsídios para planear medidas de controlo do surto.

Metodologia: Trata-se de um estudo descritivo de corte transversal, realizado com uma amostra de 180 residências no bairro Utomba, seleccionadas por amostragem em duas etapas (aleatória simples e sistemática). A recolha de dados foi efectuada através de entrevistas aos agregados familiares e análises com o software SPSS, versão 26.

Resultados: Os resultados revelaram 73,9% das habitações construídas em adobe e 48,3% dos chefes de família sem qualquer instrução formal. Quase metade das famílias (45,6%) dependia de tanques abastecidos por cisternas e 19,5% consumia água diretamente de fontes ambientais inseguras, como rios (12,8%) e cacimbas (6,7%). Oito em cada 10 famílias (81,7%) não realizava nenhum tipo de tratamento ou purificação da água antes do consumo. Além disso, 40,5% dos agregados praticavam a defecação ao ar livre, perpetuando o ciclo de contaminação ambiental.

Conclusão: Os dados revelaram alta vulnerabilidade socioambiental, com forte risco de transmissão de cólera sustentada pela exposição a fontes inseguras de água e práticas sanitárias inadequadas. Por isso, é urgente reforçar as medidas de controlo como a cloração da água e sensibilização/educação comunitária, bem como avançar para intervenções estruturais em saneamento e acesso à água segura, para quebrar o ciclo ambiental fecal-oral.

Keywords

Cólera; Factores de Risco; Saneamento Básico; Benguela; Angola.

164: Relatório Da Análise Do Problema De Qualidade De Vigilância: Laboratório De Virologia, Sal, 2023

LECTICIA MONTEIRO PAULA DA CRUZ[1], Menilita Paula Varela dos Santos Barbosa[2]

[1]Delegacia de Saúde do Sal, Espargos, Cape Verde. [2]Instituto Nacional de Saúde Pública, Praia, Cape Verde

Contexte: A análise sistemática de dados é fundamental para a vigilância em saúde pública, permitindo a deteção precoce de surtos e a tomada de decisões baseadas em evidências. No âmbito do Programa de Treinamento em Epidemiologia de Campo (FETP), foi realizada uma avaliação da qualidade da vigilância no Laboratório de Virologia do Instituto Nacional de Saúde Pública, localizado na ilha do Sal, Cabo Verde. Identificar um problema de qualidade da vigilância no Laboratório de Virologia do Sal a e propor recomendações para a sua resolução

Método: Estudo qualitativo realizado entre 13 de junho e 14 de agosto de 2023 no Laboratório de Virologia do Sal. Foram conduzidas entrevistas semiestruturadas e aplicadas a análise *SWOT* e o Diagrama de *Ishikawa*, para identificar e analisar as causas associadas ao problema identificado.

Resultados: O principal problema identificado foi a ausência de análise sistemática dos dados do laboratório. Entre as causas identificadas destacaram-se a falta de formação específica em vigilância epidemiológica e análise de dados, a inexistência de ferramentas informáticas adequadas, a ausência de políticas internas orientadas para a utilização dos dados e uma cultura organizacional que não favorece a sua análise sistemática. Foram igualmente identificados desafios relacionados com a supervisão, as condições contratuais e a motivação dos profissionais, contribuindo para limitações no desempenho das atividades de vigilância.

Conclusão: A ausência de análise sistemática dos dados compromete o contributo do laboratório para a vigilância epidemiológica. O fortalecimento das competências técnicas, a disponibilização de ferramentas adequadas, a promoção de uma cultura institucional orientada para o uso dos dados e a melhoria das condições de trabalho são essenciais para otimizar a utilização da informação laboratorial para fins de vigilância fortalecer a produção de informação oportuna para a saúde pública.

Keywords

Vigilância em Saúde Pública, Análise SWOT, Diagrama de Ishikawa.

165: Séroprévalence Du Virus De L'hépatite C Et Profil Sociodémographique Chez Une Population Consultante : Étude Rétrospective Marocaine (2020–2025)

BANATI ELOI N'KOUE N'DA[1,2,3], Ahd OULADLAHSEN[2], Abdelaziz HANNOUN[4], Dr. Joseph Otshudiandjeka[1], Senga Lucy Sembuche[1], Raiye Andrel DZON ETOU[1], Dr. Ngashi NGONGO[1], Dr. Raji TAJUDEEN[1], Dr. Jean KASEYA[1], Abderrahmanes MAAROUFI[5], Ezzikouri SAYEH[2]

[1]Africa Centres for Disease Control and Prevention, Addis-Abeba, Ethiopia. [2]Institut Pasteur du Maroc, Casablanca, Morocco. [3]Centre Hospitalier Départemental de l'Atacora, Natitingou, Benin. [4]Délégation préfectorale de Hay Hassani, Casablanca, Morocco. [5]Faculté de médecine et de pharmacie, Université Hassan II, Casablanca, Morocco

Contexte: Les laboratoires nationaux disposent de données de routine précieuses pour le suivi de l'élimination du virus de l'hépatite C (VHC), mais celles-ci restent encore sous-exploitées au Maroc. Cette étude visait à décrire la séroprévalence, le profil sociodémographique et l'évolution temporelle de la positivité des anticorps anti-VHC chez des patients adressés pour suspicion d'hépatite virale.

Méthode : Il s'agit d'une étude rétrospective menée à l'Institut Pasteur du Maroc entre 2020 et 2025, incluant l'ensemble des sujets testés pour les anticorps anti-VHC sans critère d'inclusion clinique préalable. La détection a été réalisée par chimioluminescence (ARCHITECT i4100). Les variables recueillies étaient le sexe, l'âge (< 30, 30–49, ≥ 50 ans) et la zone géographique. La tendance temporelle a été évaluée par le test de Cochran–Armitage (seuil de signification $p < 0,05$). La séroprévalence observée dans cette population consultante a été comparée à l'estimation nationale de 0,5 %.

Résultats : Sur 2 638 personnes (66 % de femmes, âge médian de 52 ans), la séroprévalence globale était de 4,2 %, soit près de huit fois la prévalence nationale estimée. La positivité augmentait significativement avec l'âge : 1,15 % chez les < 30 ans, 1,29 % chez les 30–49 ans et 6,60 % chez les ≥ 50 ans ($p < 0,001$), sans association avec le sexe ($p = 0,4$). Les sujets âgés de 50 ans ou plus représentaient 86 % des cas positifs. Sur le plan temporel, la positivité a diminué de 6,4 % en 2020 à 2,5 % en 2025 ($p = 0,0005$).

Conclusion : Cette étude met en évidence une séroprévalence élevée chez la population consultante, témoignant d'un biais de sélection lié au recrutement en laboratoire. Elle souligne que ces données, bien que non extrapolables à l'ensemble de la population marocaine, sont néanmoins utiles pour orienter le dépistage ciblé, en particulier chez les personnes âgées (≥ 50 ans) qui concentrent la majorité des cas. La baisse observée sur la période suggère un effet favorable des politiques nationales de lutte contre le VHC. Ces résultats plaident pour une meilleure intégration des données de laboratoire dans la surveillance épidémiologique et pour la mise en place d'un registre standardisé, afin de renforcer la représentativité et l'interprétation des futures analyses en population consultante.

Keywords

Virus de l'hépatite C (VHC); Séroprévalence; Dépistage; Maroc; Étude rétrospective; Population âgée

166: Surveillance Des Morsures D'animaux Et Observance Du Protocole De Prophylaxie Post-Exposition Contre La Rage À La Délégation De La Santé De Hay Hassani (Région Casablanca-Settat), Janvier 2022 – Avril 2026

RAIYE ANDREL DZON ETOU[1,2,3], Abdelaziz HANNOUN[3], Ahd OULADLAHSEN[2], Joseph Otshudiandjeka[4], Senga Lucy Sembuche[4], Banati Eloi N'KOUE N'DA[1], Raji TAJUDEEN[4], Abderrahmanes MAAROUFI[5], Jean KASEYA[4], Ezzikouri SAYEH[2]

[1]AFRICA CDC, Casablanca, Morocco. [2]Institut Pasteur du Maroc, Casablanca, Morocco. [3]Délégation sanitaire de Hay Hassani, Casablanca, Morocco. [4]AFRICA CDC, Addis-Ababa, Ethiopia. [5]Faculté de médecine et de pharmacie, Université Hassan II, Casablanca, Morocco

Contexte: Le Maroc reste une zone d'endémie rabique. Les morsures d'animaux constituent un fardeau important pour la santé publique. Malgré l'existence d'un protocole national de prophylaxie post-exposition (PPE), son observance reste peu documentée. Cette étude décrit le profil épidémiologique et l'observance de la PPE chez les patients reçus au centre de traitement antirabique de Hay Hassani afin d'orienter les interventions de prévention.

Méthodes

Nous avons mené une étude descriptive rétrospective à partir des données de surveillance de routine issues du centre de traitement antirabique de Hay Hassani, du 1er janvier 2022 au 30 avril 2026. Les variables incluaient : l'âge, le sexe, la date de consultation, la semaine épidémiologique de la morsure, le type d'animal, le statut vaccinal de l'animal, la catégorie de la plaie, ainsi que les dates d'administration du vaccin et du sérum selon le protocole utilisé. L'observance a été définie comme l'administration de toutes les doses de vaccin prévues.

Résultats

Au total, 1120 cas de morsures ont été recensés. L'âge médian était de 29 ans (16 - 47) ; 67,0% des patients étaient de sexe masculin. Le délai médian de consultation était de 1 jour (0-2). Les chiens étaient responsables de 56,1% des morsures. Les mordeurs n'étaient pas vaccinés dans 80,0% des cas. Les blessures de catégorie II et III représentaient respectivement 13,7% et 4,2% des cas. Environ 29,7% des plaies ont été lavées, et 38,3% des expositions de catégorie III ont reçu une séroprophylaxie antirabique. Sur l'ensemble des patients reçus, 73,2% avaient reçu au moins trois doses, avec un taux global d'observance du protocole de PPE de 40,7 %.

Conclusion

Cette étude montre une faible observance du protocole de PPE. La proportion importante d'abandons du protocole vaccinal et d'animaux non vaccinés alerte sur la nécessité de renforcer la sensibilisation des populations et d'intégrer une coordination multisectorielle.

Keywords

Animal bites, rabies, post-exposure prophylaxis, adherence, Hay Hassani

167: Genomic Characterization Of Antimicrobial Resistance Profiles In Salmonella Spp. From Apparently Healthy Poultry, Beef, And Tilapia In Northern Ghana

JEFFERY ELORM AKORTIA AGBEMEETSI[1], Isaac Cudjoe Badu[1], Victoria Bernice Sedor[2], Emmanuel Martin Obeng Bekoe[3], Elvis Fiam Amegayibor[4,2], Christian Owusu-Nyantakyi[5], Bevely Egyir[5], Emmanuel Allegye-Cudjoe[6]

[1]1 Veterinary Services Department, Central Veterinary Laboratory, Pong-Tamale, Tamale, Ghana. [2]Veterinary Services Department, National Food Safety Laboratory, Accra, Accra, Ghana. [3]Council for Scientific and Industrial Research – Water Research Institute, Tamale, Tamale, Ghana. [4]Department of Environmental Sciences, Faculty of Biosciences, College of Science, Kwame Nkrumah University of Science and Technology, Kumasi,, Kumasi, Ghana. [5]Department of Bacteriology, Noguchi Memorial Institute for Medical Research, University of Ghana, Accra, Ghana, Accra, Ghana. [6]Veterinary Services Department, National Head Office, Accra, Accra, Ghana

Background: *Salmonella enterica* is a significant foodborne pathogen yet its epidemiology within Ghana remains poorly documented due to limited surveillance. This study aimed to evaluate the prevalence, serotypes, and resistance profiles in asymptomatic food animals and meat products across the Northern regions of Ghana.

Methods: Using purposive sampling, 50 poultry caeca (33 farms), 50 bovine meat samples (26 slaughterhouses), and 28 pooled tilapia kidney/intestine samples (11 farms), were collected in December. These samples were screened using standard culture-based bacteriological techniques. Confirmed Isolates underwent whole-genome sequencing (WGS) on the illumina platform at the Noguchi Memorial Institute for Medical Research . The *Salmonella* genome assemblies were analysed for serovar and serogroup prediction using the *Salmonella* In-Silico Typing Resource (SISTR) and SeroSeq, based on the Kauffmann–White classification.Furthermore, Pathogenwatch was utilized for AMR gene detection and plasmid profiles their phylogenetic distribution were visualized using iTOL.

Results: *Salmonella spp*. were recovered from 12.5% (16/128) of all samples,. with isolation rates stratified by source as follows: 32.1% (9/28) in tilapia, 8% (4/50) in bovine samples, and 6% (3/50) in poultry. Regarding environmental prevalence, the occurrence was 81.8% in tilapia farms, 19.2%in slaughtering facilities, and 6.1% (2/33) in poultry farms. WGS of 11 randomly selected isolates revealed a diversity of seven serotypes: Chester, Colindale, and Schwarzengrund, Meleagridis, Kentucky, and *S.* I 4:e,h:-. Notably, a bovine isolate recovered from Sheshigu harboured *blaTEM-1B* and *tet(A)* genes conferring resistance to beta-lactams and tetracycline antibiotics, respectively, in association with an IncI1-I plasmid replicon.

Conclusion: Reporting *Salmonella* serotypes previously undocumented in Ghana, these findings reveal significant AMR-related risks across meat supply chains. This potential threat for food handlers and women underscores the urgent need for integrated One Health genomic surveillance and enhanced safety interventions to mitigate public health risks.

Keywords

Antimicrobial resistance, Whole Genome Sequencing, Salmonella enterica, food safety

168: TERANGA: A Modular Digital Platform For Syndromic Surveillance And Early Warningacross 10 West African Countries

MAMADOU CISSE

Institut Pasteur de Dakar, Dakar, Senegal

TERANGA: A Modular Digital Platform for Syndromic Surveillance and Early Warning

Across 10 West African Countries

Background: In the context of increasing viral threats in West Africa, there is a critical need for rapid

detection and response mechanisms. We supported the deployment of a regional syndromic sentinel surveillance project across ten West African countries through the development and implementation of *Teranga*, a sovereign digital platform designed to enhance surveillance and early warning capabilities.

Methods: The Teranga platform integrates three main modules: syndromic surveillance, laboratory data management, and aggregated data visualization. It was deployed and adapted in close collaboration with national authorities and IT teams in each participating country. Features include real-time data flow between health facilities, laboratories, and national public health institutes, as well as customizable alert thresholds and statistical tools for outbreak detection. Teranga is interoperable with DHIS2.

Results: Teranga has been successfully deployed in ten countries (Mauritania, The Gambia, Senegal, Cabo Verde, Togo, Mali, Guinea, Niger, Guinea-Bissau, and Sierra Leone). The platform has enabled early detection and timely response to multiple outbreaks, notably in The Gambia and Cabo Verde. It also improved coordination between field-level data collectors, laboratories and public health authorities, contributing to faster decision-making.

Conclusions: The Teranga platform demonstrates how a modular, scalable, and regionally-owned digital solution can strengthen surveillance systems and serve as an effective early warning tool. Its successful deployment across diverse national contexts highlights the importance of local adaptation, sustainability, and regional collaboration in pandemic preparedness efforts.

Keywords

Digital Health, DHIS2, surveillance, outbreak, Early Warning System

169: Socio-demographic Predictors of Obesity Among Ghanaian Women: Evidence from the 2022 Ghana Demographic and Health Survey

PRINCE ASUMADU ADU[1], Evans A Opoku[2], Arnold Okpani[3], Zelalem T Haile[1]

[1]Heritage College of Osteopathic Medicine, Ohio University, Dublin, United States. [2]Scripps College of Communication, Ohio University, Athens, United States. [3]School of Public and Global Affairs, Fairleigh Dickinson University, Vancouver, Canada

Background: Obesity is increasingly becoming a major public health problem in low- and middle-income countries undergoing rapid urbanization and nutritional transition. In Ghana, rising obesity among women of reproductive age has important implications for cardiometabolic and reproductive health. We examined socio-demographic predictors of obesity among Ghanaian women using nationally representative data from the 2022 Ghana Demographic and Health Survey.

Methods: We conducted a cross-sectional analysis of women aged 15-49 years with complete body measurements from the 2022 GDHS (n=5658). Obesity was defined as body mass index ≥30.0 kg/m² using World Health Organization criteria. Independent variables included age, education, parity, sex of household head, place of residence (urban/rural), media exposure, and region. Weighted descriptive statistics were used to estimate obesity prevalence. Survey-adjusted chi-square tests assessed bivariate associations. Multivariable logistic regression accounting for the complex survey design identified independent predictors of obesity. Statistical significance was assessed at a=0.05.

Results: The weighted prevalence of obesity among Ghanaian women was 21.9%. Obesity prevalence increased with age and was higher among women living in urban areas compared with rural areas (28.8% vs 12.4%], p<0.001). Significant regional variation was observed. In adjusted analyses, women aged 35-49 years had higher odds of obesity compared with those aged 15–24 years (adjusted odds ratio [aOR] [2.64], 95% CI: [1.99–3.52]). Urban residence (aOR [1.43] 95% CI: [1.14 – 1.18]), higher education (aOR [1.98] 95% CI: [1.41 – 2.77]), and higher parity (aOR [1.68] 95% CI: [1.24 – 2.29]) were also independently associated with obesity.

Conclusion and Public Health Implications: The findings support integrating obesity prevention into women's health and primary care programs in Ghana, with particular attention to urban populations and women at increased risk. Targeted interventions are needed to address the rising burden of obesity amid ongoing epidemiologic and nutritional transition.

Keywords

Obesity, women, Ghana, reproductive, predictors

171: Preconception Care In Ghana: Evidence Of Implicit Delivery Within Routine Health Services In The Absence Of A National Program.

VICTOR OWUSU AMPAW[1], Emmanuel Konadu[2], Julius Kwabena Karikari[1,2], Francis Appiah[1], Daniel Gyaase[1], Douglas Aninng Opoku[1,2], Yeetey Enuameh[1,2]

[1]Kwame Nkrumah University of Science and Technology, School of Public Health, Kumasi, Ashanti Region, Ghana. [2]University Hospital, KNUST, Kumasi, Ashanti Region, Ghana

Background: Preconception Care (PCC) is an important intervention aimed at improving maternal and newborn health outcomes through risk assessment, health promotion, and early interventions before conception. Despite growing global recognition of PCC, in Ghana, and other LMICs, there is limited formal PCC programs. However, some PCC components may already be delivered implicitly through routine healthcare services. This study assessed PCC components currently delivered within routine health services in the Kumasi Metropolis and explored opportunities for their integration into a structured PCC framework.

Methods: A cross-sectional study was conducted among 331 postpartum women aged 15-49 years in the Kumasi Metropolis. Participants were selected from three health facilities using systematic random sampling. Data collected were via structured questionnaires that collected data on socio-demographic characteristics, utilisation of PCC patterns and identify opportunities for integration into a structured PCC framework. Overall PCC utilisation was set at achieving at least 50% of a set composite utilisation measure across all PCC components.

Results: Overall PCC utilisation was low. Only 19.9% of participants received comprehensive PCC prior to conception. However, utilisation of several components was relatively high, including immunization and vaccination (92.1%), lifestyle modification interventions (89.1%), family planning and birth spacing services (87.3%), nutritional counselling and supplementation (76.1%), and physical examinations (75.5%). In contrast, reproductive health assessments (8.2%), fertility assessment (12.7%), mental health screening (13.6%) and hereditary /genetic assessment (18.7%) were not adequately utilised. Fragmented delivery exceeded 65% across PCC components, indicating that women frequently received isolated interventions rather than coordinated PCC packages.

Conclusion: Although comprehensive PCC utilisation remains low in Ghana, several PCC-related interventions are already being delivered through routine healthcare services. Strengthening coordination, provider training, standardized guideline, and referral pathways may facilitate integration of these fragmented services into a comprehensive PCC framework capable of improving maternal and newborn outcomes.

Keywords

Preconception care; Healthcare integration; Maternal Health; Routine healthcare services

172: Investigation Sur La Presomption De Contamination Des Cours D'eau Au Mercure Dans Le Village De Djangomerila, Aire De Sante De Filamana, District Sanitaire De Yanfolila, Aout 2025, Mali

KAMPO OUMAR MAOUDO[1], Hanine Keita[2], Bouyagui Traore[3], Touré oumar Boubacar[4], Barry Dibril[5]

[1]Direction régionale de la santé publique de Sikasso, Bamako, Mali. [2]Direction Général de la santé publique/consulant national CDC, Bamako, Mali. [3]Ministere de la santé publique du Mali, Bamako, Mali. [4]Direction regional de la santé de sikasso, sikasso, Mali. [5]ministere de la santé publique du mali/coordinateur FETP mali, Bamako, Mali

Contexte: L'exploitation aurifère au Mali, suscite couramment l'utilisation des métaux lourds, pouvant entrainer des conséquences graves, voir létales pour les humains, la faune et la flore. Fin juillet l'alerte est donnée par le ministère de la santé et du développement social, à travers une correspondance du chef de village de Djangomerila, District Sanitaire de Yanfolila pour faire l'état des lieux et proposer des solutions en vue de protéger les populations contre les conséquences d'une éventuelle contamination de l'eau par le mercure.

Matériels et méthode : Après prise de contact avec les autorités administratives, coutumières, et sanitaires, suivi d'échange avec la population, des informations sur les cas présumés de contact avec le mercure ont été collectées. La revue documentaire, une recherche des signes et des sources de contamination des eaux, de la flore et la faune ont été menées, des prélèvements des échantillons effectués et des mesures de contrôle et de prévention ont été instaurées.

Résultat : des impacts sanitaires à type d'eczéma chroniques, gastro-entérite, conjonctivite ont été recensés, une pollution de l'eau (eau boueuse), la destruction de la végétation, de la faune et des décès inexpliqués dans un environnement d'exploitation traditionnelle et semi moderne de l'or tout autour du village. Le résultat du laboratoire conclut à une contamination à l'arsenic et un PH acide de l'eau. L'étude recommanda la fermeture du site d'orpaillage qui fut effective en 2026 ainsi que des suivis environnementaux réguliers.

Conclusion : l'investigation a mis en évidence la nécessité d'une approche « one Heath » pour cerner l'ampleur de problèmes posés par l'exploitation aurifère anarchique au Mali ainsi que leur danger pour la santé de la population, la faune, l'environnement et la flore

Keywords

Investigation, contamination, mercure, arsenic, Djangomerila

173: Multiplex Real-Time PCR Reveals High STI Co-Infection Burden In A Ghanaian Cohort: Implications For National Surveillance

GOLDA ATAA AKUFFO, Paul Owusu Oduro, Nutifafa Senaya, Jasmine Danyo, Henry Tornyi, Ethel Klu, Derrick Akpalu

Revna Biosciences, Accra, Ghana

Background: Sexually transmitted infections (STI) management in low- and middle-income countries (LMICs) remains largely dependent on syndromic algorithms and single-pathogen diagnostics. These approaches are limited in their ability to capture asymptomatic infections and polymicrobial co-infections. These limitations contribute to ongoing transmission and underestimation of the true STI burden. Multiplex molecular diagnostics enable simultaneous detection of multiple pathogens while strengthening epidemiological surveillance systems. This study assessed the molecular prevalence and co-infection patterns of STIs in a Ghanaian cohort using a multiplex real-time PCR platform.

Methods: A retrospective analysis was conducted using STI panel testing data from patients self-presenting to Revna Biosciences for routine STI panel evaluation between 2023 and 2025. Urine samples were tested for 15 STI-associated pathogens using a multiplex real-time PCR assay. Data was analyzed using Microsoft Excel (Version 2604); proportions are reported with 95% confidence intervals.

Results: Among 65 patients tested for 15 pathogens each, 50.8% were female, with a mean age of 30.4 years; males were significantly older than females (33.7 vs 26.8 years; $p < 0.001$). Overall, 20.0% tested negative for all infections, 13.8% had single infections, and 66.2% had multiple co-infections, with a mean of 2.06 pathogens per patient. The prevalence of at least one STI was 80% (95% CI: 68.7–87.9), and the coinfection rate was 66.2% (95% CI: 54.0–76.5). Gardnerella vaginalis was the most prevalent pathogen overall (52.3%), while Neisseria gonorrhoeae predominated in males (37.5%) and Gardnerella vaginalis was predominant in females (69.7%).

Conclusion and Public Health Implications: The high burden of STI co-infections identified highlights major gaps in conventional single-pathogen diagnostic approaches and suggests that the true epidemiological burden of STIs may be considerably underestimated. Incorporating multiplex real-time PCR into Ghana's STI surveillance and diagnostic framework could improve case detection, support targeted treatment strategies, and strengthen molecular epidemiological monitoring for disease control.

Keywords

Molecular diagnostics, Sexually transmitted infections, Real-time PCR, STI surveillance

174: Epidemiological Investigation Of An Anthrax Outbreak At The Wildlife-Human Interface In Mosi-Oa-Tunya National Park, Zambia, October-November 2025

MATHEWS SICHALWE[1,2,3], Humphrey Banda[1,3], Gregory Bwalya[3], Lywaali Mataa[4], Benson Bowa[5], Mewndalubi Hazyondo[6], Brian Musalo[7], Conrad Chibale[1,8], Paul Mulopa[1,9,4], Dabwitso Banda[1,10], Nyambe Sinyange[1,10]

[1]Zambia Field Epidemiology Training Program, Lusaka, Zambia. [2]University of Zambia, Lusaka, Zambia. [3]Ministry of Fisheries and Livestock-National Livestock Epidemiology and Information Centre, Lusaka, Zambia. [4]Ministry of Fisheries and Livestock-National Livestock Epidemiology and Information Centre,, Lusaka, Zambia. [5]Ministry of Fisheries and Livestock-Central Veterinary Research Institute, Lusaka, Zambia. [6]Ministry of Tourism-Department of National Parks and Wildlife, Chilanga, Zambia. [7]Ministry of Tourism-Department of National Parks and Wildlife, Livingstone, Zambia. [8]Ministry of Health-Zimba District Health Office, Zimba, Zambia. [9]Levy Mwanawasa Medical University, Lusaka, Zambia. [10]Zambia National Public Health Institute, Lusaka, Zambia

Background: Anthrax is an acute zoonotic disease caused by *Bacillus anthracis*. On 30 October 2025, a dead hippopotamus from Mosi-oa-Tunya National Park was fed to 36 captive lions, causing morbidities and mortalities prompting an outbreak investigation. The objectives were to confirm the outbreak, assess timeliness of detection, notification, and response, map wildlife cases, and evaluate knowledge and practices among at-risk populations.

Methods: A descriptive case series investigation was conducted from 16-20 November 2025, characterizing the outbreak by time, place, and host. Tissue, soil, swabs and water samples were collected and cultured for *B. anthracis* isolation. Timeliness was assessed using the 7-1-7 metrices through review of patient health records, veterinary reports and key informant interviews. Wildlife case distribution was mapped using QGIS 3.44.7. A structured questionnaire was used to collect data on knowledge and practices and analyzed using Stata 17. Bloom's taxonomy scale was used to assess knowledge and practices with ≥60% score regarded as adequate.

Results: Three confirmed wildlife cases and 13 suspected wildlife cases, with ten epidemiologically linked human cases were identified. Outbreak detection occurred exactly seven days post-emergence. Notification occurred six days post-detection while public health responses were completed ten days post-notification.16 wildlife cases were identified and mapped. The case fatality rate (CFR) in captive lions was 42.9% (3/7). Among the 25 respondents, knowledge about anthrax was high with 76% (19/25) having heard of the disease, 72% (18/25) and 64% (16/25) knew it affects wildlife and livestock respectively. Overall, 60% (15/25) were aware of human infection and vaccination as means of livestock protection. Only 28% (7/25) however practiced safe carcass disposal and 48% (12/25) reported handling or consuming potentially contaminated meat.

Conclusion: The outbreak was characterized by delayed notification and response. High-risk community practices were also observed. We recommend implementation of coordinated, multisectoral risk communication and community engagement on safe carcass disposal.

Keywords

Anthrax, knowledge, practices, outbreak, Zambia

176: Epidemiology Of Malaria Among Children And Adolescents Aged 5 – 19 Years In The Northern Region, Ghana, 2020 – 2024: Insights From Routine Surveillance Data For Targeted Intervention

WILLIAMS AZUMAH ABANGA[1], Adjei Sarfo Kwabena[2], Chrysantus Kubio[3]

[1]Saboba District Health Directorate, Ghana Health Service, Saboba, Ghana. [2]Savannah Regional Health Directorate, Ghana Health Service, Damongo, Ghana. [3]3. Northern Regional Health Directorate, Ghana Health Service, Tamale, Ghana

Background: Malaria remains a public health problem, especially among children. In northern Ghana, various interventions including seasonal malaria chemoprevention and the malaria vaccine have been implemented to reduce the incidence among children under five years. This study determined the incidence, temporal and geographical patterns of malaria among children and adolescents aged five to 19 years in the Northern Region of Ghana to help inform interventions towards malaria elimination

Methods: A retrospective cross-sectional secondary data analysis was conducted using malaria data from the District Health Information Management System 2 (DHIMS2) from 2020 to 2024 in the Northern Region. The incidence was determined by dividing the number of positive malaria cases by the population at risk per 1,000 based on person, place and time. The results were presented in tables, graphs and maps.

Results: A total of 570,576 children and adolescents aged 5 – 19 years were suspected of malaria; of these, 92.9% (530,130/570,576) were tested. The positivity rate was 62.8% (332,685/530,130). The overall malaria incidence was 78.9 per 1,000 (95% CI: 78.6 – 79.1). The incidence was significantly higher among females, 88.3 per 1,000 (IRR: 1.26, 95% CI: 1.25 – 1.27), compared to males, 69.9 per 1,000. Children aged 5 – 9 years were the most affected, 95.1 per 1,000. There were significant inter-district disparities, with higher rates recorded in Kpandia, 148 per 1,000 and Saboba, 147.1 per 1,000. Relative to 2020, significantly higher rates were recorded in 2021 and 2023, whilst 2024 recorded lowest incidence.

Conclusion and Public Health Implications: The overall incidence of malaria among older children and adolescents was 78.9 per 1,000, with a higher incidence among children 5 – 9 years and significant geographical disparities. The findings reiterate the need for targeted interventions and strategies in high-incidence districts by the Regional Health Directorate and child and adolescent health stakeholders.

Keywords

Malaria, incidence, school-aged, adolescents, Northern Region, Ghana, DHIMS2

177: African Palm Weevil Larvae In School Meals: Baseline Insights Among School Age Children (6-12 Years Old) In Kade, Eastern Region Of Ghana

ABENAA AKYAA OKYERE[1,2], Jolene M. Azagba Nyako[3], Bernard Darfour[2], Daniel Osei Ofosu[2], Godfred Egbi[4], Komla Kyky Ganyo[5], Esaie G. Kpadonou[5], Frank Baiden[1], Charles Tortoe[3], Francis Bruno Zotor[1,6]

[1]Department of Family & Community Health, Fred Newton Binka School of Public Health, University of Health & Allied Sciences Ghana, Ho, Ghana. [2]Radiation Technology Centre, Biotechnology & Nuclear Agriculture Research Institute, Ghana Atomic Energy Commission, Legon, Ghana. [3]Food Research Institute, Council for Scientific & Industrial Research, Accra, Ghana. [4]Nutrition Department, Noguchi Memorial Institute for Medical Research, College of Health Sciences, University of Ghana, Legon, Ghana. [5]Conseil Ouest and Centre Africain pour la Recherche et le Développement Agricoles, 7, Avenue Bourguiba, Dakar, Senegal. [6]Food Evolution Research Centre, School of Tourism & Hospitality, University of Johannesburg, Johannesburg, South Africa

Background: Malnutrition among children remains a major public health concern in Ghana and sub-Saharan Africa. Among school age children, micronutrient deficiencies particularly of iron and zinc limits growth, impairs cognition with implication to life achievements in adulthood. Limiting dietary factor is access and agency to diverse affordable, nutrient-rich foods that promote health among this vulnerable group. This study explored the nutritional status, dietary patterns of school age children and the potential use of African palm weevil larvae (APW) as alternative protein source for supplementation of the school meals in Kade, Eastern Region of Ghana..

Methods: At baseline 420 caregiver-child (6-12 years old) pairs in 4 public basic schools in the Kade Municipal were recruited after providing consent. Dietary intake was assessed using dietary diversity score with the 24-hour dietary recall, food security was analysed using the FAO FIES and Hb concentration as proxy for anaemia was measured using the Hemocue. Anthropometric measurements using WHO/UNICEF standardized protocols and nutritional indices were generated to assess growth outcomes. Descriptive and inferential statistical analyses were performed to examine associations between dietary patterns, Hb and anthropometric indicators.

Results: Findings revealed low-to-moderate dietary diversity among the study subjects. 63.3% were anaemic, mean Hb was 11.06g/dl. 65.8% of male subjects showed higher anaemia than females (60.8%) reversing the normal pattern. Stunting was recorded at 13.5%. 25.9% of respondents had consumed APW and 12.8% preferred insects' protein compared with fish, meat and eggs. 91.8% of caregivers were comfortable with their child eating insect-based foods at school. 74.2% of the children would eat insect-based foods if it looked like normal food.

Conclusions and public health implications: This baseline findings suggest nutritional vulnerabilities. Intergrating APW as a targeted school-based nutrition and public health interventions to improve health outcomes among school age children in Kade has strong potential.

Keywords

Edible insects, school meals, micronutrient deficiency, public health, Ghana

178: Trends And Geographic Distribution Of Underweight Among Children Under Five In The Northern Region, Ghana: A Retrospective Cross-Sectional Data Analysis

CYNTHIA KUBIO[1], Kwabena Adjei Sarfo[2], Williams Azumah Abanga[3], Mukaila Mumuni Zankawah[1], Benedict Ofori Appiah[4], Patricia S. Amadu[4], Chrysantus Kubio[4]

[1]Tamale Metropolitan Health Directorate, Ghana Health Service, Tamale, Ghana. [2]Savannah Regional Health Directorate, Damongo, Ghana. [3]Saboba District Health Directorate, Ghana Health Service, Saboba, Ghana. [4]Northern Regional Health Directorate, Ghana Health Service, Tamale, Ghana

Background: Childhood undernutrition, particularly underweight, remains a major public health concern in Ghana, contributing to increased morbidity, mortality, impaired growth, and developmental delays among children under five years. This study assessed the incidence, trends, and district-level distribution of underweight among children under five years in the Northern Region of Ghana from 2020 to 2025.

Methods: A retrospective descriptive cross-sectional study was conducted using routine child welfare clinic data extracted from the District Health Information Management System 2 (DHIMS2). The study included all children aged 0–59 months weighed at health facilities between January 2020 and December 2025. Underweight was defined as weight-for-age below −2 standard deviations of the WHO growth standards. Cases were classified as moderate or severe. Incidence rates per 100 children, with 95% confidence intervals (CIs), were calculated, and incidence rate ratios (IRRs) were used for comparisons across years, age groups, and districts. Results were summarized into tables, graphs, and maps.

Results: A total of 648,151 children were weighed, with 10,460 identified as underweight, an overall incidence of 1.6 per 100 children (95% CI: 1.5–1.6). Of these, 8,787 (84.0%) were moderate and 1,673 (16.0%) severe. Children aged 0–11 months accounted for most of the cases (7,926; 75.8%), with the highest incidence (1.22 per 100). Underweight incidence declined from 2.9 per 100 (95% CI: 2.8–3.0) in 2020 to 1.1 per 100 in 2025. District variations were observed, with the highest incidence, 4.0 per 100, reported in Savelugu, and Nanumba North recorded the lowest, 0.2 per 100 (IRR: 0.07).

Conclusion and Public Health Implications: Although the prevalence of underweight has declined, it remains a significant concern, with pronounced age and geographic disparities. Strengthening early-life nutrition interventions and targeting high-burden districts are essential to reduce undernutrition and improve child health outcomes.

Keywords

Underweight, Children under five, Incidence, DHIMS2, Northern Region, Ghana

179: Burden Of Mental Health Conditions At Ho Teaching Hospital In The Volta Region Of Ghana: A Retrospective Analysis Of Admitted Cases From 2021 To 2025

SORENGMEN AMOS ZIEMA, Innocent Edem Fayison, Innocent Akeamah, Precious Kwablah Kwadzokpui, Daniel Kwasi Omani-Amoah, Kplorla Ahiawortor, Innocent Siayor, Isaac Selasi Wemegah, Simon Yao Dzokoto, Hintermann Krampah Kobina Mbroh

Ho Teaching Hospital, Ho, Ghana

Background: Mental health conditions are a growing public health concern globally and locally, contributing to morbidity, disability and healthcare utilization. Understanding the burden of mental health conditions presenting at health facilities is essential for informing service planning and resources allocation. We analysed hospital data to describe the distribution of mental health conditions reported at HTH, 2021-2025 to create awareness and inform decision making by key stakeholders.

Methods: We conducted a retrospective review of electronic health records at HTH using the Lightwave Health Information Management System (LHIMS) database. All mental health conditions admitted at HTH from January 2021 to September 2025 were extracted. Cases were identified using the International Classification of Diseases, tenth revision (codes F00-F99). Sociodemographic and clinical data were analysed descriptively and results presented as means, frequencies and percentages.

Results: For the 56990 admissions seen at HTH from January 2021 to September 2025, 1047 (1.8%) were mental health conditions. The mean age of cases was 51 years (range: 1 to 99 years). From 2021 to 2025, 192(18.3%), 236(22.5%), 226(21.6%), 208(19.9%), 185(17.7%) mental health conditions were admitted respectively. The predominant conditions were alcohol abuse related (305, 29.1%), schizophrenia (237, 22.6%), bipolar disorders (208, 19.3%), schizoaffective disorders (77, 7.4%) and dementia related disorders (7.1%). Ten (1.0%) cases were referred, 26 (2.5%) absconded and 47 (4.5%) died of mental health related conditions.

Conclusion and Public Health Implications: Alcohol abuse, schizophrenia and bipolar disorders were the predominant mental health conditions reported at HTH for the five-year period. The prevalence of mental disorders especially substance-related conditions highlights the need for strengthened mental health services including early detection strategies and sustained treatment and rehabilitative programmes. The findings underscore the importance of public awareness campaigns, integrating mental health services into primary healthcare, and expanding community-based mental health conditions.

Keywords

mental health conditions, disorders, cases, hospital, admissions

180: Evaluation of the Mpox Surveillance System in the Shai-Osudoku District of Ghana.

JUDITH MAAME TANOA YELBERT, Phoebe Ohene Kwatia

Ghana College of Physicians and Surgeons, Accra, Ghana

Background: Mpox remains an important emerging and re-emerging zoonotic disease of public health concern in Ghana. Effective surveillance systems are essential for the timely detection, reporting, and response to cases and outbreaks. Periodic evaluation of surveillance systems is necessary to determine whether they are achieving their intended objectives and to identify areas for improvement.

Methods: A cross-sectional evaluation of the Mpox surveillance system in Shai Osudoku District, Greater Accra Region, Ghana, was conducted using the Centers for Disease Control and Prevention (CDC) Updated Guidelines for Evaluating Public Health Surveillance Systems. Retrospective surveillance data from suspected and confirmed Mpox cases recorded between January 1 2024 to December 31 2025.were reviewed. Also, 31 frontline healthcare workers involved in surveillance activities completed structured questionnaires assessing key system attributes. Quantitative data were analysed using R statistical software version 4.4.0. Descriptive statistics, composite scores, and surveillance performance indicators were generated.

Results: A total of 27 suspected Mpox cases were identified, of which 9 were laboratory confirmed, yielding a predictive value positive (PVP) of 33.3%. The median age of cases was 33 years, and 59.3% were male. The surveillance system demonstrated high acceptability (83.0%) and good representativeness (70.0%). Simplicity (65.8%) and flexibility (62.8%) showed moderate performance, while stability was weak (29.5%), reflecting challenges related to logistics, supplies, and operations. Data quality was generally good, with most key variables adequately completed. The median interval from symptom onset to specimen collection was 2.5 days, while laboratory turnaround time was 1 day, indicating satisfactory timeliness. The estimated sensitivity exceeded expected levels, suggesting effective case detection.

Conclusion: The Mpox surveillance system in Shai Osudoku District is useful and largely meets its objective of detecting, reporting, and responding to suspected Mpox cases. However, improvements in logistics, resource availability, training, and adherence to recommended specimen collection procedures are required to strengthen system stability and overall performance.

Keywords

Mpox, Surveillance System Evaluation, Public Health Surveillance, Integrated Disease Surveillance

181: Comparing Explainable Machine Learning And Survey-Weighted Logistic Regression Models For Predicting Cervical Cancer Screening Among Women In Ghana

ZELALEM T HAILE[1,2], Prince A Adu[1], Bismark Sarfo[3], Ernest Maya[3], Kwame Adu-Bonsaffoh[4], Rudolph Mensah[3], Mildred Komey[5], Mohammad Rifat Haider[6]

[1]Ohio University Heritage College of Osteopathic Medicine, Dublin, United States. [2]Ohio University Global Health Initiative, Athens, United States. [3]University of Ghana School of Public Health, Legon, Ghana. [4]University of Ghana Medical School, Accra, Ghana. [5]Ohio University, Scipps College of Communication, Athens, United States. [6]Mohammad, Rifat, United States

Background: Cervical cancer remains a major public health concern in sub-Saharan Africa despite the availability of effective screening methods. Identifying women least likely to use screening services is critical for targeted intervention efforts. This study compared conventional epidemiologic and machine-learning approaches to predict cervical cancer screening uptake among women in Ghana and identified key predictors of screening behavior.

Methods: We analyzed data from 13,134 women aged 15-49 years who participated in the 2022 Ghana Demographic and Health Survey. The outcome was a self-reported history of cervical cancer screening. Predictor variables included age, marital status, religion, parity, education, household wealth, employment, health insurance coverage, residence, media exposure, perceived distance to a health facility, smoking status, contraceptive pill use, risky sexual behavior and history of sexually transmitted infection. Survey-weighted multivariable logistic regression, Random Forest, and Gradient Boosting models were fitted. Model performance was assessed using the area under the receiver operating characteristic curve (AUC), and feature performance analyses were conducted.

Results: Overall, 4.8% of women reported ever undergoing cervical cancer screening. In the adjusted logistic regression model, older age, higher household wealth, employment, urban residence and being married were associated with greater odds of screening uptake. The survey-weighted logistic regression model demonstrated good discrimination (AUC=0.741). Random Forest and Gradient Boosting models achieved AUCs of 0.631 and 0.681, respectively, indicating no improvement over conventional regression. Feature importance analyses consistently identified age, household wealth, educational attainment, parity, marital status, and place of residence as the most influential predictors of cervical cancer screening.

Conclusions: Conventional survey-weighted logistic regression outperformed machine learning models in predicting cervical cancer screening among women in Ghana. Screening uptake remains strongly influenced by demographic and socioeconomic factors, indicating persistent inequities in access to preventive services. Interventions targeting younger, poorer, and rural women may help improve cervical cancer screening coverage.

Keywords

Cervical cancer, Regression, Machine learning, Ghana

182: Factors Associated With Recovery Among Children Treated For Severe Acute Malnutrition In Jarra East District, The Gambia (2020–2024)

BIRAN TOURAY[1,2], Bakalilu Kijera[3,2], Sheriffo MK Darboe[2,4], Obafemi Joseph Babalola[5]

[1]Ministry of Health, Banjul, Gambia. [2]Gambia Field Epidemiology Training Program (GFETP), Banjul, Gambia. [3]Expanded Program on Immunisation, Banjul, Gambia. [4]Epidemiology and Disease Control Unit, Banjul, Gambia. [5]African Field Epidemiology Training Program, Kampala, Uganda

Background: Severe acute malnutrition (SAM) remains a critical driver of paediatric morbidity and mortality in sub-Saharan Africa. In The Gambia, rural districts such as Jarra East face persistent nutritional challenges exacerbated by seasonal and socioeconomic vulnerabilities. This study aimed to characterise the epidemiological distribution, seasonal dynamics, and determinants of recovery among children under five years of age treated for SAM.

Methods: A retrospective analysis of routine nutritional surveillance data was conducted for the period 2020–2024 in Jarra East District. Data were extracted via Kobo Toolbox and analysed using Stata 18. Seasonal variation was assessed by comparing SAM incidence during the rainy (June–October) and dry seasons. A multilevel logistic regression analysis was performed to identify predictors of recovery while accounting for clustering at the health facility level, while spatial mapping using QGIS identifies high-burden community clusters.

Results: A total of 344 cases were analysed. Most children were aged 0-23 months (87.2%), females (55.8%), and new admissions (95.6%). SAM cases were more frequent during the rainy season, accounting for 54.1%. Spatially, the Wellingaraba Circuit exhibited the highest burden (50.9%). The mortality rate was low (0.3%), the successful recovery rate was 67.4%, and a high proportion of cases (27.3%) were lost to follow-up. In multilevel analysis after accounting for both individual and facility-level factors, children attending 3–5 visits were three times more likely to recover than those attending fewer than three (AOR=3.19, 95% CI: 1.26–8.06).

Conclusions: SAM recovery rates in Jarra East remain below international Sphere standards, primarily driven by high default rates and cross-border barriers to care. The concentration of cases during the rainy season and among children under 24 months suggests that interventions must prioritise seasonal scaling and infant-targeted nutritional support. Strengthening community-based follow-up and cross-border health coordination is crucial for enhancing treatment outcomes.

Keywords

Severe acute malnutrition, Sentinel Surveillance, Treatment Recovery, Cross-border Health, Seasonal Variation.

183: Probabilities, Incidence Rate, And Determinants Of Mother-To-Child Transmission Of HIV Among HIV-Exposed Infants In Three Regions In Ghana: A Retrospective Review Of Routine Laboratory Data, 2021-2024

ABDUL-KARIM ABASS[1], Eugene Sackeya[2], Emmanuel Asamoah[1], Martin Muonibe Beru[3], Toyibu Yakubu[4], Chrysantus Kubio[4]

[1]Tamale Zonal Public Health and Reference Laboratory, Tamale, Ghana. [2]Regional Health Directorate, Ghana Health Service,, Tamale, Ghana. [3]Department of Obstetrics and Gynecology, Tamale Teaching Hospital, Tamale, Ghana. [4]Regional Health Directorate, Ghana Health Service, Tamale, Ghana

Background: Breaking the chain of transmission and enabling mothers living with HIV to give birth to healthy, HIV-negative newborns, preventing HIV infection in infants, gives great satisfaction. The study sought to find the probabilities, elicit the incidence rate, and identify the predictors of infectivity among HIV exposed infants in three regions in Ghana.

Methods: The study adopted a retrospective approach to review laboratory data. Stata version 17.0 was employed in data analysis. Sociodemographic characteristics were described in frequencies and percentages, while lifetable analysis was used to assess Probabilities. The Kaplan-Meier Curve was used to illustrate the curve of infectivity among HIV exposed infants, and the **STPTIME** function per/10000 person-days was used to assess the incidence rate. The Weibull distribution was employed to assess determinants of infectivity among exposed infants.

Results: A total of 441 participants were recruited for the study. The majority (63.5%) were within the age group of 1-90 days. The cumulative probability of infectivity at the end of 18 months was 0.1633 (95% CI: 0.0987-0.2636) while the overall incidence rate was 4.9 per 10000 person days (95% CI: 3.3 – 7.3). Age group 90-180 days (aHR: 0.07, 95%CI(0.02 – 0.25), P-value: <0.001) was less likely to be infected when compared with age group 1-90 days. Inversely, the hazard of infectivity among participants residing in the northern region was 0.06 times less likely to occur (aHR: 0.06 95%CI(0.01 – 0.60), P-value: 0.017) compared with those in Northeast and the hazard of infectivity was 0.11 less likely to occur among participants tested in 2022 (aHR: 0.11 95%CI(0.02-0.48) P-value: 0.003) when compared with participants tested in 2021.

Conclusion: With a low probability of infectivity translating into a low incidence rate overall, intensifying prevention of mother-to-child transmission intervention during pregnancy and the first few months of delivery could significantly improve outcomes.

Keywords

Early Infant Diagnosis, HIV, Incidence Rate, PMTCT, MTCT.

184: Typhoid Fever Surveillance And Forecasting In The Eastern Region Of Ghana, 2016-2024: Secondary Data Analysis, Epidemiological Trends, Spatial Distribution, And Predictive Modelling

JOHN SONNYINADO DUAKO BAFFOE[1,2,3], Charles Noora Lwanga[2], George Adu Asumah[2,4], Donne Kofi Ameme[2], Joseph Asamoah Frimpong[2], Mavis Borkai Osafo[2], Delia Benewaa Bandoh[2], Adoghina Addo-Lartey[2], Moses Barima Djimatey[5], Edwin Afari[2], Ernest Kenu[2]

[1]Public Health Unit, Oti Regional Health Directorate, Ghana Health Service, Worawora, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Programme, School of Public Health, University of Ghana, Accra, Ghana. [3]Reaching The Unreached International (NGO), Kadjebi, Ghana. [4]National Malaria Elimination Programme, Ghana Health Service, Accra, Ghana. [5]Eastern Regional Health Directorate, Public Health Unit, Ghana Health Service, Koforidua, Ghana

Background: Typhoid fever remains a major public health concern in sub-Saharan Africa, particularly in settings with inadequate water, sanitation, and hygiene (WASH) infrastructure. In Ghana's Eastern Region, comprehensive analyses integrating temporal, seasonal, and spatial surveillance data are limited. This study assessed trends, seasonal dynamics, geographic distribution, demographic characteristics, and projected incidence of typhoid fever from 2016 to 2025.

Methods: A retrospective secondary analysis of routine surveillance data from the District Health Information Management System 2 (DHIMS2) was conducted. Incidence rates were calculated using mid-year population estimates. Temporal trends and seasonal variation were assessed using monthly time-series analysis. Spatial distribution was examined using district-level incidence rates per 1,000 population and mapped using quintile classification. Epidemic thresholds were determined using the C2 method (μ + 1SD and μ + 2SD). Forecasting was performed using a Seasonal AutoRegressive Integrated Moving Average (SARIMA) model fitted to monthly data (2016–2025), with projections for 2026–2030 presented with 95% confidence intervals. Model validation used a temporal hold-out approach.

Results: A total of 446,553 cases were reported between 2016 and 2024. Annual incidence increased from 108 per 10,000 population in 2016 to 273 per 10,000 in 2024, representing a 2.5-fold rise. Adults aged 20–49 years bore the highest burden, and females accounted for 62.4% of cases. Marked seasonal peaks were observed, with several months exceeding alert thresholds and limited exceedance of epidemic thresholds, particularly in 2023–2024. Substantial spatial heterogeneity was identified, with persistent high-incidence districts, including Birim Central. Forecasts indicate sustained endemic transmission with seasonal oscillations and moderate increases through 2030, though uncertainty widened over time.

Conclusion: Typhoid fever in the Eastern Region shows increasing endemic transmission with clear seasonal and spatial patterns. Strengthening surveillance, improving diagnostic confirmation, and targeting high-burden districts are essential for effective control.

Keywords

Typhoid Fever; Surveillance; Spatial Epidemiology; Thresholds; ARIMA Modelling; Ghana

185: Facteurs Associés À L'échec Virologique De Première Ligne Chez Les Enfants Infectés Par Le VIH/SIDA Au Centre D'excellence Pédiatrique Du Centre Hospitalier Universitaire Gabriel Touré De Bamako En 2025

NOUHOUM TELLY[1,2], Souleymane Kaba[3], Yacouba Aba Coulibaly[4], Mamadou Traoré[4], Madina Konaté[5], Oumar Sangho[1], Birama A Ly[1], Abou Sogodogo[6], Mamadou Diop[2], Cheick Abou Coulibaly[1], Salia Kéita[1], Abdoul Salam Diarra[1], Seydou Doumbia[1,6], Mariam Sylla[1]

[1]Faculty of Medicine and Odontostomatology (FMOS)/University of Sciences, Techniques and Technologies of Bamako (USTTB), Mali;, BAMAKO, Mali. [2]Sectoral Unit for the Fight Against HIV/AIDS, Tuberculosis and Viral Hepatitis (CSLS-TBH), Bamako, Mali;, BAMAKO, Mali. [3]Master's student in Public Health at the Department of Teaching and Research in Public Health and Specialties, FMOS/USTTB, Bamako, Mali, BAMAKO, Mali. [4]Pediatric Center of Excellence at the Gabriel Touré University Hospital in Bamako, Mali, BAMAKO, Mali. [5]Sectoral Unit for the Fight Against HIV/AIDS, Tuberculosis and Viral Hepatitis (CSLS-TBH), Bamako, Mali;dinacoul70@yahoo.fr, BAMAKO, Mali. [6]University Clinical Research Center (UCRC) Bamako, Mali, BAMAKO, Mali

Contexte: Un échec virologique est observé chez les patients présentant une charge virale supérieure à 1 000 copies/ml après au moins 24 semaines de traitement. Ceci compromet la prise en charge efficace des patients, d'où l'importance de cette étude, qui visait à identifier les facteurs associés à l'échec virologique de première ligne chez les enfants infectés par le VIH/SIDA au sein du centre d'excellence pédiatrique de l'hôpital Gabriel Touré de Bamako.

Méthodologie : Il s'agit d'une étude transversale menée auprès de 246 enfants entre janvier et octobre 2025. Les données ont été recueillies de manière anonyme et confidentielle à partir des dossiers médicaux et des registres électroniques. L'analyse descriptive a permis de déterminer les fréquences, les moyennes et les écarts types. La modélisation par régression logistique multivariée a permis d'identifier certains facteurs associés à l'échec virologique.

Résultats : Sur les 246 patients, 31 (12,6 %) ont présenté un échec thérapeutique. L'âge moyen était de 9,74 ± 3,99 ans et 55,7 % étaient des hommes. Les facteurs associés à l'échec virologique étaient l'âge (0-5 ans ; ORa = 7,70 [1,84-32,07] ; p = 0,01) et l'âge (10-15 ans ; ORa = 7,38 [1,50-36,35] ; p = 0,01), les rendez-vous manqués (ORa = 4,11 [1,22-13,80] ; p = 0,02) et une durée de traitement inférieure à la moyenne (ORa = 9,70 [1,53-61,52] ; p = 0,02).

Conclusion : L'identification des facteurs associés à l'échec virologique permet de renforcer les interventions ciblées, notamment l'observance du traitement et le suivi clinique, afin d'améliorer la suppression virale chez les enfants vivant avec le VIH.

Keywords

virological failure, first line, children, pediatric center of excellence, Bamako

188: Risk Factors And Response Timeliness During A Cholera Outbreak Investigation In Twin Palm Residential Area, Chongwe District, Zambia, February 2026

ISHBAK CHIMFWEMBE[1,2,3], Dabwisto Banda[2], Francis Mwenya[2,4], Herbert Luhanga[5,2,4], Matildah Mubanga[1,2], Nyambe Sinyange[2], Martha Malasa[3,2]

[1]Levy Mwanawasa Medical University, Department of Public Health and Environmental Sciences, Lusaka, Zambia. [2]Zambia National Public Health Institute, Field Epidemiology Training Program, Lusaka, Zambia. [3]Ministry of Health, Lusaka Provincial Health Office, Lusaka, Zambia. [4]Ministry of Health, Child Health and Nutrition Unit, Lusaka, Zambia. [5]University of Zambia, School of Public Health, Lusaka, Zambia

Background: Cholera remains a recurrent public health threat in Zambia, especially in peri-urban areas with fragile water infrastructure. On 23 February 2026, a cluster of acute watery diarrhoea was reported in Twin Palm residential area, Chongwe District. A rapid assessment identified leaking pipes but no analytical study had determined transmission routes or response timeliness. We investigated risk factors and assessed outbreak response using the 7-1-7 framework.

Methods: We conducted a 1:2 case-control study (20-28 February 2026). Cases were residents with acute watery diarrhoea (≥3 episodes/24h); controls were asymptomatic neighbours. Stool and water samples underwent testing. We described the outbreak by person, place and time. Response milestones (detection, notification, early response) were assessed against 7-1-7 targets and factors that facilitated timely detection and response were documented as enablers.

Results: We enrolled 136 participants (45 cases, 91 controls). Mean age of cases 29.9 years (SD 13.7), 57.8% (26/45) were male. Of 45 stool samples, 7 were cultured; 6 (85.7%) confirmed Vibrio cholerae. Four of six water samples (66.7%) had faecal contamination. Symptoms included diarrhoea (100%, 45/45), abdominal cramps (40%, 18/45), vomiting (33.3%,15/45) and body pain (26.7%,12/45). In multivariable analysis, not treating water was the strongest risk factor (aOR=4.68; 95%CI:1.73-12.67; p=0.002). Other significant factors: municipal piped water (aOR=3.66; 95%CI:1.45-9.22; p=0.006) and market food consumption (aOR=3.51; 95%CI:0.99-12.39; p=0.051). Travel outside area was not significant. The outbreak response met all 7-1-7 targets: detection in 3 days, notification within 1 day, early response in 4 days. Enablers of timely response included functional health facility, established communication channels, multi-sectoral collaboration and Incident Management System activated immediately.

Conclusion: Contaminated municipal water and leaking pipes were associated with the outbreak, while household water treatment appeared strongly protective. Strengthening household water treatment, water infrastructure, multi-sectoral collaboration and surveillance is essential. The response met all 7-1-7 targets with zero deaths.

Keywords

Cholera, case-control study, 7-1-7 framework, household water treatment, Zambia.

189: An Investigation Into The Use Of Psychoactive Substances Among Sex Workers At An Urban Displacement Site In Bamako (Mali, 2025)

FATOU DIAWARA[1,2], Bourama Sangaré[3], Aissata Touré[1], Sirantou Tata Dena[4], Abdoulaye Schoud Dabo[1]

[1]National Institute of Public Health, BAMAKO, Mali. [2]Faculty of Pharmacy (USTTB), BAMAKO, Mali. [3]Point G University Hospital, BAMAKO, Mali. [4]Fousseyni Daou Hospital, Kayes, Mali

Background : In highly precarious settings, the use of psychoactive substances exacerbates health and social vulnerabilities, particularly among sex workers. It is associated with increased exposure to infections, violence and mental health problems. Despite these challenges, data remain limited in Mali. This study aims to explore the use of psychoactive substances within this specific population.

Methods : A descriptive cross-sectional study with quantitative approaches was conducted among 30 sex workers based at an urban displacement site in Bamako in 2025. Data were collected using structured questionnaires and individual interviews, then analysed using SPSS.

Results : The participants were predominantly young (16 - 24 years old) and had little formal education (33.4%) and were not in education (63.3%). More than half (56.7%) reported using at least one psychoactive substance, with regular use in more than half of the cases. Tobacco was by far the most common, followed by tramadol, alcohol and cannabis. Furthermore, high levels of exposure to violence were reported: 93% for physical violence and 70% for sexual violence.

Conclusion and public health implications : Psychoactive substance use was common in our setting, which is characterised by a range of multiple vulnerabilities. Integrated interventions, focused on harm reduction and psychosocial support, appear essential for improving health.

Keywords

Psychoactive Substances, Sex Workers, Violence, Vulnerability, Mali.

192: Modelling The Impact Of Scaling-Up Intermittent Preventive Treatment And Insecticide-Treated Nets On Maternal And Neonatal Malaria Transmission In Kebbi State, Nigeria

OGHENETEGA THANKGOD OWEH[1,2], Polycarp Dauda Madaki[2], Obi Charles Emenike[2], Nnenna Marycynthia Otta[2], Samira Badamasi Mohammed[1]

[1]Kaduna State University, Kaduna, Nigeria. [2]Corona Management Systems, Abuja, Nigeria

Background: Malaria remains a major public health challenge in Kebbi State, Nigeria, particularly among pregnant women and children under five years, despite ongoing implementation of Intermittent Preventive Treatment in Pregnancy (IPTp) and Insecticide-Treated Nets (ITNs). This study assessed the epidemiological and economic impact of scaling up IPTp and ITN coverage on malaria transmission dynamics in the state.

Methods: A compartmental mathematical model was developed to simulate malaria transmission across pregnant women, children under five, and the general population incorporating IPTp and ITN. The model was analyzed using numerical simulations, scenario analyses, and the next-generation matrix approach for estimating the basic reproduction number (R_0). Time-series forecasting was used to project malaria incidence over two years, while geospatial analysis identified high-burden LGAs. A cost-effectiveness analysis evaluated the economic implications of intervention scale-up.

Results: The estimated R_0 were 1.2799, 1.5719 and 1.0448 for pregnant women, children under five and others, indicating ongoing transmission. Scenario analyses showed that increasing IPTp coverage from 8.2% to 20% and 35% reduced infections among pregnant women by approximately 38% and 62%, respectively. Increasing ITN coverage from 81.5% to 90% and 95% reduced infections by 22% and 47% amkong pregnant women, 25% and 45% among children under five, and 24% and 52% in the general population. Cost analysis showed a shift from treatment-dominated expenditure in the baseline (~425,000 USD) to lower total costs in scaled scenarios (~350,000 USD and ~330,000 USD), representing reductions of 17.6% and 22.4%, respectively. Time-series analysis predicted malaria incidence for October 2026 to be 5,168 (95% CI: 3,039–7,859). Geospatial mapping identified Bagudo, Sakaba, Danko-Wasagu, and Ngaski LGAs as major hotspots.

Conclusions: Scaling up IPTp and ITN coverage could substantially reduce malaria transmission and generate economic savings, with targeted interventions in hotspot LGAs offering the greatest potential for malaria control in Kebbi State.

Keywords

Pregnant women, IPTp, ITN, time series, malaria transmission

193: Low Inactivated Polio Vaccine Coverage And Missed Acute Flaccid Paralysis Detection Suggest Ongoing Circulating Vaccine-Derived Poliovirus Type 2 Transmission In Lusaka, Zambia: A Cross-Sectional Outbreak Investigation, February-March 2026

Herbert Robert Mark Luhanga[1,2,3], Francis Ngosa Mwenya[1,4], Deborah Tembo[4], Ishbak Chimfwembe[1,5,6], Andrew Phiri[7], Princess Kayeye[3], Musole Chipoya[4], Jacob Sakala[3], Warren Malambo[8], Dabwitso Banda[1,4], Nyambe Sinyange[1,4]

[1]Field Epidemiology Training Program, Lusaka, Zambia. [2]School of Public Health, The University of Zambia, Lusaka, Zambia. [3]Child Health Unit, Ministry of Health, Lusaka, Zambia. [4]Zambia National Public Health Institute, Lusaka, Zambia. [5]Levy Mwanawasa Medical University, Lusaka, Zambia. [6]Lusaka Provincial Health Office, Lusaka, Zambia. [7]World Health Organization, Country Office, Lusaka, Zambia. [8]7Division of Global HIV and TB, U.S. Centers for Disease Control and Prevention, Global Health Center, Lusaka, Zambia

Background: Circulating vaccine-derived poliovirus type 2 (cVDPV2) causes paralytic poliomyelitis outbreaks in settings with suboptimal immunisation. On 16 February 2026, Zambia detected cVDPV2 from an environmental sample at Manchinchi sewage treatment plant in Lusaka, serving over 70,000 children under five years. Genetic sequencing showed 11 nucleotide differences from the Sabin reference, suggesting prolonged silent transmission. This study aimed to determine the extent of virus circulation by identifying missed acute flaccid paralysis (AFP) cases, assessing population immunity, and evaluating health system preparedness.

Methods: We conducted a cross-sectional outbreak investigation from 24 February to 5 March 2026 in communities served by the treatment plant. We searched for missed AFP cases through retrospective record reviews at nine health facilities and active community case finding. We assessed community immunity using a WHO rapid assessment tool, sampling 48 children under five years from affected communities to calculate vaccine coverage. We evaluated health system readiness through facility assessments and staff knowledge of the Reach Every Child (RED/C) strategy. We collected 33 stool samples from children for laboratory testing.

Results: Routine oral polio vaccine third dose (OPV3) coverage among children 1 – 5 years was 97.4%, but low among infants – 44.4% (4/9) – below 90% target. Among assessed children, 14.6% (7/48) received no dose of inactivated polio vaccine (IPV), and only 29.2% (14/48) completed the two-dose schedule. Active community search identified one previously unreported AFP case. Non-polio enteroviruses were isolated in 12.1% (4/33) samples. Gaps in staff knowledge on polio surveillance and vaccine types in 3/9 facilities and limited orientation in RED/C strategy in 6/9 facilities were identified.

Conclusions: Low IPV coverage and detection of previously missed AFP case suggest vulnerabilities for continued cVDPV2 transmission in the affected community. Strengthening AFP surveillance through routine community case search and improving IPV coverage are critical to interrupting transmission.

Keywords

Acute flaccid paralysis, poliomyelitis, surveillance, Zambia

194: Menstrual Waste Disposal Practices Among Senior High School Students In The South Dayi District, Ghana

JOSEPHINE NYATOR, Frank Baiden

University of Health and Allied Sciences, HO, Ghana

Background: Proper menstrual waste disposal (MWD) is integral to optimal menstrual hygiene management (MHM). Achieving this is however a challenge in resource-limited settings.

Methods: An exploratory descriptive qualitative design with phenomenological elements was used in the South Dayi District, Ghana. Data was collected in six recorded focus group discussions with students and three recorded in-depth interviews with key stakeholders (student leaders). Thematic analysis was utilized to derive codes and themes from the verbatim transcripts.

Results: Fifty-one female students and leaders participated in the study. Their average age was 17years (standard deviation of 0.94). All students had received at least one year of senior high school education. Burning, burying, and dumping into school bins or toilets (KVIP/pit latrine) were the most mentioned modes of disposal of used menstrual materials. Practices were driven by a pervasive fear of blood use for ritual purposes and the lack of dedicated disposal facilities. Practices were influenced by a strong desire for privacy. Inadequate infrastructure intensified feelings of embarrassment and this led to self-imposed isolation. Awareness of the existence of reuseable products was limited. While economic benefit seemed obvious, there were concerns about hygienic use, given inadequacy in water availability. Reuseable pads was perceived to be a product that should be used by poor people and is outmoded.

Conclusion: Menstrual waste disposal practices among senior high school students in the South Dayi District are the outcome of an interplay of cultural beliefs, deficient infrastructure, and stigma-avoidance. A sustainable transition to reusable products will require attention to clean water availability. Social marketing interventions may be needed to gain acceptance of reuseable products.

Keywords

Menstruation, Menstrual waste disposal, reusable Menstrual products, Adolescent girls, Ghana.

195: Survival, Co-Morbidities And Predictors Of Survival Among Chronic Kidney Disease Patients Who Received Haemodialysis At Ho Teaching Hospital, Ghana: A Retrospective Hospital-Based Cohort Study.

ABRAHAM GADZENAKE[1,2], Mabel Yayra Hayibor[1,3], Alhassan Amidu[4,5], Wisdom Kudzo Axame[1], Fred Newton Binka[1]

[1]University of Health and Allied Sciences, Hohoe, Ghana. [2]Ho Teaching Hospital, Ho, Ghana. [3]Volta Regional Hospital, Hohoe, Ghana. [4]University of Cape Coast, Cape Coast, Ghana. [5]All Nations University, Koforidua, Ghana

Background: Chronic kidney disease (CKD) is a progressive and irreversible condition that contributes substantially to morbidity and mortality worldwide, particularly among patients requiring haemodialysis. Despite the increasing burden of CKD in Ghana, evidence regarding survival and predictors of survival among these patients remains limited. This study examined the survival proportion, co-morbidities and predictors of survival among patients with CKD who had haemodialysis at Ho Teaching Hospital, Ghana from 2021 to 2024.

Methods: A retrospective cohort study was conducted among patients with CKD/ESRD who underwent haemodialysis at Ho Teaching Hospital. A census sampling approach was used to include all eligible patient records, resulting in a total of 191 participants files. Data were extracted from medical records (LHIMS) and haemodialysis registers using a structured data extraction form. Descriptive statistics were used to summarise socio-demographic and clinical characteristics, Cox proportional hazards regression analysis was performed to determine predictors of mortality. Hazard ratios (HRs), adjusted hazard ratios (AHRs), with statistical significance set at $p < 0.05$.

Results: Of the 191 CKD patients who underwent haemodialysis, 52.9% were alive at the time of assessment, while 47.1% had died. Hypertension (81%) was the most prevalent comorbidity, followed by diabetes mellitus (32%) and hyperkalaemia (19%). Multivariable Cox regression analysis revealed that patients with no formal education had a significantly higher hazard of mortality compared with those with basic education (AHR=1.69; 95% CI: 1.02–2.79; p=0.042). Conversely, patients diagnosed with ESRD had a significantly lower hazard of mortality compared with those with CKD (stages 1-4) (AHR=0.66; 95% CI: 0.47–0.93; p=0.017). Other socio-demographic and clinical factors were not statistically significant predictors of survival.

Conclusion: Survival outcomes among CKD patients undergoing haemodialysis remain concerning. Targeted (local language) patient education, improved health literacy, consistent and strict dialysis sessions and strengthened management of comorbidities are needed to improve long-term survival outcomes.

Keywords

Chronic kidney disease; haemodialysis; predictors; Lightwave Health Information Management System

198: The Invisible Toll Of Occupational Health Hazards: A Qualitative Study Of Small-Scale Illegal Miners In Ghana

GODWIN VECHEY ADJEI, Linda Anane-Donkor, Millicent Edem Akpaka, Joel Torvike

KAAF UNIVERSITY, Gomoa East, Ghana

Background: Small-scale illegal mining, known as Galamsey, operates outside all occupational health frameworks in Ghana, exposing approximately one million workers to serious undocumented health risks. Miners remain invisible to surveillance due to criminalisation. This study explored the lived experiences, perceptions of hazards, and coping strategies of illegal miners in Atwima Mponua District, Ghana.

Methods: A qualitative phenomenological design using interpretive phenomenological analysis was employed. Sixteen adult miners were purposively recruited through community gatekeepers and snowball sampling (March–August 2025), with sample size determined by saturation. In-depth interviews were conducted in preferred languages by bilingual assistants, audio-recorded, and transcribed. Data were analysed using Braun and Clarke's six-phase thematic analysis with NVivo 14. Ethical approval was obtained from KAAF University Ethics Committee (IRB-KU/HSS/25/02/12-01).

Results: Four themes emerged. First, miners normalised risk through economic fatalism and religious attribution, viewing hazards as unavoidable. Second, widespread respiratory manifestations, including chronic cough, dyspnoea, haemoptysis, and progressive lung deterioration consistent with silicosis or tuberculosis, were reported, yet miners lacked formal diagnoses. Third, unprotected mercury and cyanide handling caused dermatological injuries and neurological effects, including tremors, cognitive impairment, and mood disturbances. Fourth, traumatic injuries from pit collapses and unguarded machinery, alongside chronic musculoskeletal disorders, caused disability and economic devastation.

Conclusion and Public Health Implications: Illegal miners bear a substantial hidden disease burden shaped by poverty, criminalisation, and health system exclusion. Responses must incorporate harm-reduction strategies delivering respiratory protection, TB screening, and healthcare regardless of legal status, while addressing underlying economic drivers. These findings have direct implications for occupational health policy, surveillance reform, and health equity programming across sub-Saharan Africa.

Keywords

Occupational health; illegal mining; galamsey; respiratory disease; mercury toxicity; qualitative research;

199: Integrating Community Pharmacies Into A Real-Time Digital Disease Surveillance System For Early Outbreak Detection: A Pilot Study In The Federal Capital Territory (FCT), Nigeria

WISDOM IKENNA MADUNWE[1], SMART DAMILOLA OLABAMERUN[2]

[1]GLOBAL HEALTH AND INFECTIOUS DISEASE INSTITUTE, KEFFI, Nigeria. [2]ALLSMARTCARE, ABUJA, Nigeria

Background: Timely detection of infectious disease outbreaks remains a major public health challenge in Nigeria, where surveillance systems largely depend on formal health facilities. However, a significant proportion of the population first seeks care from community pharmacies and patent medicine vendors, making them an underutilized but critical point for early outbreak signal detection. This study proposes a pilot digital surveillance framework integrating community pharmacies into Nigeria's real-time disease monitoring system to improve early outbreak detection and response.

Methods: A pilot implementation framework was designed for the Federal Capital Territory (FCT), Abuja. Participating community pharmacies will report syndromic data using a mobile-based or USSD-enabled digital reporting tool. Key syndromes include fever, acute watery diarrhea, vomiting, rash, and respiratory symptoms. Data will be transmitted in real time to a centralized surveillance dashboard linked to the FCT Epidemiology Unit and the Nigeria Centre for Disease Control (NCDC). Statistical anomaly detection methods, including threshold-based alerts and spatial clustering, will be applied to identify unusual increases in reported cases.

Results: The proposed system is expected to enhance early detection of epidemic-prone diseases such as cholera, Lassa fever, measles, meningitis, and mpox. By capturing health-seeking behavior at the community pharmacy level, the system will provide earlier warning signals compared to conventional facility-based surveillance. The framework is designed to improve reporting timeliness, geographical coverage, and outbreak response efficiency within FCT.

Conclusion and Public Health Implications: Integrating community pharmacies into Nigeria's surveillance system represents a scalable and cost-effective strategy to strengthen national epidemic preparedness. This pilot study demonstrates the feasibility of leveraging non-traditional health data sources for real-time outbreak detection. Policy adoption by the NCDC could significantly reduce delays in outbreak identification and improve rapid response capacity across Nigeria.

Keywords

Community pharmacies; Early outbreak detection; Syndromic surveillance; Nigeria; Infectious diseases

200: From Zero Deliveries To Improved Maternal Health Service Utilization: A Quality Improvement Experience From Ekiti State, Nigeria

ADENIYI OLUSEGUN OYEYEMI

Jhpiego, an Affiliate of Johns Hopkins University, Abuja, Nigeria

Background: Poor utilization of facility-based maternal health services remains a significant contributor to maternal and neonatal morbidity and mortality in Nigeria. In 2025, Oke Osun Primary Health Centre (PHC) in Ikere Local Government Area of Ekiti State recorded prolonged periods without facility-based deliveries despite having skilled health workers. This study describes the impact of Quality Improvement (QI) interventions on maternal health service utilization.

Methods: A facility-based implementation study was conducted between January and December 2025 using the Model for Improvement. Following root-cause analysis, the facility QI team implemented change ideas including community mobilization, tracking of pregnant women, strengthening referral linkages, routine data review, supportive supervision, and mentorship of healthcare workers. Monthly service delivery data were extracted from facility registers and analyzed to compare performance before and after implementation.

Results: Prior to the intervention, the facility recorded no deliveries for six consecutive months and an average monthly antenatal care (ANC) attendance of 38 clients. Six months after implementation of QI interventions, facility-based deliveries increased from 0 to 27 deliveries per quarter, while average monthly ANC attendance increased from 38 to 74 clients, representing a 94.7% increase. Postnatal care attendance increased from 21 to 49 clients per month. Referral completion improved from 62% to 89%. Community awareness activities and improved client follow-up contributed significantly to increased service uptake.

Conclusion and Public Health Implications: Quality Improvement interventions effectively restored utilization of maternal health services in a previously underutilized primary healthcare facility. Institutionalizing QI approaches within routine PHC systems can strengthen service delivery, increase skilled birth attendance, and contribute to improved maternal and newborn health outcomes in Nigeria. Scaling up similar interventions across low-performing facilities may accelerate progress toward achieving Universal Health Coverage and reducing preventable maternal and neonatal deaths.

Keywords

Quality Improvement; Maternal Health; Primary Health Care; Skilled Birth Attendance; Health Systems

201: Antimicrobial Resistance Among Oreochromis Niloticus (Tilapia) In Selected Fish Farms In The Volta Region Of Ghana

FELIX DOLLA DIMADO, Anthony Zunuo Dongdem, Seth Owusu-Agyei

University of Health and Allied Sciences, Ho, Ghana

Background: Antimicrobial resistance in aquaculture threatens food safety, animal health and public health, yet data on resistance patterns from major tilapia-producing areas in Ghana remain limited. This study described the bacterial isolates recovered from the guts of farmed tilapia, and determined the prevalence of antimicrobial resistance among those isolates in selected fish farms in the Volta Region of Ghana.

Methods: We conducted a cross-sectional study among 53 operational Tilapia farms in four zones of the Volta Region. Three apparently healthy fish were sampled per farm, yielding 159 fish. Intestinal samples were cultured on MacConkey and Blood agar and isolates were identified using Gram staining and standard biochemical tests. Antimicrobial susceptibility testing was performed by the Kirby-Bauer disk diffusion method using ciprofloxacin, ampicillin, meropenem, trimethoprim-sulfamethoxazole, amikacin and gentamicin.

Results: A total of 308 bacterial isolates were recovered from the 159 fish. The most frequent isolates were *Klebsiella oxytoca* (13.3%), *Escherichia coli* (11.4%), *Salmonella* Typhi (11.0%), *Pseudomonas aeruginosa* (10.4%), *Providencia stuartii* (10.1%) and *Shigella sonnei* (9.7%). Overall, 62.7% (193/308; 95% CI: 57.1-67.9) of isolates were resistant to at least one tested antibiotic and 11.7% (36/308) were multidrug resistant. At fish level, 79.2% (126/159) harbored at least one resistant isolate. Resistance was highest (51.6%) to trimethoprim-sulfamethoxazole, followed by amikacin (11.7%) and ciprofloxacin (9.7%). Susceptibility remained high (99.0%) for ampicillin and 95.8% for gentamicin, while meropenem resistance was low (1.3%) but with a notable intermediate proportion (22.4%).

Conclusion and Public Health Implications: Farmed tilapia in the Volta Region carry a broad spectrum of gut bacteria, including enteric and opportunistic organisms of public health relevance. Antimicrobial resistance was common, driven mainly by high trimethoprim-sulfamethoxazole resistance, whereas multidrug resistance was less frequent. These findings provide baseline evidence for aquaculture Antimicrobial resistance surveillance in the region and support stronger antimicrobial stewardship and biosecurity measures.

Keywords

antimicrobial resistance; aquaculture; bacterial carriage; Ghana; tilapia; Oreochromis niloticus

203: Environmental Exposure Mixtures And Child Undernutrition In Sub-Saharan Africa: A Quantile G-Computation Analysis

ALFRED BLAY[1], Adeladza Kofi Amegah[1], John Molitor[2], Eric Coker[3]

[1]Public Health Research Group, Department of Biomedical Sciences, University of Cape Coast, Cape Coast, Ghana. [2]Oregon State University, College of Health, Corvallis, United States. [3]Environmental and Global Health, LLC, Vancouver, BC, Canada

Background: Humans experience multiple, complexly nuanced environmental exposures (both ambient and indoor), yet epidemiological studies often ignore these complexities by focusing on single exposures. In this study, we assessed the joint effect of multiple environmental exposures (fine particulate matter [$PM_{2.5}$], Normalized Difference Vegetation Index [NDVI] and household environmental quality) on child undernutrition (stunting, wasting and underweight) in sub-Saharan Africa (SSA).

Methods: The most recent Demographic and Health Surveys conducted in 34 SSA countries were merged with satellite-derived $PM_{2.5}$ and NDVI data. We employed survey-weighted quantile g-computation with a country-stratified PSU bootstrap to assess the joint effect of the exposure mixture on the risk of child stunting, wasting and underweight.

Results: The exposure mixture was associated with increased risk of all three nutritional outcomes at the continent level. A one-quartile increase in all exposures is associated with17% increased risk of stunting (Adjusted Risk Ratio [aRR]=1.17; 95% CI: 1.14, 1.19), 37% increased risk of wasting (aRR=1.37; 95% CI: 1.34, 1.41) and 33% increased risk of underweight (aRR=1.33; 95% CI: 1.28, 1.38) among children. However, substantial sub-regional heterogeneity emerged, with West and Central Africa driving wasting and underweight effects, East Africa showing the strongest stunting effect together with an unexpected protective association for underweight, and Southern Africa showing null associations.

Conclusion: The findings highlight the necessity of region-specific, integrated approaches, such as combining traditional nutrition interventions with improvements in environmental conditions, in addressing child undernutrition in SSA.

Keywords

Particulate matter, PM2.5, child undernutrition, sub-Saharan Africa, quantile g-computation

207: Adherence To 14-Day Primaquine Treatment For Radical Cure Of Malaria Patients In Northwest Ethiopia.

ESHETIE ALELIGN TSEGA[1,2], Ayenew Molla Lakew[1], Habtamu Alebachew Tegegne[3], Gizachew Abeza Getahun[3], Ejigu Gebeye Zeleke[1]

[1]University of Gondar, Gondar, Ethiopia. [2]Yilmana Densa Woreda Health Office, Adet, Ethiopia. [3]Amhara Public Health Institute, Bahir Dar, Ethiopia

Background: Primaquine is the right drug for the radical cure of malaria. The Ethiopian National malaria guideline recommends a 14-day course of primaquine for vivax and mixed malaria patients. Adherence to the full course of primaquine is crucial to achieve a radical cure. However, the recurrence of malaria is still high. Therefore, this study aimed to assess adherence status and identify factors affecting adherence to primaquine treatment among malaria patients treated at health centers in Yilmana Densa district, Ethiopia.

Methods: A community-based cross-sectional study was conducted in Yilmana Densa district from December 15, 2024, to January 30, 2025. A total of 594 malaria patients were selected using systematic random sampling. Data were collected through house-to-house visits by using an interviewer-administered questionnaire and observation. Self-report, followed by a pill count, was used to ascertain adherence status. Data were entered with EpiData 4.7 and analyzed using Stata version 17. Binary logistic regression was used. Variables with a P-value <0.25 in bivariable analysis were entered into multivariable analysis. Variables with a P-value<0.05 were considered statistically significant.

Results: Among the 594 study participants, 545 (91.8%) were interviewed. The overall adherence to primaquine treatment was 282 (51.7%), with a 95% confidence interval (CI) of 47.4% to 56.0%. Female sex (AOR=1.64, 95%CI=1.11-2.43), having knowledge that malaria can relapse (AOR=1.69, 95%CI=1.11-2.58), and a prior history of malaria infection (AOR=1.67, 95%CI=1.14-2.44) were positively associated with probably adherent. Whereas experiencing side effects was negatively associated (AOR=0.49, 95%CI=0.33-0.72).

Conclusions: Primaquine treatment adherence status is low in Yilmana Densa district. Being female, having knowledge that malaria can relapse, and having a prior malaria history were positively associated with adherence. Conversely, side effects are negatively associated. Hence, health education focusing on the risk of malaria relapse shall be promoted, giving due attention to males, and counselling about the expected side effects proactively.

Keywords

Malaria, Primaquine, Radical Cure, Adherence, Relapse, Northwest Ethiopia.

210: Predicting Awareness Of Facility-Based Abortion Services In Ethiopia Using Machine Learning: A Cross-Sectional Study

EYOB AKALEWOLD ALEMU

University of Gondar, Gondar, Ethiopia

Background: Unsafe abortion remains a major contributor to maternal morbidity and mortality in low- and middle-income countries. In Ethiopia, although safe abortion services are legally available under specific conditions and provided in health facilities, awareness of where to access these services remains limited. This gap in awareness undermines timely utilization of safe care and perpetuates preventable health risks. This study aimed to apply machine learning techniques to identify key predictors of women's awareness of facility-based abortion services in Ethiopia.

Methods: A cross-sectional analysis was conducted using data from 8,894 women in the 2019 Performance Monitoring for Action (PMA) Ethiopia dataset. Data preprocessing, descriptive analysis, and machine learning modeling were performed in Python 3.12. The analytical pipeline included feature encoding and Synthetic Minority Over-sampling Technique (SMOTE) to address class imbalance. The dataset was split into 80% training and 20% testing sets. Eight supervised machine learning algorithms were trained and optimized using hyperparameter tuning. Model performance was assessed using accuracy, ROC-AUC, precision, recall, and F1-score. Model interpretability was evaluated using SHAP values.

Results: The XGBoost model achieved the best performance, with an ROC-AUC of 0.952 and an accuracy of 0.912. Key predictors of awareness included knowledge of legally permitted abortion conditions (rape, risk to the mother's life, and severe fetal anomalies), socioeconomic status (highest wealth quintile), reproductive health service utilization (family planning use), exposure to reproductive health information through media, and sociodemographic factors such as education level, age, and parity.

Conclusion and Public Health Implications: Machine learning models effectively predict women's awareness of facility-based abortion services in Ethiopia. Strengthening legal awareness, improving access to reproductive health information, and addressing socioeconomic disparities may enhance awareness and improve access to safe abortion services, thereby reducing unsafe abortion practices.

Keywords

Facility based abortion, Machine learning, Awareness

211: Epidemiological Trends And Patterns Of Measles In The Northern Region Of Ghana, 2014–2024

FAIZA ALHASSAN[1], Felecia Alemna[2]

[1]University of Ghana Public Health School, Ghana Field Epidermiology and Laboratory Training Program, Tamale, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Program, Accra, Ghana

Background: Measles remains a significant global public health concern, with recent resurgences driven by immunity gaps, weak surveillance systems, and COVID-19–related service disruptions. Although Ghana has made progress toward measles elimination, outbreaks continue to occur in Northern Ghana, indicating persistent gaps in immunisation coverage and surveillance performance.

Methods: An analysis of case-based measles surveillance data from the Northern Region, 2014–2024, was conducted. Data were obtained from IDSR case-based forms, SORMAS, and population denominators from the Ghana Statistical Service. Variables analysed included age, sex, district of residence, vaccination status, and case classification. Descriptive statistics summarised epidemiological trends, demographic and spatial distribution, and vaccination patterns. A SARIMA model was used to forecast measles incidence for 2024–2029.

Results: A total of 1,475 suspected cases were reported, of which 227 (15.4%) were laboratory confirmed. Case counts remained low between 2014-2022 but surged sharply in 2023 (716 suspected; 153 confirmed), yielding an incidence of 6.4 per 100,000 population. A decline followed in 2024 (197 suspected; 64 confirmed). Children aged 0–4 years constituted 71.5% of all cases. Spatial clustering was observed, with the highest burdens in Nanumba North (42), Tamale Metro (40), and Zabzugu (33). Vaccination uptake among cases was low: only 14% had received one dose, 14% two doses, and 18% had unknown status. Among confirmed cases, 79% were not yet due for vaccination. Forecasting shows repeated seasonal peaks over the next five years if gaps persist

Conclusion: Measles transmission was generally low for most of the decade but escalated in 2023 due to immunity gaps among young children and district-level disparities in vaccination performance. Although cases declined in 2024, persistent vulnerabilities threaten elimination goals. Strengthening routine immunisation, district-level micro-planning, and surveillance sensitivity remains essential.

Keywords

Measles, Surveillance, Vaccination, Northern Region, Outbreak, Epidemiology

212: Explainable Machine Learning And Spatial Analysis Of Household Solid Fuel Utilization In Nigeria: Insights From The 2024 DHS

LIDETU DEMOZE, Gelila Yitageasu

Department of Environmental and Occupational Health and Safety, Institute of Public Health, College of Medicine and Health Sciences, University of Gondar, Gondar, Ethiopia

Background :Solid fuels remain major cooking energy sources in many low- and middle-income countries, generating harmful household air pollution and increasing the risk of adverse health outcomes. In Nigeria, reliance on solid fuels remains high, particularly among disadvantaged populations. However, evidence on the spatial distribution and complex determinants of solid fuel use is limited. This study aimed to identify key predictors and geographic hotspots of solid fuel use in Nigeria using explainable machine learning and spatial analysis.

Methods: Data were obtained from the 2024 Nigeria Demographic and Health Survey, including 40,047 weighted households. Explainable machine learning models were developed using tenfold cross-validation and Synthetic Minority Over-sampling Technique to address class imbalance. Model performance was evaluated using accuracy, precision, recall, F1-score, and AUC-ROC. Shapley Additive Explanations (SHAP) were used to quantify predictor importance. Spatial analyses included Global Moran's I, Getis-Ord Gi*, Anselin Local Moran's I, and SaTScan Bernoulli models to identify geographic clusters.

Results: The prevalence of solid fuel use was 69.3% (95% CI: 68.9–69.8). XGBoost achieved the highest predictive performance (accuracy=0.900; AUC=0.965). Wealth index emerged as the strongest predictor, contributing more than 80% of model importance, followed by geographic zone, rural residence, household size, and age of the household head. Significant spatial clustering was observed (Moran's I=0.383, p<0.001), with hotspots concentrated in northwestern, northeastern, and north-central Nigeria. SaTScan identified these regions as the most significant high-risk clusters.

Conclusion and Public Health Implications: Nearly seven in ten Nigerian households continue to rely on solid fuels for cooking. Marked socioeconomic and geographic disparities persist, particularly in northern regions. Targeted policies such as subsidized LPG, innovative financing mechanisms, improved fuel distribution systems, and support for rural households are needed to accelerate the transition to clean cooking and reduce the health burden associated with household air pollution.

Keywords

Solid Fuel, Machine Learning, Spatial, Nigeria

213: Determinants Of Non-Adherence To Diabetes Self-Care Practices Among Adults With Type 2 Diabetes Mellitus In Mandera Central Sub-County, Mandera County, Kenya

JAPHET MUCHEKE

Mama Lucy Kibaki Hospital, Nairobi, Kenya

Background: Self-care practices such as medication adherence, dietary control, physical activity, blood glucose monitoring, and regular clinic attendance are essential for effective management of Type 2 Diabetes Mellitus (T2DM). In resource-limited settings, poor adherence contributes to preventable complications, increased morbidity, and avoidable healthcare costs. This study examined determinants of non-adherence to self-care practices among adults with T2DM in Mandera Central Sub-County, Mandera County, Kenya.

Methods: A descriptive cross-sectional study was conducted among adults with T2DM in Mandera Central Sub-County. The sampling frame comprised 500 diabetes patients identified from facility records. Using simple random sampling, 220 participants were selected to ensure representativeness of the sub-county diabetic population. Data were collected using a pretested semi-structured questionnaire assessing sociodemographic characteristics, diabetes knowledge, perceived barriers, and self-care practices. Data were analyzed using SPSS version 28. Descriptive statistics summarized participant characteristics, while chi-square tests and binary logistic regression identified determinants of non-adherence. Statistical significance was set at $p<0.05$.

Results: Most participants had below primary education (55.5%), were unemployed (61.0%), and earned below Ksh 20,000 monthly (58.0%). 55.0% had poor diabetes knowledge, and 56.5% did not engage in regular physical exercise. Education level was significantly associated with dietary adherence ($\chi^2=21.47$, $p<0.001$), while monthly income was associated with access to blood glucose monitoring devices ($\chi^2=31.62$, $p<0.001$). Diabetes knowledge was significantly associated with exercise adherence ($\chi^2=28.15$, $p<0.001$). Logistic regression showed that poor diabetes knowledge (AOR=4.11, 95% CI: 2.02–8.34) and low monthly income (AOR=3.47, 95% CI: 1.78–6.76) were strong determinants of non-adherence to self-care practices.

Conclusion: Non-adherence to diabetes self-care in Mandera Central Sub-County is strongly influenced by low health literacy and socioeconomic constraints. Strengthening diabetes education, improving access to self-monitoring tools, and implementing community-based support and nutritional counseling programs may enhance adherence and reduce diabetes-related complications in underserved populations.

Keywords

Type 2 Diabetes Self-Care Practices Non-Adherence Determinants Diabetes Knowledge Mandera County

214: Acceptability And Perceived Safety Of Intermittent Preventive Treatment For School-Aged Children (Iptsc) In Ghana: Implications For Malaria Chemoprevention Scale-Up

JOSEPH SAM[1], Emmanuel Asampong[1], Harriet Affran Bonful[1], Dora Dadzie[2], Mahnaz Vahedi[3]

[1]School of Public Health, University of Ghana, Accra, Ghana. [2]National Malaria Elimination Program, Accra, Ghana. [3]Special Programme for Research and Training in Tropical Diseases (TDR), WHO, Geneva, Switzerland

Background: Intermittent preventive treatment for school-aged children (IPTsc) is a malaria chemoprevention strategy designed to reduce malaria morbidity among school-aged children, a population that increasingly contributes to malaria transmission in sub-Saharan Africa. Although Ghana has added IPTsc into its national malaria strategic plan, evidence on community acceptability and implementation in routine, non-trial settings remains limited. This study explored perceived barriers, facilitators, and preferred implementation strategies for IPTsc among school-aged children, caregivers, and education stakeholders in a high malaria transmission setting in Ghana.

Methods: An exploratory qualitative study was conducted in four junior high schools in the Hohoe Municipality, Ghana. Data were collected through five focus group discussions comprising four groups of school-aged children and one group of caregivers. In addition, three key informant interviews were conducted with two headteachers and the Municipal School Health Education Programme Coordinator. Data were audio-recorded, transcribed verbatim, and analysed using Attride-Stirling's thematic network analysis framework.

Results: Key barriers included concerns about the origin and safety of medicines, fear of side effects, administering medication to asymptomatic children, tablet size and taste, and uncertainty regarding programme sustainability. Facilitators included perceived effectiveness in reducing malaria episodes, improved school attendance, reduced household treatment costs, and willingness to support IPTsc when accompanied by adequate community sensitisation. Participants recommended school-based delivery supported by community outreach, administration by trained health professionals, clear communication on medicine administration and adverse effects, and early engagement of parents and caregivers.

Conclusion: Community acceptance of IPTsc was influenced more by concerns about medicine safety, trust, programme delivery, and sustainability than by doubts regarding effectiveness. Addressing these concerns through targeted community engagement, risk communication, and stakeholder involvement may improve uptake and adherence to preventive antimalarial medicines. These findings provide important implementation and pharmacoepidemiological insights for the successful scale-up of IPTsc and other population-based chemoprevention interventions in high-transmission settings.

Keywords

Barriers, facilitators, Intermittent Preventive Treatment, School-aged children, Malaria, Ghana.

215: Diagnostic Performance Of The Dengue NS1 Ag Rapid Test During Early-Stage Infections At Epidemic-Affected Health Care Facilities In Northeastern And Eastern Ethiopia

CHALACHEW SIASY GEBEYEHU[1], Kassahun Alemu[2], Netsanet Worku[2], Tadesse Awoke[2]

[1]Ethiopian public health institute, Addis Abeba, Ethiopia. [2]University of Gondar, Gondar, Ethiopia

Background: Early detection of dengue Non-Structural Protein 1 (NS1) antigen is essential for timely diagnosis. Polymerase Chain Reaction (PCR) remains the diagnostic gold standard but is costly and resource intensive. Rapid diagnostic tests (RDTs) offer a practical alternative, though they require continuous validation against reference assays such as the Trioplex real-time-PCR. This study evaluated the diagnostic accuracy of the STANDARD™ Q Dengue NS1 antigen RDT compared with the CDC Trioplex real-time-PCR assay for early dengue detection in epidemic-affected healthcare facilities in Northeastern and Eastern Ethiopia between April and August 2024.

Methods: A cross-sectional diagnostic accuracy study was conducted among 339 febrile patients over one year of age, suspected of dengue infection within five days of symptom onset. Diagnostic performance was analyzed using Bayesian spatio-temporal modeling to account for spatial and temporal variation, alongside with contingency table analyses. Metrics included sensitivity, specificity, predictive values, overall accuracy, likelihood ratios, ROC area, and Cohen's kappa.

Results: Most participants were urban residents (90%) and aged 20–29 years. The NS1 Ag RDT demonstrated 82.9% overall accuracy, with sensitivity of 82.6% (95% CI: 76.3–87.8) and specificity of 83.2% (95% CI: 76.4–88.7). Positive and negative predictive values were 85.4% (95% CI: 79.3–90.2) and 80.1% (95% CI: 73.1–86.0), respectively. The positive likelihood ratio was 4.92, ROC area was 0.829, and Cohen's kappa indicated substantial agreement (κ = 0.65). Test positivity peaked on illness days two and three, with regional variation across Somali and Dire Dawa.

Conclusions: The NS1 antigen RDT showed moderate diagnostic performance, supporting its use for early dengue detection in epidemic-prone, resource-limited healthcare facilities.

Keywords

Keywords: Dengue, performance, NS1, sensitivity, predictive value, Ethiopia.

216: Geographic Inequities In Human Papillomavirus Vaccine Non-Uptake And Its Determinants Among Adolescent Girls In Ethiopia: Evidence From The National Immunization Survey

KIBIR TEMESGEN ASSEFA[1,2], Abebaw Gebeyehu Worku[1], Achenef Asmamaw Muche[1], Bisrat Misganaw Geremew[1], Mulat Adefris Woldetsadik[1], Kassahun Alemu Gelaye[1]

[1]University of Gondar, Gondar, Ethiopia. [2]Wollo University, Dessie, Ethiopia

Background: Human papillomavirus (HPV) vaccination has emerged as the most effective method for preventing cervical cancer. Despite this, Ethiopia's HPV vaccine non-uptake rate remains high, with significant geographic variation, and there is limited evidence on the geospatial determinants of these inequities. This study aimed to map the geographic inequities in HPV vaccine non-uptake and identify its determinants among adolescent girls in Ethiopia.

Methods: We conducted a secondary data analysis using the Ethiopian National Immunization Survey dataset. A stratified two-stage cluster sampling technique was used to select 467 enumeration areas (EAs) and a weighted sample of 5,341 adolescent girls. The geographic inequity of HPV vaccine non-uptake was analyzed using Moran's I, Getis-Ord Gi statistics, and Kriging interpolation in ArcGIS 10.8. We employed geographically weighted regression analysis to identify geographic factors associated with inequity in HPV vaccine non-uptake.

Results: Forty-six percent (46%, 95% CI: 44.7–47.8) of adolescent girls did not receive the HPV vaccine, and there were geographical variations in vaccine coverage. Higher proportions of HPV vaccine non-uptake were identified in eastern Amhara, eastern Oromia, central and northern Somali, central Afar, and the urban administrative units of Dire Dawa and Harari. Poor attitude and poor knowledge towards the HPV vaccine, not living with parents, and urban residence were predictors of geographic inequities in HPV vaccine non-uptake.

Conclusions: The proportion of HPV vaccine non-uptake varied across Ethiopia, with geographic inequities identified in the eastern and northeastern parts of Ethiopia. Poor attitudes and knowledge about the vaccine, not living with parents, and urban residence contributed to these inequities. These findings highlight the need for targeted educational campaigns in areas with high non-uptake to improve knowledge and attitudes, alongside tailored strategies for regions where urban residence and not living with parents influence uptake.

Keywords

HPV vaccine, geographic inequity, adolescents, Ethiopia, spatial analysis

218: Oral Health Burden And Determinants Among Adolescents With Sickle Cell Disease In Western Kenya:Implications For Intergrated Care

CLIFFLAND MOSOTI[1], Elizabeth Dimba[2], Micah Matiangi[1]

[1]Amref International University, NAIROBI, Kenya. [2]University of Nairobi, NAIROBI, Kenya

Background: Adolescents with sickle cell disease (SCD) are vulnerable to oral health problems due to chronic illness, socioeconomic disadvantages, and limited access to preventive dental care. Despite the high burden of SCD in western Kenya, oral health remains poorly integrated into routine SCD management. This study assessed the burden and determinants of oral health conditions among adolescents with SCD in Kisumu County, Kenya.

Methods: A descriptive cross-sectional study was conducted among 355 adolescents aged 10–18 years with confirmed SCD attending six specialized clinics in Kisumu County. Participants were selected through systematic sampling. Data were collected through interviewer-administered questionnaires and clinical oral examinations. Dental caries was assessed using the DMFT/dmft index and oral hygiene using Turesky's modified plaque index. Data were analyzed using descriptive statistics and regression models.

Results: Dental caries prevalence was 40.0%, while 98.0% of participants had visible plaque, with 68.7% exhibiting moderate-to-severe plaque accumulation. The mean DMFT score was 1.09 ± 1.41, largely attributable to untreated decay. Most participants (79.4%) had never visited a dentist, only 6.2% had received professional dental cleaning, and 89.6% reported barriers to oral healthcare, mainly treatment costs and limited service availability. Poor oral health was significantly associated with limited access to dental services, sleep interference, low motivation to maintain healthy teeth, infrequent toothbrushing, non-use of fluoride toothpaste, caregiver occupation, and lack of prior dental visits.

Conclusion and Public Health Implications : Adolescents with SCD in western Kenya experience a substantial burden of oral disease influenced by behavioral, socioeconomic, and healthcare access factors. Integrating oral health education, routine screening, preventive services, and referral pathways into SCD care programs could improve oral health outcomes and strengthen comprehensive chronic disease management.

Keywords

Keywords: Sickle Cell Disease; Oral Health; Dental Caries; Adolescents; Oral Hygiene; Access to Care;

219: Effectiveness Of Carbon Dioxide Cryotherapy For Uncomplicated Localized Cutaneous Leishmaniasis In Ethiopia: A Pragmatic Clinical Trial

FELEKE TILAHUN TILAHUN ZEWDU, Professor Kassahun Alemu

University of Gondar, Gondar, Ethiopia

Background: Cutaneous leishmaniasis (CL) is a neglected tropical disease that causes chronic skin lesions, disfigurement, and psychosocial stigma. Management of localized CL commonly relies on local therapies, including cryotherapy, thermotherapy, intralesional antimonials, and topical agents, but access remains limited by toxicity, cost, and infrastructure constraints. Carbon dioxide (CO_2) cryotherapy is a low-cost, portable treatment already available in many Ethiopian primary health-care facilities. However, evidence on its effectiveness for uncomplicated localized CL under routine conditions is limited. This study evaluated the effectiveness of CO_2 cryotherapy delivered at the primary health-care level in Ethiopia.

Methods: We conducted a hybrid type I pragmatic clinical trial involving 174 participants aged ≥5 years with parasitologically confirmed uncomplicated localized CL (≤4 lesions, each <5 cm). Participants received either CO_2 cryotherapy at primary health-care centres (n=85) or standard dermatology care at referral hospitals (n=89). The primary outcome was clinical cure at day 90. Secondary outcomes included quality of life, scar outcomes (POSAS), and adverse events. To address baseline differences, stabilized inverse probability of treatment weighting (IPTW) and generalized linear mixed-effects models were applied.

Results: Treatment completion was high in both groups (90.6%–92.7%). Day-90 cure rates were comparable between standard therapy and CO_2 cryotherapy (80.9% vs 80.0%; p>0.05), although standard therapy achieved faster healing (log-rank p=0.0007). Quality of life improved substantially, with participants reporting "no impairment" increasing from 13.2% to 86.8%. CO_2 cryotherapy produced excellent cosmetic outcomes and only mild, self-limiting adverse events. Propensity-adjusted analyses identified no independent treatment effect after weighting (p=0.62–0.97). Lesion size significantly modified treatment response, while cure was also associated with age, sex, lesion type, and anatomical site.

Conclusion: CO_2 cryotherapy delivered at primary health-care facilities achieved cure rates comparable to standard hospital-based treatment, with excellent safety and cosmetic outcomes. Although standard therapy resulted in faster lesion resolution, both approaches produced similar clinical outcomes at 90 days. These findings support CO_2 cryotherapy as a feasible, scalable, and decentralized treatment option for uncomplicated localized CL in resource-limited endemic settings.

Keywords

CO2 cryotherapy, uncomplicated cutaneous leishmaniasis, Effectiveness, Ethiopia

222: Predicting Household Sanitation Service Using A Machine Learning Approach In Urban Health And Demographic Surveillance System Sites Of Northwest Ethiopia

ASMAMAW MALEDE TAREKEGN, Asmare Adane Andualem, Aysheshim Kassahun Belew, Tesfahun Melese Yilma, Tadesse Belayneh Melkie

University of Gondar, Gondar, Ethiopia

Background: Access to safely managed sanitation service is creditable for warranting health and well-being of all. However, millions of people, many in low- and middle-income countries, still have no basic sanitation facilities. This study aimed to estimate the proportion of households having safely managed sanitation service and identify its important predictors.

Methods: A cross-sectional survey conducted in 12,400 households in Gondar City and Gorgora town Health and Demographic Surveillance System sites in northwest Ethiopia. Sociodemographic, housing, and household characteristics were collected. Data quality was assured by pretesting, training, and supervision. A multivariable binary logistic regression was fitted. Nine supervised classification machine-learning algorithms were trained to build a suitable model. Accuracy, precision, recall, F1 score, and the ROC curve were used to evaluate model performance.

Results: The proportion of safely managed sanitation services in households of the urban sites was 29.9% (95% CI: 29.1-30.7). Male, young, married, illiterate heads and those engaged in agricultural investment; small family households; non-poorest households; households not a member of health insurance; and houses that have good structures were more likely to have a safely managed sanitation service. The LightGBM algorithm was the best classifier in predicting household sanitation services. Wall-building, flooring materials, wealth, occupation, education, and age were the top six important predictors of household sanitation service identified by the random forest model.

Conclusions: The coverage of safely managed household sanitation service in urban areas of northwest Ethiopia was higher than the national average. Poor housing structure and certain household and sociodemographic characteristics were factors associated with safely managed sanitation service. Criterion-based sanitation technologies should be promoted for poor HHs, large families, and CBHI member HHs. Results from machine learning could have significant impact on the delivery of interventions by prioritizing problems in accessing safely managed sanitation services.

Keywords

Urban HDSS sites, machine learning, household sanitation service, Ethiopia

223: Cholera Outbreak Cluster Investigation, Lusaka, Zambia, March 2026

ROCHAM MULUMBWE[1,2], Hellen Kaoma[2], Francis Ngosa Mwenya[2], Dabwisto Banda[2], Nyambe Sinyange[2], Hebert Luhanga[1,2], Matildah Mubanga[3,2], Ishbak Chimfwembe[3,2,4], Shadreck Manda[3,2]

[1]University of Zambia, School of Public Health, Lusaka, Zambia. [2]Zambia National Public Health Institute, Field Epidemiology Training Program, Lusaka, Zambia. [3]Levy Mwanawasa Medical University, Department of Public Health and Environmental Sciences, Lusaka, Zambia. [4]Ministry of Health, Lusaka Provincial Health Office4, Lusaka, Zambia

Background: Cholera remains a public health challenge in Zambia, driven by inadequate water, sanitation and hygiene (WASH) infrastructure. With 683 cases recorded in Lusaka amid the ongoing national outbreak, the emergence of two deaths and 17 positive cases within 24 hours in Makeni area warranted urgent investigation of risk factors and response using the 7-1-7 framework.

Methods: We conducted a 1:2 case-control study (8-18 March 2026). Cases were residents with acute watery diarrhoea (≥3 episodes/24h); controls were asymptomatic neighbours. Data were collected via structured questionnaires; stool and water samples underwent laboratory testing. Multivariable logistic regression estimated adjusted odds ratios (aOR) and 95% CI. Response milestones were assessed against 7-1-7 targets; facilitating or hindering factors were documented as enablers and bottlenecks.

Results: We enrolled 114 participants including 38 cases. Median age 30 years (IQR: 20-39); 61% (23/38) male. The attack rate was 4.2% (38/905), higher in Green zone (10.3%; 36/350) than White zone (0.4%; 2/555); case fatality rate was 5.3% (2/38). Of 16 stool samples cultured, 14 (87.5%) were confirmed; all four water samples were E. coli positive. Symptoms: diarrhoea (100%), vomiting (57.9%), abdominal cramps (39.5%) and general weakness (31.6%). Sewer overflow was the strongest risk factor (aOR=10.53; 95%CI: 3.41-41.7; p<0.001); male sex had increased risk (aOR=2.59; 95%CI: 1.02-6.93; p=0.05). Access to a handwashing facility (aOR=0.16; 95%CI: 0.02-0.82; p=0.043) and secondary education (aOR=0.09; 95%CI: 0.00-0.75; p=0.048) were protective. All 7-1-7 targets were met: detection in 2 days, notification in 1 day, response in 2 days. Enablers: communication channels, multi-sectoral collaboration and Incident Management System; low clinical suspicion and poor health-seeking behaviour were bottlenecks.

Conclusion: This outbreak was driven by sewer overflow and inadequate sanitation infrastructure. Sewerage rehabilitation, WASH strengthening and risk communication are essential to prevent recurrence. Meeting all 7-1-7 targets demonstrates health security capacity for early containment of future outbreaks.

Keywords

Cholera, outbreak investigation, case-control study, 7-1-7 framework, WASH, Zambia

224: Using Mathematical Modelling To Inform Evidence-Based Malaria Intervention Strategies In Bauchi State, Nigeria

MARY OJONEMA ONOJA-ALEXANDER[1], Charles Esekhaigbe Esekhaigbe[1], Ikemefuna NNmadi Onyeyili[1], Comfort Eyojo Agada-Kiboigo[2], Joseph Peter Afangideh[3], Muazu Omeiza Musa[4], Alexandra Ojonibe Onoja[1]

[1]Department of Community Health, Faculty of Clinical Sciences, College of Health Sciences, Federal University Lokoja,, Lokoja, Nigeria. [2]Workers' Safety and Compensation Commission-Government of Northwest Territories, Yelloeknife, Canada. [3]Clinical Services Specialist, Clinical Services Specialist ECEWS, Obudu, Cross River State,, Nigeria. [4]Kogi State Primary HealthCare Development Agency, Lokoja, Nigeria

Background: Malaria remains a major public health challenge in Bauchi State, Nigeria, particularly among children under five years and pregnant women. Despite ongoing control efforts, favorable environmental conditions continue to support transmission. Mathematical modelling offers a valuable approach for understanding malaria dynamics and assessing the effectiveness of intervention strategies

Methods: A deterministic Susceptible–Infected–Recovered (SIR) compartmental model incorporating human and mosquito populations was developed to assess malaria transmission in Bauchi State. Epidemiological and intervention data were obtained from the Malaria Indicator Survey (MIS), District Health Information System (DHIS2), and population statistics. Key model parameters included transmission rates, recruitment rates, recovery rates, natural mortality rates, and insecticide-treated net (ITN) effectiveness. Parameter estimation was done, Tables and graphs were constructed using R Studio software, Sensitivity analysis was done and the Effective Reduction Number (ERN)was calculated using R with respect to the estimated parameters ,A Model Simulation was done to predict the impact of ITN over time and intervention Scenarios to evaluate the impact of increasing coverage of ITNs on malaria incidence and mortality.

Results: Simulation results showed that increased ITN coverage substantially reduced malaria transmission and infection prevalence over time. The estimated Effective Reduction Number (ERN) was 0.000145, suggesting that ITN interventions can significantly suppress malaria transmission when coverage and utilization are high. Sensitivity analysis identified mosquito biting rates and human recovery rates as the most influential parameters affecting transmission dynamics. These findings indicate that strengthening vector control measures and improving access to prompt diagnosis and treatment can further reduce malaria burden in the state.

Conclusion: Mathematical modelling proved valuable for assessing the effectiveness of malaria interventions and supporting evidence-based decision-making. The study demonstrates that sustained ITN distribution and utilization can contribute significantly to malaria control in Bauchi State. Strengthening routine surveillance systems, improving data quality, and integrating modelling outputs.

Keywords

Malaria, Mathematical Modelling, SIR Model, Insecticide-Treated Nets, Bauchi State, Nigeria.

225: Consumption Of Antioxidant-Rich Foods Attenuates Respiratory And Cardiovascular Health Effects In A Population Highly Exposed To Air Pollution

ADELADZA KOFI AMEGAH[1,2], Kelvin Yeboah[1], Evans Quarshie[1], Divine Onyekachi Benjamin[1], Patricia Amonoo[1], Patrick Attey-Yeboah[1], Saverio Stranges[3], Kandala Ngianga-Bakwin[3]

[1]Department of Biomedical Sciences, Public Health Research Group, University of Cape Coast, Cape Coast, Ghana. [2]School of Public Health, University of Cape Coast, Cape Coast, Ghana. [3]Department of Epidemiology and Biostatistics, Schulich School of Medicine & Dentistry, Western University, Ontario, Canada

Background: Diet and nutrition have shown promise in attenuating air pollution health effects. However, to date, no study has been conducted in an occupationally exposed population who experience high levels of very complex air pollution mixtures on a daily basis.

Objectives: We therefore evaluated the effectiveness of regular consumption of antioxidant-rich foods in attenuating respiratory and cardiovascular health effects among street vendors in Accra, Ghana.

Materials and Methods: We used a quasi-experimental design of 12-month duration, assigning 307 street vendors to either an intervention group (n = 155) or control group (n = 152). Participants regularly consuming antioxidant-rich foods were assigned to the intervention group to receive a weekly supply, while those consuming less of these foods were assigned to the control group to maintain their usual dietary pattern.

Results: The primary outcomes were self-reported respiratory and cardiovascular symptoms, and impaired lung function. The intervention participants were found to have reduced odds of cough (AOR=0.45; 95% CI: 0.33, 0.63), difficulty breathing (AOR=0.40; 95% CI: 0.25, 0.65), irregular heartbeat (AOR=0.08; 95% CI: 0.05, 0.13), and hospital visits (AOR=0.34; 95% CI: 0.16, 0.72) compared to the control participants. Models were adjusted for age, gender, educational level and BMI. Surprisingly, we observed a decline in lung function among the intervention participants compared to the control participants.

Conclusions: We found regular consumption of antioxidant-rich foods to attenuate adverse air pollution health effects among this vulnerable population. Risk communication among this group and other outdoor workers should emphasize this nutrition intervention.

The study was funded by Grand Challenges Canada (Grant Number ST-POC-2312-61588).

Keywords

Antioxidant Nutrient, Street Vendor, Lung Function, Respiratory Symptoms, Cardiovascular Symptoms

226: Geographic Hotspots And Demographic Determinants Of HIV Positivity In The Lower River Region, The Gambia: A Five-Year Strategic Analysis (2020–2024)

OUSMAN M CAMARA[1,2], Bakalilu Kijera[2,3], Sherifo MK Darboe[2,4], Sarja Jarjussey[5], Obafemi Joseph Babalola[6]

[1]Field Epidemiology Training Program, Banjul, Gambia. [2]Ministry of Health, Banjul, Gambia. [3]Expanded Program on Immunization, Banjul, Gambia. [4]Epidemiology and Disease Control Program, Banjul, Gambia. [5]Program for Appropriate Technology in Health (PATH), Banjul, Gambia. [6]African Field Epidemiology Network (AFENET), Kampala, Uganda

Background: Achieving the UNAIDS 95-95-95 targets requires granular, localized evidence to bypass the "averaging effect" of national estimates, which often obscure rural hotspots. We evaluated facility-based HIV testing patterns and the determinants of seropositivity in the Lower River Region (LRR) of The Gambia (2020–2024) to identify critical gaps in epidemic control.

Methods: We conducted a retrospective cross-sectional analysis of 3,345 records from all HIV Counselling and Testing (HCT) registers across LRR. We utilized multivariable logistic regression to identify independent predictors of positivity and spatial mapping to visualize geographic disparities. Factors analyzed included age, sex, ethnicity, district, and testing rationale.

Results: The overall HIV positivity rate was 7.4%. Prevalence was highly stratified by age and geography: individuals aged ≥ 51 years had a 15.0% positivity rate compared to 3.1% in the 13–25 age group. Jarra West (14.9%) and Jarra Central (15.3%) emerged as high-burden epicentres, with positivity rates over tenfold higher than Kiang East (1.2%). In the multivariable model, the strongest independent predictors of positivity were ≥ 51 years (AOR=5.33; 95% CI: 2.98 - 9.51; p < 0.001), residence in Jarra West (AOR=14.05; 95% CI: 4.40 - 44.92; p < 0.001), and Fula ethnic group (AOR=2.54; 95% CI: 1.42 - 4.55; p = 0.002). Testing volumes showed a notable "V-shaped" trend, declining during the COVID-19 pandemic before rebounding significantly in 2023.

Conclusion: The HIV epidemic in rural Gambia is characterized by intense geographic and demographic heterogeneity. To close the first "95," public health interventions must shift toward "precision testing." This includes prioritizing Jarra West and Jarra Central, integrating routine screening for older adults, and implementing culturally tailored outreach for high-risk ethnic and mobile populations.

Keywords

HIV testing, positivity rate, determinants, Lower River Region, The Gambia, UNAIDS 95-95-95

228: The Effect Of Early Detection And Digital Surveillance; Outbreak Investigation And Environmental Determinants Of Cutaneous Leishmaniasis In Amdework City, Ethiopia, 2025

DAWIT MULU

Bahir dar university, Bahirdar, Ethiopia

Background: Leishmaniosis, parasitic protozoan diseases caused by infectious agent genus leishmania transmitted through the bite of female phlebotomine sandflies. WHO estimates 1 million cases of CL annually during the past 5 years, and its prevalence in several studies ranged from 0.73% to 79.1%. The pooled prevalence of CL in East Africa was 22.57%, increasing incidence of cutaneous leishmaniosis (CL) in reports is a significant public health concern, this study aims to investigate the outbreak and determinants associated with cutaneous leishmaniosis.

Methods: Descriptive and unmatched case-control study was used for a total of 50 cases and 150 controls, conducted in Amdework cluster of dehana district, collected from 2nd February to 2nd March, 2026, collected by Kobo-toolbox, kobo collect app then exported to MS excel and cleaned then analysed by R software (R version 4.5.2), Variables with p-value of <0.05 considered statistically-significant and selected for further analysis.

Results: out of 32 samples examined by microscopy 25 (78.1%) were reported positive for CL, almost half of them were students and the other half comprises mainly farmers, around 417 per 100,000 populations, with 95% CI (3.09–5.49 per 1,000). Ownership of domestic animals (AOR = 7.79; 95% CI: 1.23–103.59; p = 0.027), increased sand-fly presence around their homes (AOR = 5.21; 95% CI: 1.14–28.34; p = 0.033), having a neighbor or family member with CL lesions (AOR = 7.70; 95% CI: 2.15–33.83; p = 0.001), were significantly associated, wearing proper clothing during sand-fly hours was a protective factor (AOR = 0.30; 95% CI: 0.08–0.97; p = 0.044).

Conclusion: An outbreak of CL was confirmed early helped to respond by initiating local response, and the factors of individual, environmental, behavioral associations, closeness to reservoirs and vector density. Early detection, and prompt response focusing on better public health interventions.

Keywords

Cutaneous leishmaniasis, Outbreak, Environmental determinants, Amdework city, Ethiopia, Africa

231: Capacity And Role Of Community Health Promoters In Early Identification And Referral Of Non-Communicable Diseases In Kisii County, Kenya

MESHACK BWAKALI SHIUNDU[1,2], Laban Makori Sterly[2], Irene Adhiambo Okwaro[2], Allan Khisa Wanjala[3]

[1]AMREF INTERNATIONAL UNIVERSITY, Nairobi, Kenya. [2]Kenya Medical Training College, KISUMU, Kenya. [3]Karatina University, Nairobi, Kenya

Background: Non-communicable diseases (NCDs), including hypertension/diabetes mellitus, cardiovascular diseases, and cancers, are increasingly contributing to morbidity/mortality, and healthcare costs in Kenya. Community Health Promoters (CHPs) are recognized as critical frontline healthcare workers for strengthening community-based prevention, early-detection, and referral of NCDs. However, evidence regarding their capacity and effectiveness in NCD identification and referral remains limited in many Kenyan counties. This study assessed the capacity and role of CHPs in the early identification and referral of NCDs in Kisii-County, Kenya.

Methods: A mixed-methods cross-sectional study was conducted among CHPs and Social-Health Workers across the nine sub-counties of Kisii-County. Quantitative data were collected using structured interviewer-administered questionnaires, while qualitative data were obtained through key informant interviews. A minimum sample size of 352 participants was determined using the Yamane Taro formula and adjusted to 387 to account for non-response. Data were analyzed using SPSS version-27, employing descriptive statistics, chi-square tests, and thematic analysis.

Results: Most respondents (63.1%) had more than six years of community health experience. Nearly all CHPs (97.8%) were familiar with NCDs, while 67.7% rated their knowledge as high. Awareness was highest for diabetes (89.5%), hypertension (88.2%), and cancer (75.8%), but lower for chronic respiratory diseases (31.7%) and cardiovascular diseases (28.9%). A majority (97.2%) reported identifying suspected NCD cases, primarily through screening tests (65.6%). Almost all respondents (99.2%) referred suspected NCD patients to health facilities. Years of experience were significantly associated with awareness of NCD categories (χ^2=79.378, p=0.014), identification of NCD patients (χ^2=9.211, *p*=0.010), and frequency of encountering suspected NCD cases (χ^2=21.316, p=0.002). Transportation barriers, patient non-cooperation, and financial constraints were the leading referral challenges.

Conclusion: CHPs play vital role in community-based NCD detection and referral. Strengthening training, screening resources, and referral-systems could substantially improve early diagnosis and management of NCDs in Kisii-County.

Keywords

Community Health Promoters, Non-Communicable Diseases, Early Detection, Referral Systems, Kisii County

234: Epidemiological Features And Risk Factors: Mpox Outbreak In Lusaka Province, Zambia, January 2025

CHIKONDI PHIRI[1,2], Lwito Salifya Mutale[3], Oscar Nzila[4], Agness Haambote[3], Dabwitso Banda[3], Nyambe Sinyange[3], Benjamin Mubemba[5]

[1]Levy Mwanawasa Medical University, Lusaka, Zambia. [2]Zambia National Public Health Institute, Field Epidemiology Training Program, Lusaka, Zambia. [3]Field Epidemiology Training Program, Zambia National Public Health Institute, Lusaka, Zambia. [4]Surveillance, Lusaka Provincial Health Office, Ministry of Health, Lusaka, Zambia. [5]School of Natural Resources, Copperbelt University, Kitwe, Zambia

Background: Mpox, a zoonotic orthopox virus, poses a growing public health concern in sub-Saharan Africa. In December 2024, the first Mpox case in Lusaka province was identified in Kanyama sub-district, raising concerns about potential community transmission in Zambia's most densely populated region. We investigated to characterize the outbreak, identify clinical and epidemiological features, and determine risk factors to inform control strategies.

Methods: We conducted a descriptive analysis of cases detected between January and February 2025. Cases were defined as individuals with Mpox confirmed by polymerase chain reaction (PCR) or sequencing. Data were collected through structured interviews and review of medical records at the University Teaching Hospital. Descriptive statistics, including frequencies, proportions, and medians, were used to summarize the data.

Results: The median age of the 7 cases was 13, and 57% of cases were children aged ≤15. Fever and rash were the most common symptoms (86%), and no deaths occurred. Contact with individuals exhibiting Mpox-like symptoms was reported by 4 cases (57%). No cases reported international travel, though 43% reported recent domestic travel. No significant links were found with HIV status or sexual history.

Conclusion: This outbreak primarily affected children and adolescents, suggesting community-based transmission via close contact. The lack of international travel among cases supports local transmission. Early case detection contributed to zero mortality. Strengthening disease surveillance, raising public awareness, and conducting knowledge-attitude-practice (KAP) studies are critical for enhancing outbreak preparedness and response.

Keywords

Mpox, outbreak investigation, case-control, Zambia, risk factors

235: From Introduction To Uptake: Early Implementation Gaps In Malaria Vaccine Delivery In Limbe Health District, Cameroon

SANDRA AFUNGTU AKONGNWI[1], Elvis Asangbeng Tanue[2], Joshua Tambe Agbor[3], Nicholas Tendongfor[2]

[1]Department of Internal Medicine and pediatrics, Faculty of Health Sciences, University of Buea, Cameroon, Buea, Cameroon. [2]Department of Public Health & Hygiene, Faculty of Health Sciences, University of Buea, Cameroon, Buea, Cameroon. [3]Department of Internal Medicine and Pediatrics, Faculty of Health Sciences, University of Buea, Cameroon, Buea, Cameroon

Background: Cameroon's introduction of the RTS,S/AS01 malaria vaccine into routine immunization program created an opportunity to reduce childhood malaria morbidity. However, early impact depends on caregiver awareness, acceptance and equitable uptake across implementation areas. This study assessed malaria vaccine uptake and associated factors among eligible children in the Limbe Health District of Cameroon.

Methods: A community-based cross-sectional study was conducted in four of eight health areas in the Limbe Health District from February to April 2025. Caregivers of children aged 6–22 months were interviewed using a structured questionnaire. Data were analyzed in SPSS version 27. Chi-square tests assessed bivariate associations, and multivariable logistic regression identified independent predictors of malaria vaccine uptake. Statistical significance was set at $p<0.05$.

Results: A total of 425 caregivers were enrolled; 349 (82.4%) were female. Children had a mean age of 13.0 months (standard deviation=5.06). Among children with known vaccination history, malaria vaccine uptake was low, 37.4% (141/377). Caregiver awareness of the malaria vaccine was 48.9% (208/425), while positive attitude toward the vaccine was only 11.0%. Uptake varied markedly by health area. Compared with Zone 2 (urban setting), children in Idenau (rural setting) had higher odds of vaccination (AOR=4.05; 95% CI: 1.67–9.79; p=0.002), whereas those in Seaport (urban setting) had lower odds (AOR=0.42). Older children aged 19–22 months had lower odds of uptake than those aged 6–12 months (AOR=0.50). Facility birth was the strongest predictor of uptake (AOR=16.06; 95% CI: 3.40–75.79; p=0.001). Caregiver education was also associated with uptake.

Conclusion: One year after introduction, malaria vaccine uptake in Limbe remained low and uneven. The findings suggest an implementation gap driven by limited awareness, weak acceptance and dependence on facility-linked child health services. Targeted risk communication, postnatal immunization counselling and outreach to home-born children and low-uptake health areas are urgently needed.

Keywords

Malaria vaccine; RTS,S/AS01; Vaccine uptake; Caregiver awareness; Immunization equity; Cameroon

236: From Detection To Attribution: Combining Viral Metagenomics And Host-Response Signatures To Improve Understanding Of Childhood Febrile Illness

FLAVIA KADUNI BAWA[1,2], Peter Quashie[1,2], Jesus Rodriguez-Manzano[3], Dominic Habgood-Coote[3], Giselle D'Souza[3], Myrsini Kaforou[3], Jethro Herberg[3], Effua Usuf[4], Samuel Duodu[1,2], Aubrey Cunnington[3]

[1]University of Ghana, Accra, Ghana. [2]West African Centre for Cell Biology of Infectious Pathogens, Accra, Ghana. [3]Imperial College London, London, United Kingdom. [4]MRC unit The Gambia, Fajara, Gambia

Background: Unbiased metagenomic sequencing has transformed infectious disease surveillance by enabling the detection of a broad range of viral pathogens, including those not routinely identified by conventional diagnostics. However, in high-burden endemic settings, the detection of viral nucleic acids does not necessarily indicate disease causation, as viral persistence, asymptomatic carriage, and concurrent infections may complicate interpretation. There is therefore a need for complementary approaches that provide biological context to distinguish clinically relevant infections from incidental viral detections.

Methods: Plasma samples collected from children presenting with acute febrile illness in Ghana underwent Illumina-based metagenomic sequencing to characterise the diversity of viral pathogens associated with childhood fever. The identified viral detections will be interpreted alongside host-response signature profiling using a multiplex RT-PCR assay designed to classify infections according to underlying aetiology, including viral, bacterial, and malaria-associated responses. Integration of pathogen detection, host-response signatures, and available clinical and laboratory parameters will be explored to assess whether host-response profiling can improve interpretation of viral detections.

Results: Metagenomic sequencing identified a diverse range of viral pathogens among children with febrile illness, including viruses not routinely detected by standard diagnostic testing. These findings reveal the complexity of the childhood febrile virome and underscore the challenge of determining the clinical relevance of detected viruses based on sequencing data alone. Ongoing host-response analyses are expected to provide additional biological context to support interpretation of whether viral detections are more likely to be associated with active infection or to represent incidental findings.

Conclusion: This work highlights the limitations of relying solely on pathogen detection for disease attribution in endemic settings and proposes an integrated host–pathogen molecular approach to improve interpretation of metagenomic findings. Combining viral surveillance with host-response profiling may strengthen our understanding of childhood febrile illness, improve disease attribution, and inform future molecular diagnostic and surveillance strategies.

Keywords

febrile, Children, host-responses, viral, metagenomics

239: Trends And Distribution Of Mental Disorders Due To Alcohol Use In Greater Accra Region, 2018 – 2024

MAVIS CECILIA COFFIE[1,2], Charles Noora Lwanga[2], Donne Ameme[2], Delia Akosua Benewaa Bandoh[2], Samuel Okoo Sackey[2], Basil Benduri Kaburi[3], Joseph Asamoah Frimpong[2], Ernest Kenu[2], Blessing Uteh[2], Jonathan Elikem Avuyitor[2], John Baffoe[2], Faiza Alhassan[2], Phyllis Fleischer[2], Nana Yaa Adobea Brown[2], Kingsley Kwabena Amoako[2], Christopher Tamal[4], David Duodu[5], Henry Prosper Dade[1], Genevive Kpobi[1], Erasmus Osei[1], Bless Eyram Ankutse[6], Rebecca Akorley[7], Etornam Gbledi[8]

[1]Pantang Nurses Training College, Accra, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Programme, School of Public Health,, Accra, Ghana. [3]Ghana Field Epidemiology and Laboratory Training Programme, School of Public Health,, Accra, Greece. [4]World Health Organization, Ghana Country Office, Accra, Ghana, Accra, Ghana. [5]Pantang Psychiatric Hospital, Accra, Ghana. [6]Akuse Government Hospital, Akuse, Ghana. [7]Ministry of Health, Accra, Ghana. [8]Greater Accra Regional Health Directorate, Accra, Ghana

Background: Mental disorders due to alcohol use(MDAU) are an increasing public health concern globally and contribute substantially to the burden of mental illness, particularly in urban populations. In Ghana, evidence on the epidemiology of MDAU at the subnational level remains limited. We analyzed routine surveillance data to describe the burden, demographic characteristics, temporal trends, and geographic distribution of mental disorders due to alcohol use MDAU in the Greater Accra Region.

Methods: A secondary analysis of District Health Information Management System2 data from 2018–2024 was conducted across 29 districts in Greater Accra Region. All reported cases classified under ICD-10 codes F10.0–F10.9 were included. Data cleaned and analyzed using Excel 365. Descriptive statistics summarized age, sex, diagnosis type, and district distributions. Temporal patterns were assessed using annual and monthly trends, while geographic distribution was mapped. A five-year forecast (2025–2029) was generated using the Holt–Winters additive trend model.

Results: A total of 99,152 mental health cases were reported during the study period, of which 3.8% (3,762/99,152) were MDAU cases. Males accounted for 85.0% (3,196/3,762) of cases, and adults aged 35–49 years represented the most affected age group (45.8%). Annual trends fluctuated, the highest proportion recorded in 2019 (5.3%), while the largest number of cases was reported in 2024. Monthly analyses revealed recurring peaks in March, June, and October. Spatial distribution showed marked heterogeneity across districts, with La-Nkwantanang-Madina (37.5%) and Korle-Klottey (18.4%) contributing more than half of all reported cases. Forecasting results indicate a continued increase in MDAU cases through 2029.

Conclusion: Mental disorders due to alcohol use remain a substantial and unevenly distributed public health burden in the Greater Accra Region, disproportionately affecting men and adults in their productive years. Strengthened surveillance, targeted interventions, and seasonally informed planning are needed to address the projected rise in MDAU cases.

Keywords

Alcohol use disorders; Mental disorders due to alcohol use; Mental health surveillance; DHIMS2; Greater Accra Region; Temporal trends; Spatial distribution; Forecast.

240: Burden And Determinants Of Multimorbidity Of Non-Communicable Diseases Among Adults Seeking Care In Health Facilities In The Volta Region, Ghana

ROBERT KOKOU DOWOU[1], Martin Amogre Ayanore[1], Seth Owusu-Agyei[1], Elvis Enowbeyang Tarkang[1], Nuworza Kugbey[2]

[1]University of Health and Allied Sciences, Ho, Ghana, Ho, Ghana. [2]University of Environment and Sustainable Development, Somanya, Ghana, Somanya, Ghana

Background: Multimorbidity of non-communicable diseases (NCDs) is an emerging public health challenge in low- and middle-income countries. In Ghana, evidence on both prevalence and determinants remains limited. Our study assessed the burden and predictors of NCD multimorbidity among adults in the Volta Region.

Methods: A facility-based cross-sectional survey was conducted among 1,177 adults attending outpatient clinics in three referral hospitals: Ho Teaching Hospital (tertiary), Volta Regional Hospital in Hohoe (secondary), and Margaret Marquart Catholic Hospital in Kpando (district/faith-based). Stratified random sampling ensured representation across sex, age groups, and facility type. Data were collected using structured interviewer-administered questionnaires. Multimorbidity was defined as the coexistence of two or more NCDs. Analyses were performed using STATA version 17.

Results: Overall, the prevalence of multimorbidity of NCDs among patients was 69.4%. Hypertension and diabetes were the most common co-occurring conditions (33.8%), followed by hypertension and stroke (9.4%). Multimorbidity was more prevalent among older adults aged ≥60 years: 56.2% in males and 58.8% in females. Regression analysis on those aged ≥50 years showed that primiparity (AoR = 3.03), multiparity (AoR = 3.32), poor NCD knowledge (AoR = 1.82), family history (AoR = 1.19), alcohol consumption (AoR = 1.17), and urban residence (AoR = 1.14) significantly increased the odds of multimorbidity. Tertiary education (AoR = 0.67) and regular physical exercise (AoR = 0.80) were protective.

Conclusion and Public Health Implication: Multimorbidity of NCDs is highly prevalent among adults seeking care in health facilities in the Volta Region of Ghana, with hypertension and diabetes dominating multimorbidity profiles. Socio-demographic, lifestyle, and knowledge-related factors significantly shape risk. These findings underscore the need for integrated NCD care and targeted health education within facility-based populations, while recognizing that results may not be generalized to the wider community.

Keywords

Multimorbidity, Non-communicable diseases, Hypertension, Diabetes, Determinants, Prevalence, Volta

241: Digital Readiness And Healthcare Worker Acceptance Of AI-Supported Disease Surveillance In Buea And Limbe, Cameroon: A Mixed-Methods Study

TEM BLECK-CARRINGTON ASHIKONG[1], Asongalem Emmanuel Acha[2], Tanue Elvis Asangbeng[1], Nsagha Dickson Shey[1]

[1]Department of Public Health and Hygiene,Faculty of Health Science, University of Buea,Cameroon, South-West, Cameroon. [2]Department of Biomedical Science,Faculty of Health Science, University of Buea, Cameroon, South-West, Cameroon

Background: Artificial intelligence (AI)-supported surveillance could improve early epidemic detection in sub-Saharan Africa, but adoption depends on facility readiness, health worker acceptance, and governance capacity. In Cameroon, district-level evidence on these prerequisites remains limited. This mixed-methods study assessed health facility digital readiness, healthcare worker acceptance of AI-supported disease surveillance, and their associations with surveillance performance in Buea and Limbe municipalities.

Methods: A cross-sectional mixed-methods study was conducted in nine health facilities. A 35-item Facility Digital Readiness Index (FDRI) audit assessed facility readiness, while a structured questionnaire was administered to 270 healthcare workers (response rate: 96.4%) to measure digital literacy, organizational climate, and AI acceptance using technology acceptance model-informed scales. Six key informant interviews were analyzed using Braun and Clarke's thematic approach. Quantitative data were analyzed using descriptive statistics, Spearman correlations, and hierarchical regression.

Results: The mean FDRI was 71.2 (standard deviation (SD)=9.8); 3(33.3%) facilities had high readiness and 6(66.7%) had moderate readiness. Critical gaps included lack of Health Information System (HIS) interoperability (6/9, 66.7%) and absent data backup systems 5(55.6%). Among workers, 157(58.1%) had never received digital health training. AI acceptance was moderate (mean AI Acceptance Scale (AIAS)=3.41, SD=0.53), with only 119(44.1%) meeting the positive threshold. Organizational climate was the strongest predictor of AI acceptance (β=0.435, $p<0.001$), followed by digital literacy (β=0.198, $p<0.001$). FDRI was not associated with surveillance performance (ρ=0.183, p=0.634). Qualitative findings indicated that governance, workflow integration and training, rather than hardware alone, shaped readiness.

Conclusion: Buea and Limbe have a functional but incomplete digital foundation for AI-supported surveillance. Building AI-ready surveillance systems requires priority investment in interoperability, data governance, structured workforce training and organizational change.

Keywords

Digital readiness; Artificial intelligence; Disease surveillance; Healthcare workers; Cameroon; Mixed methods

242: Syphilis Outbreak Investigation At Four Health Facilities In , Copperbelt Province, Zambia, January–March 2026

SONDASHI BOMBWE[1,2], Emanuel Tembo[1], Dabwitso Banda[1], Nyambe Sinyange[1]

[1]Zambia National Public Health Institute, Lusaka, Zambia. [2]Levy Mwanawasa Medical University, Lusaka, Zambia

Background: Syphilis remains a major public health concern in sub-Saharan Africa, with an estimated prevalence of 2.9% among adults. In Zambia, prevalence ranges from 3.0%–3.5% among adults. In 2025, Copperbelt Province reported 14,688 syphilis cases, 36% of which occurred among adolescents and young adults. Following an increase in reported cases, an outbreak investigation was conducted at New Masala, Buchi, Chiwempala, and Thompson health facilities to characterize transmission, determine prevalence, and identify associated risk factors.

Methods: A cross-sectional investigation was conducted from January to March 2026 among individuals aged 15–80 years attending outpatient or antenatal care (ANC) services who tested reactive on a syphilis rapid diagnostic test (RDT). Diagnosis followed a two-stage algorithm using RDT screening and confirmatory testing with rapid plasma reagin (RPR) and/or Treponema pallidum haemagglutination assay (TPHA). Retrospective data were extracted from ANC, laboratory, screening, and treatment registers. Cases were classified according to national guidelines. Descriptive analyses and logistic regression were performed to assess factors associated with confirmed infection.

Results: A total of 226 probable and 113 confirmed syphilis cases were identified. The median age was 31 years (18–56), and 67% were female. Individuals aged 25–34 years accounted for 49.4% of cases. RDT positivity ranged from 5.3% to 17.4%, exceeding the WHO threshold of 0.5% at all sites. Confirmed prevalence ranged from 0.8% to 12.8%. Females (OR=3.64, 95% CI: 1.88–7.24) and ANC attendees (OR=57.6, 95% CI: 11.9–1039) had higher odds of infection, while adults aged 35–44 years had lower odds (OR=0.33, 95% CI: 0.13–0.80). Treatment coverage was nearly universal.

Conclusion: Ongoing syphilis transmission was confirmed across all sites, with prevalence exceeding expected thresholds. Women, particularly ANC attendees, were disproportionately affected. Strengthened antenatal screening, enhanced surveillance, targeted prevention, and expanded case-finding are needed to reduce transmission and prevent adverse outcomes.

Keywords

Syphilis, Outbreak Investigation, Sexually Transmitted Infections

244: Under-Recognition Of Human Cystic Echinococcosis In Niger State, Nigeria: Healthcare Practitioner Assessment And 10-Year Hospital Record Review (2016–2025)

MOSES JOB TARFA[1], Arhyel Malgwi[1], Laraba Joshua Zira[2], Elizabeth Bunmi Adedire[1,3], Taofik Ademola Oloyede[1], Ahmad Muhammad Aliyu[1], Ifeyinwa Francisca Martins[1], Fatima Ibrahim[4], Isah Hafiz Chado[5], Segun Bello[6], Emmanuel Jolaoluwa Awosanya[7]

[1]Nigeria Field Epidemiology and Laboratory Training Program, Abuja, Nigeria. [2]Department of Veterinary Public Health & Preventive Medicine, Faculty of Veterinary Medicine, University of Abuja, Abuja, Nigeria. [3]African Field Epidemiology Network, Abuja, Nigeria. [4]Niger State Primary Health Care Development Agency, Minna, Nigeria. [5]Niger State Ministry of Health, Minna, Nigeria. [6]Department of Epidemiology and Medical Statistics, Faculty of Public Health, College of Medicine, University of Ibadan, Oyo, Nigeria. [7]Department of Veterinary Public Health and Preventive Medicine, Faculty of Veterinary Medicine, University of Ibadan, Oyo, Nigeria

Background: Cystic echinococcosis (CE) is a neglected zoonotic disease caused by the larval stage of *Echinococcus granulosus sensu lato*. Despite ecological conditions favourable for transmission in Nigeria, human CE burden remains poorly characterized because of weak surveillance systems, diagnostic limitations, and low clinical suspicion. This study assessed hospital-detected human CE occurrence and healthcare practitioners' knowledge, perceptions, and practices in Niger State, Nigeria.

Methods: A retrospective review of hospital records from January 2016 to December 2025 was conducted across four secondary and one tertiary health facilities in Niger State. Records were screened using predefined operational case definitions to identify suspected, probable, and confirmed human CE cases. A cross-sectional survey of purposefully selected healthcare practitioners was conducted using a structured electronic questionnaire. Multivariable logistic regression identified factors associated with good knowledge of CE.

Results: A total of 46,274 hospital records were screened, 214 were potentially related to echinococcosis. From these, 123 case files were retrieved and reviewed; 14 met criteria for suspected or probable CE; however, no confirmed case was identified. Cases occurred intermittently between 2019 and 2024, with the liver being the most affected organ (71.4%). Among 368 healthcare practitioners surveyed, 241 (65.5%) had previously heard of CE, but only 121 (50.2%) demonstrated good knowledge, 148 (40.2%) had never considered CE in the differential diagnosis of cystic lesions, and 58.4% had never reported a suspected case. Prior zoonotic training was independently associated with good knowledge of CE (aOR: 6.26; 95% CI: 3.10–13.3).

Conclusion: The absence of confirmed human CE cases despite extensive record screening suggests under-recognition driven by diagnostic limitations, weak surveillance, and low clinical suspicion rather than absence of transmission. Strengthening healthcare worker training, diagnostic capacity, surveillance systems, and one health collaboration is essential to improve recognition and reporting of CE in Niger State and similar endemic settings.

Keywords

cystic echinococcosis, zoonotic disease, hospital-record review, One Health, healthcare practitioners, surveillance, Nigeria

245: Socioeconomic And Geographic Inequalities In Maternal Overweight And Obesity Among Mothers Of Children Under Five Years In Ghana: Evidence From The 2022 Ghana Demographic And Health Survey

SHEM GBEDZI[1], Vera Anyamesem Attafuah[2]

[1]KNUST. Department of Epidemiology and Biostatistics, Kumasi, Ghana. [2]Catholic University of Ghana, Sunyani, Ghana

Background: Maternal overweight and obesity are increasing across sub-Saharan Africa and contribute substantially to the burden of non-communicable diseases. Understanding their socioeconomic distribution is essential for developing equitable interventions. This study assessed the prevalence, socioeconomic inequality, and factors associated with maternal overweight and obesity in Ghana.

Methods: A cross-sectional analysis of the 2022 Ghana Demographic and Health Survey was conducted among 4,803 mothers of children under five years with valid anthropometric measurements. Overweight and obesity were defined as body mass index (BMI) ≥25 kg/m². Survey weighted analyses accounted for complex sampling design. Wealth related inequality was assessed using the Concentration Index (CI) and Erreygers Corrected Concentration Index (ECI), while multivariable survey logistic regression identified associated factors.

Results: The mean BMI was 25.3 kg/m², and 45.6% (95% CI: 43.1-48.1) of mothers were overweight or obese. Prevalence increased from 24.6% among poor women to 69.8% among rich women. Significant pro-rich inequality was observed (CI=0.262, p<0.001; ECI=0.479, p<0.001). Geographic disparities ranged from 14.3% in the North East Region and 21.6% in the Northern Region to 68.1% in Greater Accra. Higher odds of overweight and obesity were observed among mothers aged 25-34 years (AOR=2.46, 95% CI: 1.80-3.36) and 35-49 years (AOR=3.36, 95% CI: 2.42-4.67), those from rich households (AOR=3.16, 95% CI: 2.24-4.46), those with secondary or higher education (AOR=1.63, 95% CI: 1.19-2.22), and married mothers (AOR=1.51, 95% CI: 1.03-2.20).

Conclusion and Public Health Implications: Maternal overweight and obesity affect nearly one in two mothers of children under five years in Ghana and are concentrated among socioeconomically advantaged populations and regions. The wealth and geography-related inequalities observed suggest nutrition transition in Ghana characterized by increasing obesity among affluent groups. Public health interventions should integrate obesity prevention into NCD programmes while promoting context-specific strategies that address regional disparities and nutrition-related health risks among women.

Keywords

Maternal obesity; Inequality; Ghana; GDHS 2022

246: Problem Analysis On Inadequate Knowledge And Interest In Surveillance Activities Among Non-Focal Healthcare Staff In The Jirapa Municipal, Upper West Region, 2026

ISAAC ADU KWASI[1], George Akowuah Akowuah N/A[2]

[1]Ghana Health Service, Jirapa, Ghana. [2]FETP, Accra, Ghana

Adu Isaac Kwasi, [1,2,3,4] George Akowuah[2], Kaaih Edward[2,] Prof. Ernest Kenu[3] , Dr. Samuel Sackey[4]

[1]Ghana Health Service, Jirapa Municipal Health Directorate

[2]Ghana Field Epidemiology and Laboratory Training Programme

***Corresponding author:** Adu Isaac Kwasi, isaaca1adu@gmail.com, +233247742499

Background: Surveillance is a critical early-warning system for detecting disease outbreaks, and the IDSR approach relies heavily on the active participation of frontline health workers. However, when surveillance responsibilities are concentrated in the hands of a single individual, it can unintentionally create a sense of detachment among other health workers. Over time, this over-reliance may reduce their awareness of surveillance activities and weaken their interest and engagement in the process.

Methods: A descriptive cross-sectional study was conducted between May and June 2026 in sub-district health facilities within the Jirapa municipality. Data were gathered using brainstorming sessions and key informant interviews. The information collected was then analyzed using a structured tool alongside the iterative 5-Whys technique to identify underlying causes. These root causes were subsequently categorized according to their level of control as Total Control (T), Partial Control (P), or Not Under Control (N).

Results: Among the 64 respondents, community health nurses made up the largest group (40.6%), followed by enrolled nurses (28.1%), with over half (53.1%) working in CHPS compounds. Notably, 68.7% had not received any surveillance training in the past two years. Fishbone analysis highlighted multiple system weaknesses, including over-reliance on a single focal person, a "not my responsibility" attitude among staff, lack of simple reporting tools, and the complexity of electronic reporting systems, compounded by poor feedback from the district level.

Conclusion: The low awareness and limited enthusiasm for surveillance among non-focal staff in the Jirapa Municipal Area stem more from systemic weaknesses than individual negligence. Frontline workers often feel disengaged as surveillance is largely treated as the responsibility of focal persons alone.

Keywords

Keywords: surveillance, IDSR, Jirapa Municipality, problem analysis, non-focal staff, Ghana.

248: Evaluation Of Typhoid Fever Surveillance System In The Hohoe Municipality From 2020-2024

CHELSEA MAKAFUI ADZAH, Eyram Hanu, Joyce Der

UHAS-FNBSPH, Ho, Ghana

Background: Typhoid fever remains a major public health concern in Ghana, particularly in areas with sanitation, and hygiene conditions. Surveillance systems are critical for the timely detection, monitoring, and response to cases and outbreaks. However, limited evidence exists regarding the performance of the typhoid fever surveillance system in the Hohoe Municipality. This study evaluated the system's performance, usefulness, and ability to achieve its objectives from 2020 to 2024.

Methods: A descriptive cross-sectional study with secondary data analysis was conducted to evaluate the typhoid fever surveillance system in the Hohoe Municipality. Quantitative data was collected from 13 purposively selected health facilities across four sub-municipalities. Data sources included the District Health Information Management System (DHIMS2), Integrated Disease Surveillance and Response (IDSR) forms, morbidity registers, and facility records from 2020–2024. Key surveillance attributes assessed using the Centers for Disease Control and Prevention (CDC) surveillance evaluation guidelines Data were analyzed descriptively.

Results: The surveillance system demonstrated good acceptability (84.6%), data quality (73.8%), simplicity (73.0%), flexibility (73.0%), and timeliness (69.2%). The system identified high-risk groups, aged 20–34 years recording the highest burden of suspected cases, and maintained representativeness across age and sex categories. System stability was low (53.8%), and weaknesses were observed in outbreak detection and laboratory confirmation. A total of 23,917 suspected typhoid fever cases were reported. None were culture-confirmed. All cases were diagnosed clinically or through rapid diagnostic tests, resulting in a positive predictive value of 0%. Surveillance data was underutilized for public health action. No outbreak threshold had been established.

Conclusion: Typhoid fever surveillance system in Hohoe Municipality is useful and moderately functional but is constrained by poor diagnostic confirmation, low stability, weak outbreak detection capacity, and limited data utilization. Strengthening laboratory capacity, improving data use, and establishing outbreak thresholds are recommended to enhance surveillance effectiveness and public health response.

Keywords

Surveillance, Typhoid, Evaluation, Hohoe municipality

251: Social And Behavioural Drivers Of Low Uptake And High Dropout Rate From Malaria Vaccination In Bayelsa State, Nigeria.

ABISOYE OYEYEMI[1], Oluwadare Marcus[2], Gbanaibolou Oweifa[3], Pere Makio[4], Ntiense Umoette[2], Seye Babatunde[5]

[1]Niger Delta University, Wilberforce Island, Nigeria. [2]World Health Organization, Yenagoa, Nigeria. [3]Bayelsa State Primary Health Care Board, Yenagoa, Nigeria. [4]UNICEF, Yenagoa, Nigeria. [5]World Health Organization, Port Harcourt, Nigeria

Background: Bayelsa State is one of the two high-burden states in Nigeria that started the phased malaria vaccination with R21/Matrix-M vaccine in December 2024. Administrative coverage data however showed low uptake and a high dropout rate in all the eight districts. Social and behavioural factors are known to drive vaccine uptake. This study investigated the influence these factors might have on the observed vaccine hesitancy.

Methods: A mixed-method study underpinned by the WHO behavioural and social drivers of vaccination framework was carried out in five selected districts with the highest dropout rates. The quantitative component was a comparative household survey involving 420 caregivers: 210 of defaulters and 210 of non-defaulters. In addition, in-depth interviews with community leaders and focus group discussions with female and male caregivers were conducted.

Results: The majority of caregivers were mothers (405/422, 96.2%) with a mean age of 30.2 (7.3) years; 333 (78.9%) of the mothers had at least senior secondary education. Both groups of caregivers had non-significant statistically different sociodemographic characteristics. The only predictor of defaulting was lack of confidence in vaccine safety - caregivers of defaulters had 3.85 times the odds of perceiving the malaria vaccine as unsafe (OR = 3.85, 95% CI [1.72, 8.61]). Qualitative interviews revealed largely positive behavioural and social factors and suggested practical issue of accessibility, dosing schedule and supply-side factors as being significantly responsible for the low uptake and high dropout rate.

Conclusion and public health implications: There was an appreciable acceptance of malaria vaccine by caregivers and communities in Bayelsa state. However, there is a need for improved sensitisation about vaccine safety. Efforts should also be intensified to reach children in hard-to-reach riverine communities to improve uptake and reduce dropout.

Keywords

Malaria vaccination, dropout, behavioural and social drivers, Bayelsa State, Nigeria

252: Measles Outbreak Driven By Household Contact And Travel Among Children In Chienge District, Zambia, February - April 2026

WARREN MWANZA[1,2,3], Shadreck Manda[1,2,3], Danny Kabwe[1,2,4], Ante Mutati[1,2,4], Hellen Kaoma[1,2], Dabwitso Banda[1,2]

[1]Zambia Field Epidemiology Training Program, Lusaka, Zambia. [2]Zambia National Public Health Institute, Lusaka, Zambia. [3]Levy Mwanawasa Medical University, Lusaka, Zambia, Lusaka, Zambia. [4]Provincial Health Office - Luapula, Mansa, Zambia

Background: Measles remains a leading cause of vaccine-preventable childhood morbidity and mortality in sub-Saharan Africa. On 8th February 2026, a measles outbreak began in Chienge District, Zambia, reaching 157 cases across 42 villages by 4th April 2026. We investigated the outbreak to describe its epidemiology and identify factors associated with measles infection.

Methods: We conducted a matched case-control study in Puta catchment area in May 2026. We defined a case as a resident with fever, generalised maculopapular rash, and cough, coryza, or conjunctivitis, systematically selected cases from line-listed cases, and matched each to three controls by village and age group. Caregivers reported on demographics, vaccination, travel, and healthcare-seeking. We used conditional logistic regression to estimate crude and adjusted matched odds ratios (aOR) with 95% confidence intervals (CI), selecting the final model by likelihood ratio test.

Results: Among 157 line-listed cases, 87 (55.4%) were male, 37 (23.6%) were aged <12 months, and no deaths occurred. The analysis included 60 cases and 180 controls. Household contact with a confirmed measles case (aOR 9.42, 95% CI 2.92-30.4), travel outside the village in the preceding 21 days (aOR 9.04, 95% CI 1.44-57.0) were independently associated with measles infection. Health facility visit in the 21 days before symptom onset was protective (aOR 0.04, 95% CI 0.01-0.16). Vaccination status, any dose versus zero-dose, showed a non-significant protective trend (aOR 0.50, 95% CI 0.16-1.58).

Conclusion: Household exposure and travel outside the village were the primary drivers of the measles transmission during this outbreak. The protective association with health facility visit may reflect healthcare-seeking and early case isolation rather than vaccination itself. Targeted supplementary immunisation in high-burden villages, cross-border surveillance, community-based surveillance and early case detection among exposed households and mobile populations could reduce the risk of future outbreaks.

Keywords

measles outbreak, Chienge District, Zambia, matched case-control study, household contact, vaccination

253: Baseline Biomarkers Of Enteric Dysfunction, Inflammation, And Nutritional Status In Immune Responses To Oral Cholera Vaccine And Natural Infection

FRASER LISWANISO[1], Bernard Phiri[1], Mwelwa Chibuye[1], Charlie Luchen[1], Harriet Ng'ombe[1], Kennedy Chibesa[1], Dennis Ngosa[1], Mutinta Muchimba[1], Roma Chilengi[2], Samuel Bosomprah[1], Caroline Chisenga[1]

[1]Centre For Infectious Disease Research In Zambia, Lusaka, Zambia. [2]Zambia National Public Health Institute, Lusaka, Zambia

Background: Cholera remains a public health scourge in resource-limited settings despite the availability of oral cholera vaccines (OCVs). Host factors including enteric dysfunction, systemic inflammation, and nutritional status are known to influence oral vaccine immunogenicity, yet their role in shaping OCV immune responses is not fully understood. This study examined associations between pre-vaccination biomarkers spamming these domains and vibriocidal seroconversion to an OCV, while characterizing how the same biomarker profiles are altered during acute natural *V. cholerae* infection.

Methods: We conducted a retrospective analysis of stored samples from two Zambian cohorts. The primary cohort comprised 225 adults vaccinated with Shanchol™ IN 2021.The comparator cohort included 38 individuals with acute *V. cholerae* infection during the 2023 outbreak. Eleven biomarkers were measured using the MEEDAT 11-plex ELISA, and vibriocidal antibodies were assessed. Associations with seroconversion were evaluated using cross-fit partialling-out LASSO Poisson regression and quartile analysis. Biomarker profiles were compared between cohorts using Wilcoxon rank-sum and Spearman correlation tests.

Results: Quartile analysis showed higher seroconversion rates among participants with low to mid-range thyroglobulin levels, while the highest quartile had reduced responses (Inaba Q4: 36.2%; Ogawa Q4: 49.2%). In multivariable LASSO Poisson regression, higher baseline FGF-21 was independently associated with increased Inaba seroconversion (adjusted IRR 1.10, 95% CI 1.04-1.17, p=0.001). Compared with the pre-vaccination baseline (n=225), acutely infected individuals (n=38) had significantly lower ferritin (p<0.001) and IGF-1 (p<0.001), and significantly higher sTfR (p<0.001), CRP (p<0.001), AGP (p<0.001), and FGF-21 (p=0.005).

Conclusion: Pre-vaccination FGF-21 and thyroglobulin profiles were associated with vibriocidal seroconversion following OCV vaccination. Acute cholera infection induced profound inflammatory and metabolic alterations, highlighting the dynamic nature of these biomarkers and the importance of stable baseline conditions when assessing vaccine immunogenicity in endemic settings.

Keywords

Cholera,Biomarkers, MEEDAT, Thyroglobulin, micronutrient biomarkers, child stunting, growth faltering

254: Strengthening Clinical And Laboratory System In Nigeria: Evaluation Of A Multidisciplinary Competency-Based Clinical Trial Capacity Building Workshop

HASSAN ADAM MURTALA[1], Aisha Adam Abdullahi[1], Nasiru Abdullahi[1], Ibrahim Y Ibrahim[1], Surajo U Danja[1], Yusuf D Jobbi[1], Abubakar M Nuhu[1], Dami Douglas[2], Mimidoo Amase[2], Muhammad A Abbas[3,4], Abubakar L Yusuf[5], Eknath Naik[6], Hamisu M Salihu[1]

[1]Kano Independent Research Centre Trust, Kano, Nigeria. [2]Purpose Africa, Abuja, Nigeria. [3]Department of Community Medicine, College of Health Sciences, Bayero University Kano, Nigeria, Kano, Nigeria. [4]Kano Centre for Disease Control and Prevention (Kano CDC), Nigeria, Kano, Nigeria. [5]Office of the Commissioner of Health, Kano State Ministry of Health, Nigeria, Kano, Nigeria. [6]University of South Florida, South Florida, United States

Background: Africa continues to bear a disproportionate burden of disease while contributing only a small share of global clinical and laboratory research data. Targeted, short-format competency-based training has been proposed as a cost-effective strategy to bridge these gaps, yet evidence from Nigerian settings remains limited. We evaluated the immediate learning outcomes of a multidisciplinary capacity-building workshop delivered by Purpose Africa and the Kano Independent Research Centre Trust (KIRCT).

Methods: A single-group pre-post intervention evaluation was conducted among clinical, laboratory, and research staff of a tertiary hospital in northern Nigeria. The workshop covered six domains (biosafety, data protection, DHIS2, ISO 15189, SOP development, and clinical trial operations) using lectures, demonstrations, and discussions. Knowledge was assessed electronically before and after the workshop, with score changes analyzed via paired t-test and Cohen's d for effect size, all interpreted within the Kirkpatrick evaluation framework.

Results: The analysis included 22 participants (mean age 44.3, 73% male), mostly physicians and lab scientists, with 68% having over 10 years of experience. Prior formal training in key domains was very low—only 4.5% had DHIS2 training, 14% had SOP training, and none had data protection training; 32% had no prior training at all. Despite their experience, all 22 participants improved after the workshop, with a mean knowledge gain of 1.95 points (a 13% relative increase, $p < 0.001$) and a large effect size (Cohen's $d = 1.21$), confirming the training's significant impact.

Conclusions: A short format, hands-on workshop significantly boosted knowledge for experienced research staff in northern Nigeria. This proves that intensive, cross-disciplinary training is effective in resource-limited settings, and that prior work experience alone is not a substitute for formal professional development.

Keywords

Clinical trial capacity; ISO 15189; DHIS2; Biosafety; Nigeria; Sub-Saharan Africa.

256: Impact Of Differential Culture Contamination On Monitoring Treatment Response Among Patients With Drug-Resistant Tuberculosis In Northern Nigeria.

HASSAN ADAM MURTALA[1], Kasimu Mamuda[2], Aisha Adam Abdullahi[1], Ibrahim Yusuf Ibrahim[1], Dalhatu Aminu[2], Muhammad Adamu Abbas[3], Abubakar Labaran Yusuf[4], Jordi Torrelles8[5], Eknath Naik[6], Hamisu Mohammed Salihu[1]

[1]Department of Epidemiology and Population Health, Kano Independent Research Centre Trust, Kano, Nigeria. [2]National Institute of Public Health and Infectious Diseases, Zaria, Kaduna, Nigeria. [3]Office of the Director General, Kano State Center for Disease Control and Prevention (KNCDC), Kano, Nigeria. [4]Department of Medicine, Federal University Dutse, Jigawa, Nigeria. [5]Division of Infectious Diseases, Department of Internal Medicine, College of Medicine, The Ohio State University, Ohio, United States. [6]University of South Florida, Florida, United States

Background: Culture conversion is the primary surrogate endpoint for treatment response in drug-resistant tuberculosis (DR-TB). Liquid (MGIT) and solid (Lowenstein-Jensen) cultures are both used for monitoring. However, whether they yield concordant conversion assessments in routine programmatic settings remains unknown in sub-Saharan Africa. We hypothesized that solid and liquid culture yield discordant conversion assessments in a routine programmatic DR-TB cohort and examined differential contamination between the methods.

Methods: We analysed serial solid and liquid culture results at 12 time points (baseline to Month 18) in 130 consecutively enrolled DR-TB patients at the National Tuberculosis Reference Laboratory (NTBRL) in Zaria, Nigeria. Culture conversion was defined as two consecutive negative cultures, excluding contaminated and missing results. Kaplan-Meier estimates, log-rank tests, Cox proportional hazards regression, and Cohen's kappa were used to compare conversion timing and agreement between methods.

Results: Solid culture conversion was recorded in 61.5%, at a median of 1 month, compared with 53.1% for liquid culture at a median of 4 months. Paired analysis showed that 16 patients converted on solid but not liquid, versus only 5 on liquid but not solid ($p=0.03$), and among 64 dual converters. Liquid conversion lagged solid by a median of 1 month ($p<0.001$). Solid culture was contaminated more than three times as often as liquid culture (23.6% vs 7.1%). Additionally, solid contamination peaked in mid-treatment (37.0% versus 2.3% for liquid). Patients classified as converted by solid culture (40%) remained liquid-positive at or after their solid conversion timepoint. By Month 4, all solid cultures were negative, while the liquid culture still tested positive.

Conclusion: The apparent earlier conversion of solid culture is substantially an artefact of differential contamination. In high-contamination programmatic settings, solid-culture-based monitoring overestimates bacteriological clearance and may misclassify nearly half of converters. Liquid culture provides more reliable conversion monitoring in laboratories with high laboratory contamination.

Keywords

tuberculosis; drug resistance; liquid culture; solid culture; MGIT; Lowenstein-Jensen; Nigeria

257: Prevalence And Factors Associated With Anxiety Disorders Among Tertiary Students In The Hohoe Municipality

EUNICE QUANSAH[1], Leonard Edem Quarshie[2]

[1]Eastern regional hospital, Koforidua, Ghana. [2]Institute of Health Research, University of Health and Allied Sciences, Ho, Ghana

Background: Anxiety disorders are a growing public health concern across the globe, particularly among tertiary-level students who are exposed to academic, social, and financial stressors. Although global prevalence rates between 4% and 15% have been estimated, Ghanaian studies report a figure of between 8.5% and 25.4%, both of which are lacking concerning the burden of anxiety disorders among smaller-sized tertiary institutions, like those in the Hohoe Municipality, where access to mental health care is limited, potentially increasing risk.

Aim: This research set out to establish the prevalence of suspected anxiety disorders, coping, access and adequacy of mental health support systems, and anxiety determinants among Hohoe's tertiary students.

Methods: A cross-sectional study employing a structured self-administered questionnaire gathered socio-demographics, symptoms of anxiety, coping, and supporting systems information. Descriptively, data were analysed, and also by logistic regression.

Results: Results showed a high prevalence of anxiety symptoms, as 71.2% of the respondents indicated having ever had symptoms, though only 17.6% had been formally diagnosed, indicating stigma and underreporting. Adaptive coping like social support and exercise were predominantly used by the students, while avoidance and substance use were adopted by some of them. Approximately 70.2% indicated having access to counselling services, though their utilization remained low due to stigma and mistrust. Predictors of significant results were age, marital status, loss of parents, workload, peer influence, and lifestyle pressures.

Conclusion: Anxiety is a considerable issue for Hohoe's university students, having impacts on performance and health. Treatment holds a multi-dimensional character, boosting awareness, encouraging positive coping, increasing access to counselling, focusing on risky groups, and fortifying institutionalized policies about mental health.

Keywords

Mental Health, Students, anxiety, tertiary Students

258: River Water Contact Drives A Schistosomiasis Outbreak In Petauke Urban Health Centre Catchment Area, Petauke District, Eastern Province, Zambia, May 2026

OBRIAN SIYANGA, abdul Muhammed, Dabwiso Banda, hellen kaoma, nyambe sinyange

Zambia national public health institute, lusaka, Zambia

Background: Schistosomiasis (bilharzia) is a water-borne parasitic disease caused by *Schistosoma haematobium* that remains a significant public health burden in sub-Saharan Africa. In October 2025, an unusual increase in bilharzia cases above the epidemic threshold triggered an outbreak investigation at Petauke Urban Health Centre. We aimed to describe the outbreak, identify independent risk factors, and formulate evidence-based public health recommendations.

Methods: We conducted a 1:2 case-control study among children in the Petauke Urban Health Centre catchment area. Cases were children with laboratory-confirmed schistosomiasis by urine microscopy; controls were age-, sex-, and neighbourhood-matched community children (5–17 years) who tested negative and had no prior diagnosis. Data were collected via structured KoboCollect questionnaires capturing socio-demographics, water-contact behaviours, and sanitation indicators. Multivariable logistic regression was used to estimate odds of infection at 95% CI.

Results: We enrolled 117 participants (39 cases, 78 controls). Cases were predominantly male (97.4%), with a median age of 13 (IQR 10–14) years. Predominant symptoms among cases were haematuria (100%), dysuria (71.8%), and lower abdominal pain (56.4%). River water contact was reported in 89.7% of cases versus 10.3% of controls. On multivariable analysis, river water contact (aOR 43.71; 95% CI 8.80–217.00; p<0.001) and swimming/urinating in water bodies (aOR 6.24; 95% CI 1.42–27.43; p=0.015) remained independently associated with infection. Lack of access to safe water (aOR 3.21; 95% CI 1.14–9.03; p=0.027) and open defecation (aOR 2.87; 95% CI 1.02–8.09; p=0.046) were also significant. Age 10–14 years was a risk factor in bivariate analysis (OR 4.12; 95% CI 1.78–9.54) but attenuated after adjustment.

Conclusion: The outbreak was strongly associated with river water contact and recreational water exposure among school-age males. Mass drug administration, snail surveillance with molluscicide application, risk communication, and improved access to safe water are recommended.

Keywords

Schistosomiasis; Bilharzia; Outbreak investigation; Eastern Province; Zambia; Water-contact behaviour

260: The Hidden Burden Of Cardiovascular Disease Mortality Among Adult Community Deaths In Lusaka, Zambia: Findings From A Verbal Autopsy Study, 2024

DALISO NGULUBE[1], Mutale Sampa[2], Stephen Longa Chanda[1], Kelvin Mwangilwa[1], Emmanuel Tembo[1], Naeem Dalal[3], Nyuma Mbewe[4], Choolwe Jacobs[2]

[1]Zambia National Public Health Institute, Surveillance and Disease Intelligence Cluster, Lusaka, Zambia, Lusaka, Zambia. [2]Department of Epidemiology and Biostatistics, University of Zambia, School of Public Health, Lusaka, Zambia, Lusaka, Zambia. [3]Zambia National Public Health Institute, Emergency Prepared and Response Cluster, Lusaka, Zambia, Lusaka, Zambia. [4]World Health Organization, Emergency Prepared and Response, Country Office, Lusaka, Zambia, Lusaka, Zambia

Background: Cardiovascular diseases (CVDs) are a leading cause of mortality worldwide and an increasing public health challenge in sub-Saharan Africa. In Zambia, many deaths occur outside health facilities and are not medically certified, limiting understanding of the true burden of CVD mortality. This study assessed the burden of CVD mortality and factors associated with CVD-attributed deaths among adult community deaths undergoing verbal autopsy in Lusaka.

Methods: We conducted a cross-sectional study using verbal autopsy data for adults aged ≥18 years recorded at the University Teaching Hospital, Lusaka, between January and November 2024. Causes of death were assigned using the InterVA-5 algorithm. The outcome variable was CVD death (stroke, acute cardiac disease, or unspecified cardiac disease). Logistic regression was used to identify factors associated with CVD mortality and estimate adjusted odds ratios (AORs) with 95% confidence intervals (CIs).

Results: Among 2,005 adult community deaths analyzed, 850 (42.4%) were attributed to CVDs. The median age at death was 52 years (IQR: 38–71). Increasing age was associated with higher odds of CVD mortality (AOR=1.01; 95% CI: 1.01–1.02). Individuals with a history of hypertension (AOR=4.90; 95% CI: 3.78–6.37) and heart disease (AOR=3.58; 95% CI: 2.28–5.76) had significantly higher odds of CVD death. Tobacco smoking was also associated with increased odds of CVD mortality (AOR=1.41; 95% CI: 1.06–1.87).

Conclusion: CVDs accounted for more than two-fifths of adult community deaths in Lusaka, highlighting a substantial and often overlooked burden of mortality occurring outside health facilities. Older age, hypertension, heart disease, and tobacco smoking were significant predictors of CVD mortality. Strengthening community-based screening, prevention, and management of cardiovascular risk factors may reduce premature deaths and support Zambia's efforts to address the growing burden of non-communicable diseases.

Keywords

Cardiovascular disease; Community deaths; Verbal autopsy; Mortality; Risk factors; Zambia

263: Préférences Et Satisfaction Des Femmes En Matière D'accouchement Au Burkina Faso.

Charles KABORE, Simon TIENDREBEOGO, Fadima YAYA BOCOUM

Institut de Recherche en Sciences de la Santé (IRSS), Ouagadougou, Burkina Faso, Ouagadougou, Burkina Faso

Contexte: L'expérience de l'accouchement et la satisfaction à l'égard des soins sont de plus en plus reconnues comme une priorité mondiale. Il est donc important de prendre en compte les préférences des femmes, en raison de leurs implications significatives pour leur santé et celle de leurs enfants.Cette étude visait à examiner le degré de conformité entre le mode d'accouchement préféré des femmes en fin de grossesse avec d'une part le mode d'accouchement prévu et d'autre part le mode d'accouchement réel, ainsi que son association avec l'expérience et la satisfaction à l'égard de l'accouchement au Burkina Faso.

Méthodes: Nous avons mené deux enquêtes transversales dans le post-partum auprès de femmes dans 8 hôpitaux de référence au Burkina Faso. La conformité des préférences a été définie comme la concordance entre le mode d'accouchement préféré et le mode d'accouchement prévu, ainsi que comme la concordance entre le mode d'accouchement préféré et le mode d'accouchement réel. L'association entre la conformité des préférences et la satisfaction a été analysée à l'aide de modèles de régression linéaire multivariés.

Résultats: Sur 1 028 femmes éligibles, 757 (73,63 %) ont exprimé une préférence concernant le mode d'accouchement en fin de grossesse. Parmi celles-ci, les taux de conformité avec le mode d'accouchement prévu et le mode d'accouchement réel étaient systématiquement élevés (91,94 % (n = 696) et 76,35 % (n = 578), respectivement pour les concordances entre mode d'accouchement préféré et mode d'accouchement prévu et entre mode d'accouchement préféré et mode d'accouchement réel). Le respect de la préférence était associé à des scores plus élevés en matière de satisfaction globale, de soutien émotionnel et de communication.

Conclusion et implications pour la santé publique: Le respect des préférences des femmes concernant le mode d'accouchement contribue à une expérience plus positive de l'accouchement au Burkina Faso.

Keywords

Préférences des femmes, Mode d'accouchement, Expérience d'accouchement, Burkina Faso

265: Hypertension-Mediated Organ Damage Among Long-Distance Drivers In The Ketu South Municipality Of Ghana, 2025

IRENE ADINORKIE OKUTU[1,2], Samuel Oko Sackey[1,3], Alex Ansah Manu[4], Moses Kportoe[1,5], Jamin Godswill Agbazo[1], Tsatsu Kwabla Arnong[2], Isaac Dornu Abayateye[6], Ebenezer Kofi Mensah[1,7], Donne Kofi Ameme[1], Ernest Kenu[1]

[1]Ghana Field Epidemiology and Laboratory Training Programme, Accra, Ghana. [2]Ketu South Municipal Hospital - Ghana Health Service, Aflao, Ghana. [3]University of Ghana, Department of Epidemiology and Disease Control, Accra, Ghana. [4]University of Health and Allied Sciences, Ho, Ghana. [5]Korle Bu Teaching Hospital, Accra, Ghana. [6]Pantang Nursing and Midwifery Training College, Accra, Ghana. [7]Ghana Health Service, Public Health Reference Laboratory, Sekondi, Takoradi, Ghana

Background: Hypertension-mediated organ damage (HMOD), responsible for nearly a third (32%) of global deaths, poses a threat to long-distance drivers (LDD). Their sedentary occupation elevates cardiovascular risk, impairs alertness, and contributes to road traffic accidents, a public health concern. However, a knowledge gap exists regarding HMOD in this population. This study therefore assessed the prevalence and associated factors of HMOD among LDD in Ketu-South municipality.

Methods: We performed a cross-sectional study in 2025, recruiting LDD through stratified sampling of their transport unions. We gathered sociodemographic, lifestyle, and clinical data via a WHO STEPwise-adapted questionnaire. For drivers with hypertension, we assessed HMOD by performing fundoscopy for retinopathy, electrocardiography for left ventricular hypertrophy, and documenting self-reported stroke history. We applied descriptive statistics and regression analyses to identify associations between these variables and HMOD.

Result: Among the 324 LLD studied (median age, 45 years; range, 25–66 years), nearly half (47.5%, n=154) were hypertensive. Of these, 55.2% (n=85) had at least one form of HMOD. Left ventricular hypertrophy was the most prevalent HMOD (37.7%, n=58), followed by hypertensive retinopathy (27.3%, n=42) and stroke (2.6%, n=4). Significant predictors of HMOD included alcohol consumption (aOR=9.5; 95% CI:3.0–9.5), smoking (aOR=5.1; 95% CI:1.5–16.9), hypertensive crisis (aOR=9.3; 95% CI:1.4–62.4), hypertension duration >10 years (aOR=5.5; 95% CI:1.7–18.3), and obesity (aOR=3.5; 95% CI:1.3–9.5). Protective factors were regular exercise (aOR=0.2; 95% CI:0.08–0.6) and routine medical screening (aOR=0.1; 95% CI: 0.02–0.3).

Conclusion: Prevalence of HMOD among LDD was high, highlighting an occupational health disparity. The risk is increased by alcohol consumption, smoking, obesity, and long duration of hypertension, and reduced by regular exercise and routine medical screening. Implementing mandatory occupational health programs that address these factors is essential to managing hypertension, preventing HMOD, and enhancing driver alertness, ultimately contributing to improved road safety.

Keywords

Hypertension-mediated organ damage; long-distance drivers; hypertensive retinopathy; occupational health

266: Yellow Fever In A Vaccinated Child: Evidence From A Field Investigation In Bekwai Municipal, Ashanti Region-Ghana, 2026

ESTHER AGYEMANG OPOKU[1,2], Rita Asante[2], Magdalene Odikro[2], Samuel Sackey[2]

[1]Bekwai Municipal Health Directorate, Ashanti Region, Bekwai, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Program, School of Public Health, University of Ghana, Legon, Accra, Ghana., Accra, Ghana

Background: Yellow fever is an acute viral hemorrhagic disease transmitted by infected *Aedes* mosquitoes. It remains a public health problem in Ghana due to its outbreak potentials and associated morbidity and mortality. An investigation was carried out after Bekwai Municipal suspected its first reported suspected case in the first quarter of 2026. This was to find potential sources of infection evaluate the risk of transmission and put in place suitable public health measures.

Methods: An investigation was carried out between March 27th and May 13th, 2026 in Amoamo in Bekwai Municipality. Information was obtained through interviews with the caregiver, household members, community members, and healthcare workers. Surveillance data on the Surveillance Outbreak Response Management and Analysis System (SORMAS), clinical records and case-based forms were reviewed. Active case search in households and health facilities, contact tracing, vaccination history review, environmental assessment were conducted. Blood sample was collected and transported under reverse cold chain conditions to the National Public Health Reference Laboratory for testing.

Results: A 3-year-old female from Amoamo community who developed fever, jaundice, cough, and vomiting on 24 March 2026 tested positive for Yellow Fever IgM antibodies and malaria. The child had received routine childhood immunizations, including yellow fever vaccine. Five household contacts were traced and monitored, with no secondary cases detected, no history of contact with a suspected or confirmed case. Thirteen households and three health facilities identified no additional suspected cases. Environmental assessment revealed multiple mosquito breeding sites, including uncovered water containers and stagnant water collections around the community.

Conclusion: A yellow fever case was confirmed with no evidence of secondary transmission. Exposure to mosquito bites in a conducive breeding environment was the likely source of infection. Strengthening routine immunization, surveillance systems, vector control activities, and timely laboratory feedback is essential to reduce the risk of future outbreaks.

Keywords

Yellow Fever, Case Investigation, Contact Tracing, Bekwai Municipality, Ashanti Region, Ghana.

268: Profiling Of Bacterial Pathogens Associated With Rheumatoid Arthritis And Their Antimicrobial Susceptibility Patterns In Adults At Ikono And Ini Local Government Areas Of Akwa Ibom State, Nigeria

ANIEKAN-AUGUSTA OKON EYO[1], Marie Ebob Agbortabot Bissong[2,1]

[1]University of Calabar, Calabar, Nigeria. [2]University of Bamenda, Bambili, Cameroon

Background: Rheumatoid arthritis (RA) is a chronic inflammatory disease of the joints associated with pain, disability and high morbidity. Several factors contribute to the pathogenesis of RA and microbial infections play a vital role in disease severity. The long-term use of disease-modifying anti-rheumatic drugs cause serious adverse effects that warrants alternative therapeutic interventions. The aim of this study was to identify bacterial pathogens associated with RA and their antimicrobial susceptibility patterns in adults in Akwa Ibom State, Nigeria.

Methods: A cross sectional study involving adults visiting Ikono and Ini General Hospitals from February to May 2026. Ethical approval was obtained from Akwa Ibom State Ministry of Health. Rheumatoid factor was measured using latex agglutination test and ELISA. Blood was cultured on Blood agar and MacConkey agar and bacterial isolates were identified using VITEK®2 System. Antibiotic susceptibility testing was done using disk diffusion method. Data was analysed using SPSS version 25 and significant variations determined using Chi Square test.

Results: The prevalence of bacterial growth in blood cultures was 30.6% (98/320). The predominant bacterial isolates were *Staphylococcus lentus*, *Enterococcus casseliflavus*, *Burkholderia cepacia* and *Enterobacter cloacae*. Imipenem, Ofloxacin and Gentamicin showed high efficacy against the bacterial isolates. Of the 84 blood samples screened for rheumatoid factor (RF) IgG antibodies, 77(91.7%) were positive. Bacterial isolation was significantly higher in persons with reactive RF (63/77, 81.8%) than those with non-reactive RF (2/7, 28.6%) ($P<0.05$). Among the factors tested, age (>50 years) and current use of antibiotics were significantly associated with RA ($P<0.05$).

Conclusion: Both Gram-positive and Gram-negative bacteria were detected in blood samples of participants. There was a significant association between bacterial isolation and serum RF. The antibiotics imipenem, ofloxacin and gentamicin were active against the bacterial isolates and could be considered as additional treatment regimen for cases of septic RA.

Keywords

Bacterial Pathogens, Antimicrobial Susceptibility Profile, Rheumatoid Arthritis, Adults, Akwa Ibom

269: Incomplete Data Fields In Surveillance Reports At The Enforcement And Safety Monitoring Units, Food And Drugs Authority Regional Office, Kumasi, Ashanti, Ghana, April, 2026.

PRISCILLA MENSAH[1], Rita Asante[2]

[1]Food and Drugs Authority, Kumasi, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Programme, Accra, Ghana

Background: Incomplete data fields in surveillance reports compromise data quality, limit regulatory decision making, and weaken public health response. This study aimed to identify the root causes of incomplete data fields in Enforcement and Safety Monitoring reports at the Food and Drugs Authority (FDA), Kumasi, and determine the most critical cause within organizational control.

Methods: A qualitative problem analysis was conducted using staff brainstorming sessions. Root causes were explored using a fishbone (Ishikawa) diagram and the 5-Whys technique. Identified causes were categorized into five domains: human factors, management, methods, tools, and environment. Causes were further classified according to the level of organizational control as total (T), partial (P), or not within control (N).

Results: Twenty three root causes of incomplete data fields were identified: seven (7) related to management, six (6) human factors, four (4) environment factors, and three each to tools and methods. Key contributing factors included poor supervision, inadequate subject-matter knowledge, fatigue, operational pressure, low motivation, lack of staff training, and limited confidence in delegated responsibilities. Most,74.0% (17/23) identified causes were fully within organizational control (T), while 21.7% (5/23) were partially controllable and 4.3% (1/23) were outside organizational control. Poor supervision emerged as the critical root cause due to its influence on multiple contributing factors.

Conclusion: Strengthening supportive supervision is essential to improving surveillance data completeness and overall data quality. FDA management should enhance delegation practices, strengthen staff capacity through regular training, and implement routine supervisory mechanisms to support effective regulatory action and public health decision-making.

Keywords

Surveillance, data quality, Root cause analysis, Supportive Supervision

270: Psychoactive Substance Use As An Occupational Health Crisis Among Commercial Motorcycle Riders In Sub-Saharan Africa: A Mixed-Methods Study From Limbe, Cameroon

SELOUIS FUANYI NKENGFUA[1], Serge Ngekeng[1,2], Alain Chichom Mefire[3,2]

[1]Department of Public Health & Hygiene, Faculty of Health Sciences, University of Buea, Cameroon, Buea, Cameroon. [2]DS-I Africa, Buea, Cameroon. [3]Department of Medicine and General Surgery, Faculty of Health Sciences, University of Buea, Cameroon, Buea, Cameroon

Background: Non-prescribed psychoactive substance use, particularly tramadol, is emerging as a significant occupational health crisis among informal transport workers in sub-Saharan Africa. Yet the magnitude of this problem, the substances involved, and the mechanisms through which use elevates crash risk remain poorly characterized in community-based studies. We investigated the prevalence, patterns, occupational context, and crash-related consequences of psychoactive substance use among commercial motorcycle riders (CMRs) in Limbe Municipality, Cameroon.

Methods: A concurrent mixed-methods cross-sectional study was conducted among 407 CMRs recruited through multistage sampling from motorcycle parks in Limbe Municipality, January–May 2026. Psychoactive substance use was assessed via structured questionnaire; alcohol use disorder was screened using an adapted AUDIT instrument. Logistic regression identified independent associations between substance use and 12-month road traffic crash (RTC) involvement, reported as adjusted odds ratios (aOR) with 95% confidence intervals (CI). Ten in-depth interviews (IDIs) were analyzed using reflexive thematic analysis to explore the occupational contexts and mechanisms driving substance use.

Results: Psychoactive substance use was reported by 82 (20.1%) of commercial motorcycle riders, while 290 (71.3%) consumed alcohol and 145 (35.6%) met criteria for hazardous, harmful, or dependent alcohol use. Substance use was the strongest independent predictor of 12-month road traffic crash involvement (aOR = 5.87; 95% CI: 3.32–10.36) and accounted for an estimated 25.9% of the annual crash burden. Qualitative findings revealed that psychoactive substances were used to sustain long working hours, suppress fear while riding, and cope with fatigue, particularly during night-time operations.

Conclusions: Psychoactive substance use among CMRs in Limbe represents a measurable occupational health crisis, not a recreational behaviour problem. Tramadol is used instrumentally to sustain productivity in an unprotected informal labour market. Effective responses require occupational health framing rather than punitive enforcement alone, delivered through the 75.2% union membership infrastructure that already exists in this population.

Keywords

motorcycle taxi riders; road safety compliance; psychoactive substance use; crash prevalence cameroon.

272: Enhancing Timeliness In Inspection Report Submission For Regulatory Compliance And Efficiency, Food And Drugs Authority, Ashanti Region, 2026

LENA DONKOR-TANO[1,2], Rita Kusi Asante[2], Martha Arkaa Frimpong[2], Samuel Oko Sackey[2], Magdalene Akos Odikro[2], Nathaniel Nana Kwabena Nkrumah[1]

[1]Food and Drugs Authority, Kumasi, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Programme (GFETP), School of Public Health, University of Ghana, Accra, Ghana

Background: Delayed submission of inspection reports can undermine regulatory efficiency and compliance. Review of the Inspection Report Submission Logbook for the first quarter of 2026 revealed that only 70% (49/70) of inspection reports were submitted within the required 10 working days. This problem analysis assessed factors contributing to delayed submission of inspection reports by officers of the Food and Drugs Authority (FDA), Ashanti Regional Office (ARO).

Methods: A cross-sectional study was employed from 30th April to 6th May 2026, involving sixteen (16) regulatory officers from the Inspectorate, Registration, Enforcement, and Safety Monitoring units. Data was collected through brainstorming and one-on-one discussions using convenience sampling. Findings were analyzed using a Fishbone diagram to identify and categorize root causes.

Results: Twenty-two (22) root causes of delayed submission of reports were identified and were grouped under four categories: Staff, Administration, Logistics, and Compliance. The analysis identified inadequate training on report writing as the critical root cause leading to poor-quality reports and repeated reviews that delayed submission timelines. Assessment of the degree of control indicated that 63.6% (14/22) were partially within control, 27.3% (6/22) were totally within control and 9.1% (2) were beyond the regional office's control

Conclusion: A wide range of root causes were identified to contribute to delayed report submission, with inadequate training on report writing identified as the critical cause. Most of the factors were within the control of the regional office. Regular staff training on report writing is essential in improving timely report submission.

Keywords

Problem analysis, root cause, reports, timeliness, submission, fishbone

273: Facteurs Associés À La Survenue Du Paludisme Chez Les Enfants De Moins De 5 Ans Au District Sanitaire Niamey IV, Niger, 2025.

MOUSSA AHAMADOU[1,2], AMADOU MOUSSA Sopianou[3]

[1]AFENET, [2]Niamey, Niger. [2]Ministère de la santé et de l'hygiène publique, Niamey, Niger. [3]Institut de santé Publique, [2]Niamey, Niger

Contexte: Maladie parasitaire vectorielle, le paludisme représente une menace considérable pour la santé publique mondiale. La région Africaine supporte 95% de la morbidité et la mortalité du paludisme avec 78% des décès survenant chez les enfants de moins de 5 ans. Au Niger, le paludisme est endémique. Les populations riveraines et urbaines sont particulièrement exposées. Le district Niamey IV a enregistré 30,172 cas au premier semestre 2025 avec 39% d'enfants moins de 5 ans. L'objectif de cette étude est d'analyser les facteurs associés à la survenue du paludisme chez les enfants de moins de 5 ans.

Méthodes : Etude analytique transversale sur un échantillon de 210 enfants recrutés de façon aléatoire. Les données sont collectées avec un guide d'entretien administré aux accompagnants et une grille d'analyse documentaire. L'analyse faite à l'aide des logiciels Epi Info™ 7.2.2.6 et Excel® 2019. Les fréquences ont été calculées pour le descriptif. La recherche des associations faite à travers la régression logistique simple puis multiple. Seuil de significativité=5%.

Résultats : La fréquence du paludisme est de 50%. Plus de la moitié (56,57 %) des cas sont âgés de 0 à 23 mois,100 % des enfants dont les parents n'utilisent pas les moustiquaires, ont développé le paludisme, 57,04 % des enfants dont les parents utilisent les moustiquaires après 20 h, ont le paludisme, 77,14 % des enfants dormant à 4 et plus par moustiquaire ont le paludisme.

Il existe une association statistiquement significative à 5% entre l'âge< 2 ans, (OR 2,3 p=0,01), l'attache des moustiquaires après 20H (OR 3,65 p=0,0008), le nombre d'enfants par moustiquaire>4 (OR 7,4 p=0,0001) et la survenue du paludisme.

Conclusion : la distribution de moustiquaires doit s'accompagner d'une sensibilisation sur son usage adéquat afin que cette stratégie soit efficace et accompagne les efforts de lutte contre le paludisme.

Keywords

Facteurs – Paludisme enfant- Niamey- 2025

275: Geographic Inequalities In Vaccine Completion And Dropout Along The Childhood Immunization Continuum In Nigeria: Analysis Of Routine Health Information System Data, 2021–2025.

MARY YETUNDE AJAYI[1], Adeola Akintola[2]

[1]Sydani Initiative for International Development, Abuja, Nigeria. [2]Center for Bioethics and Research, Ibadan, Nigeria

Background:: Nigeria continues to bear a disproportionate burden of vaccine-preventable diseases, many of which are preventable through timely childhood immunization. Despite increasing investments to expand access, many children fail to complete the recommended vaccination schedule, resulting in preventable morbidity and mortality. This study assessed trends in vaccine uptake and completion along the childhood immunization continuum in Nigeria from 2021 to 2025 using routine DHIS2 data.

Methods: We conducted a retrospective descriptive analysis of routine immunization data extracted from Nigeria's DHIS2 platform. Data on Bacille Calmette-Guérin (BCG), Pentavalent dose 1 (Penta1), Pentavalent dose 3 (Penta3), Measles-containing vaccine dose 1 (MCV1), and Measles-containing vaccine dose 2 (MCV2) administered between 2021 and 2025 were aggregated at national, state, and geopolitical zone levels. Pentavalent completion and measles completion were calculated, and geographic disparities were assessed across states and geopolitical zones. Data was cleaned and analyzed using STATA.

Results: Uptake increased across all antigens between 2021 and 2025. BCG doses administered increased from 6.6 million to 8.4 million, Penta1 from 6.8 million to 9.0 million, Penta3 from 6.4 million to 8.6 million, MCV1 from 5.9 million to 8.1 million, and MCV2 from 2.4 million to 5.4 million doses. Pentavalent completion remained consistently high (92.8–95.3%) throughout the study period, while measles completion improved from 40.2% in 2021 to 65.7% in 2025. However, marked geographic disparities persisted. In 2025, measles completion ranged from 39.9% in Anambra State to 93.1% in Bauchi State, a 53.2 percentage-point difference. Completion was highest in the North-East (78.1%) and North-West (77.1%) and lowest in the South-East (49.3%) and South-South (57.8%).

Conclusion: Although vaccine uptake and pentavalent completion improved nationally, completion of the measles vaccine series remains suboptimal and inequitable. Targeted, equity-focused interventions are needed to strengthen retention along the immunization continuum and accelerate progress toward universal immunization coverage in Nigeria.

Keywords

Childhood Immunization, Vaccine Uptake, BCG, Measles, Pentavalent

276: Diarrhoeal Disease Surveillance Trends And Forecasting In Greater Accra Region, Ghana, 2015–2024

THEODORA ODARKOR LAMPTEY[1], Richael Odarkor Mills[2,3], Mark Zuh[4], Kenu Ernest[5]

[1]1. Ghana Field Epidemiology and Laboratory Training Program, University of Ghana School of Public Health, Accra, Ghana, Accra, Ghana. [2]Field Epidemiology and Laboratory Training Program, University of Ghana School of Public Health, Accra, Ghana, Accra, Ghana. [3]University of Cape Coast, Department of Medical Laboratory Sciences, cape coast, Ghana. [4]Ga East Municipal Health Directorate, Accra, Ghana. [5]Field Epidemiology and Laboratory Training Program, University of Ghana School of Public Health, Accra, Ghana

Background: Diarrhoeal disease remains a major public health challenge in Ghana, particularly among children under five years of age. Rapid urbanisation, overcrowding, and inadequate water, sanitation, and hygiene conditions increase the risk of transmission. This study analysed ten years of surveillance data to describe epidemiological patterns and forecast future disease trends in the Greater Accra Region.

Methods: A descriptive secondary analysis of acute watery diarrhoea surveillance data reported through the District Health Information Management System (DHIMS2) from January 2015 to December 2024 was conducted. Cases were analysed by person (age and sex), place (district), and time (month and year). Frequencies, proportions, and prevalence rates per 10,000 population were computed. An ARIMA model was used to forecast the prevalence of diarrhoeal disease for 2025–2029.

Results: In 2024, 120,648 diarrhoeal disease cases were reported in the Greater Accra Region. Accra Metropolitan (10,310 cases), Okaikwei North (7,319 cases), Ablekuma Central (7,313 cases), and Ga West (6,554 cases) recorded the highest case counts. Females consistently accounted for a higher proportion of cases than males (55.7%–58.6%). Although all age groups were affected, children under 5 years, particularly infants aged 1–11 months, had the highest age-specific prevalence (14.9–22.0 / 10,000 population). Seasonal analysis demonstrated recurrent increases in cases during the rainy months. In Ga East Municipality, prevalence peaked at 286 / 10,000 population in 2017, declined to 52 / 10,000 in 2022, and increased to 124 per 10,000 in 2024. Forecasting projected fluctuations in disease burden between 2025 and 2029, with prevalence approaching alert thresholds.

Conclusion: Diarrhoeal disease remains a significant public health burden in the Greater Accra Region. Strengthening surveillance, improving data quality, and enhancing water, sanitation and hygiene interventions are essential to reduce disease burden and prevent outbreaks.

Keywords

Keywords: Diarrhoea, surveillance, epidemiology, forecasting, Greater Accra Region, Ghana.

277: Comparison of Knowledge, Attitudes, Screening Practices, and Prevalence of Hypertension and Diabetes Among Young People and Early Adults in the Hohoe Municipality, Ghana

ABIGAIL ANTWI-BAAFI[1,2], Francis Zotor[3,2], Hubert Amu[3,2], Gideon Kye-Duodu[3]

[1]School of Public Health, University of Health and Allied Science, Hohoe, Ghana. [2]Hohoe Education Directorate, Ghana Education Service, Hohoe, Ghana. [3]School of Public Health, University of Health and Allied Sciences, Hohoe, Ghana

Background: Hypertension and diabetes are emerging public health challenges among younger populations. Despite the growing burden of these cardiometabolic conditions, evidence on knowledge, attitudes, screening practices, and disease prevalence among young populations in Ghana remains limited. This study compared these factors among young people and early adults in the Hohoe Municipality.

Methods: A cross-sectional study was conducted among 320 participants recruited from all educational levels using a multistage sampling approach. Data were collected using a structured Kobo Toolbox questionnaire and complemented with blood pressure and blood glucose measurements. Descriptive statistics were used to summarize participant characteristics, while chi-square tests, two-sample z-tests, t-tests, and multivariable Poisson regression analyses were employed to assess differences and predictors of outcomes.

Results: Knowledge of hypertension and diabetes was moderate in both groups, with no significant difference (60.3% vs. 63.9%; p = 0.503). However, misconceptions regarding disease prevention and long-term management were common. Attitudes differed significantly, with early adults demonstrating more positive attitudes than young people (67.5% vs. 45.0%; p < 0.001). Screening practices were substantially higher among early adults, with 82.3% screened for hypertension and 68.1% screened for diabetes, compared with 26.5% and 21.2%, respectively, among young people. Notable gaps were observed between screening, diagnosis, and treatment uptake. The prevalence of hypertension and diabetes was higher among early adults than young people (4.7% vs. 1.3%); however, this difference was not statistically significant (p = 0.080). After adjusting for potential confounders, age group was not independently associated with disease prevalence.

Conclusions: Although awareness of hypertension and diabetes was relatively high, young people demonstrated poorer attitudes and lower engagement in screening and preventive practices than early adults. The findings suggest that early adulthood may represent a critical period for the development of cardiometabolic risk. Strengthening age-specific health education, routine screening initiatives, and effective linkage-to-care systems is essential

Keywords

Hypertension, Diabetes, Young People, Early Adults, Knowledge, Attitudes, Screening Practices, Hohoe, Ghana

282: Molecular Epidemiology Of Rotavirus In Amhara National Regional State, Ethiopia: A One Health Approach

DEBASU DAMTIE[1], Aschalew Gelaw[1], Yitayih Wondimeneh[1], Anastasia N. Vlasova[2], Belay Tessema[1]

[1]University of Gondar, Gondar, Ethiopia. [2]Ohio State University, Wooster, United States

Background: Rotavirus is the leading cause of severe gastroenteritis in children and neonatal calves globally. This study aimed to assess the molecular epidemiology of rotavirus infection among under-five children and calves in the Amhara National Regional State, Ethiopia.

Methods: A multi-center cross-sectional study was conducted involving 537 children and 266 calves. One-step RT-PCR was used to detect RVA from fecal samples. Genotyping PCR and Sanger sequencing of VP7 and VP4 genes were performed on PCR positive samples. Phylogenetic analysis with 1000 bootstrap replicates was performed using Molecular Evolutionary Genetics Analysis (MEGA) version 11 software. Protein modeling and comparative analysis of antigenic epitopes of VP7 and VP4 sequences were used to evaluate the presence of antigenic mismatches between circulating and vaccine virus strains. Statistical significance was set at $p < 0.05$ for all analyses.

Results: RVA prevalence was 17.5% among children, with G3P[8], G12P[6], and G1P[8] genotypes predominating. Phylogenetic analysis revealed the clustering of Ethiopian strains with the globally reported strains. Many strains exhibited amino acid differences in the VP4 (VP8* domain) and VP7 proteins compared to vaccine strains, potentially affecting vaccine induced virus neutralization. In calves, RVA prevalence was 15.4%, mainly with G10P[11], G6P[14], and G6P[1] genotypes. Human-like (P[4] and P[8]) and porcine-like bovine (P[13]) genotypes were also detected.

Conclusions: RVA infections remain significant among diarrheic children, with a shift from G1P[8] to G3P[8]. Circulating RVA strains incorporated amino acid changes that confer neutralization escape. High RVA infection rate was noted in calves with zoonotic potential. Hence, continuous surveillance of the circulating RVA genotypes and early detection of neutralization escape mutants is crucial to curb the RVA-associated morbidity and mortality in human and cattle populations.

Keywords

Rotavirus A; Children; Calves; Genotype; Zoonotic potential; Ethiopia

283: Reality Versus Records: An Epidemiological Assessment Of Vaccine Cold Chain Integrity And Temperature Monitoring Accuracy In Northern Ghana

SAMUEL DAPAA[1], Samson Obripuo[2], Shabanu Alidu[3], Rita Agyekumwah Asante[1], George Akowuah[1], Belinda Nsiah Opoku[1], Magdalene Akos Odikro[1], Genevieve Yiripare[2], Samuel Oko Sackey[1]

[1]Ghana Field Epidemiology and Laboratory Training Programme, Accra, Ghana. [2]Dafiama Busie Issa District, Ghana Health Service, Wa, Ghana. [3]Wa West District, Ghana Health Service, Wa, Ghana

Background: Vaccines require a strict +2°C to +8°C cold chain to maintain potency. In Ghana, manual monitoring remains the standard, but its reliability in reflecting actual refrigerator performance is often unverified. This study determined the completeness of manual temperature records; assess the frequency and duration of temperature excursions; and compare manual documentation against electronic records.

Methods: We conducted a cross-sectional evaluation of 10 primary healthcare facilities in the Daffiama-Bussie-Issa District. Automated Fridge Tag logs and scanned manual monitoring sheets were extracted from February to June 2026. Temperature excursion frequencies and manual completeness rates were calculated. Excursion was defined as temperatures <2°C (freezing risk) or >8°C (heat excursion). Manual record completeness was categorized as Excellent (≥95%), Good (90–94.9%), Fair (80–89.9%), or Poor (<80%). Permission was obtained from the District Health Directorate. Multiple linear regression analysis examined the association between chart completeness, monitoring duration, and temperature excursion values.

Results: Across 590 monitored days, temperatures were out-of-range on 38.1% (225/590) of days. The excursions included 85.4% (199/233) and 14.6% (34/233) heat-excursion and freeze-risk respectively. Fian Health Center and Bussie Health Center recorded 100% (60/60) and 97.80% (178/182) manual documentation completeness but were out-of-range on 45.76% (27/59) and 64.41% (38/59) of days respectively. Wogu CHPS recorded the highest, 67.8% (40/59) days out-of-range and the lowest manual documentation of 71.3% (87/122). Issa Polyclinic recorded the least,13.6% (8/59) days out-of-range. Each unit increase in chart completeness corresponded to a 0.92°C rise in excursion, while each additional hour of monitoring was linked to a 0.41°C increase [$F(2,230) = 27.89$, $p < 0.001$, $R^2 = 0.20$].

Conclusions: Manual documentation completeness was high but with frequent, prolonged excursions. Chart completeness and monitoring duration were significantly associated with temperature excursion values. Equipment maintenance and electronic alarm-response training be prioritized over manual monitoring.

Keywords

Cold Chain, Immunization, Vaccine Safety, Temperature Monitoring, Ghana, Public Health

285: Evaluation Of The Typhoid Fever Surveillance System In Guan District, Oti Region, Ghana, 2020–2024

ANTHONY ZUNUO DONGDEM, Sussan Akorfa Dzorgbedor

University of Health and Allied Sciences, Hohoe, Ghana

Background: Typhoid fever remains a major public health concern in low- and middle-income countries, including Ghana, where inadequate WASH infrastructure sustains transmission. Reported typhoid fever cases have increased in the Oti Region, raising concerns about the surveillance system performance. However, evidence on the performance of the typhoid fever surveillance system is limited. This study evaluated the performance of the typhoid fever surveillance system in Guan District, Oti Region, from 2020 to 2024.

Methods: A descriptive cross-sectional design using the updated CDC guideline was employed. Twenty key stakeholders at various levels of the Typhoid fever surveillance system were purposively selected for interviews using structured questionnaires. Secondary surveillance data for the period 2020–2024 were extracted from DHIMS2. Surveillance system attributes were assessed using predefined indicators and scored according to established criteria. Attribute performance was classified as Poor (<20%), Fair (21–40%), Good (41–60%), Very Good (61–80%), or Excellent (81–100%) based on the proportion of indicators meeting predefined criteria. Data were analysed using frequencies and proportions and presented in tables and graphs.

Results: Between 2020 and 2024, 1,114 suspected typhoid fever cases were reported in Guan District through DHIMS2. However, none were laboratory-confirmed by the isolation of *Salmonella* spp. While the surveillance system demonstrated high acceptability (95%), flexibility (95%), and simplicity (70%), performance was comparatively weaker in timeliness (60%), stability (45%), usefulness (40%), achievement of system objectives (35%), and average data quality.

Conclusion: The typhoid fever surveillance system in Guan District only partially met its objectives. Despite sustained reporting of suspected cases, the absence of culture-confirmed cases limits data validity and confidence in disease burden estimates. Low stability and poor data quality further weaken system performance. Strengthening laboratory culture capacity and investing in surveillance resources are essential to improve surveillance effectiveness and support evidence-based public health action.

Keywords

typhoid fever, surveillance, Guan, Oti, Ghana

286: Trends And Spatial Distribution Of Acute Undernutrition Among Pregnant And Lactating Women In Uganda From 2020 To 2024

WINFRED NAKAWEESI[1], Samalie Namukose[2], Irene Kyamwine[1], Richard Migisha[1], Patricia Eyu[1], Lilian Bulage[1], Benon Kwesiga[1], Alex Riolexus Ario[1]

[1]Uganda National Institute of Public Health, Kampala, Uganda, Kampala, Uganda. [2]Nutrition Division, Ministry of Health, Kampala, Uganda, Kampala, Uganda

Background: Acute undernutrition during pregnancy and lactation increases the risk of maternal complications, fetal growth restriction, low birth weight, and childhood stunting. The 2022 Uganda Demographic and Health Survey reported that 9% of women of reproductive age were underweight. We assessed temporal trends and spatial distribution of acute undernutrition among pregnant and lactating women (PLW) in Uganda from 2020 to 2024.

Methods: We conducted a descriptive analysis using District Health Information Software 2 (DHIS2) data reported monthly by health facilities in Uganda from January 2020 to December 2024. Acute undernutrition was defined as Mid Upper Arm Circumference (MUAC) <23 cm. We abstracted the number of PLW screened and those classified in yellow and red MUAC zones by district. Overall prevalence was calculated as total undernourished PLW divided by total screened PLW for 2020–2024, multiplied by 100. Median national prevalence was the unweighted median of annual national estimates. Prevalence categories followed WHO thresholds: <5% acceptable, 5–9% poor, 10–14% serious, and ≥15% critical. Temporal trends were assessed using the Mann–Kendall test.

Results: Among 1,443,022 PLW screened, 152,503 (10.6%) were acutely undernourished. National prevalence declined from 24% in 2020 to 6.9% in 2024, a statistically significant downward trend (Mann–Kendall $\tau=-1.0$, $p=0.017$). In 2020, several regions had critical prevalence, including Bugisu (62%), South Central (59%), and Karamoja (57%), Bunyoro (17%) and Busoga (15%). By 2024, most regions declined, though Karamoja (22%) and Bugisu (9.5%) remained above the WHO acceptable threshold of <5%. South Buganda and Tooro showed significant downward trends ($p=0.027$) while Ankole remained <5%.

Conclusion: Acute undernutrition among PLW in Uganda declined between 2020 and 2024, though persistent geographic disparities remain above WHO thresholds. Targeted interventions in high-burden regions and adaptation of successful strategies from low-prevalence areas may accelerate progress.

Keywords

Acute undernutrition, MUAC, Uganda, Lactation, Pregnant

287: Strengthening Disease Surveillance Systems Through Performance Monitoring And Trend Analysis In Daffiama Bussie Issa District, Ghana, 2026

SAMSON OBRIPUO[1], Samuel Dapaa[2], Genevieve Yiripare[1], Magdalene Akos Adikro[2], Samuel Oko Sackey[2]

[1]Daffiama Bussie Issa District Health Directorate, Issa, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Programme, Accra, Ghana

Background: In Ghana, the Integrated Disease Surveillance and Response (IDSR) strategy requires health facilities to routinely detect, record and report priority diseases and events to support timely public health action. Routine surveillance systems are critical for early outbreak detection. This review assessed surveillance system performance and described priority disease trends in Daffiama Bussie Issa District, Ghana, 2026.

Methods: A descriptive analysis of routine surveillance data was conducted using weekly IDSR reports from health facilities in the Daffiama Bussie Issa District. Data were extracted from District Health Information Management System II (DHIMS2), line lists and case investigation forms. Reporting completeness and timeliness performance cut-off was ≥80%. Summary statistics were calculated for priority diseases using Microsoft Excel and presented as tables and charts.

Results: All 32 health facilities submitted weekly surveillance reports with 100% completeness. Timeliness ranged from 36.4% to 100%, with 16 facilities missing the national target. Of 991 suspected cases 96.4% (955/991) were acute watery diarrhoea and suspected human rabies constituted 0.2% (2/991) as the least. Other priority diseases reported were 11 suspected measles cases, 8 suspected meningitis cases, 7 suspected yellow fever cases. All the suspected meningitis were Polymerase Chain Reaction (PCR) negative whiles the results for the rest are yet to be received. No outbreaks were detected and meningitis cases remained below the alert and epidemic thresholds of 2 and 5 cases per week throughout the period.

Conclusion: The surveillance system revealed strong reporting completeness with 100% of the facilities reporting within the period. However, 50% (16/32) of the health facilities reported late. This delayed reporting and inadequate use of surveillance data for decision-making may limit timely detection of public health threats. Strengthening routine data analysis, feedback mechanisms and supportive supervision will enhance surveillance performance and support early outbreak detection and response.

Keywords

Surveillance, Reporting, Monitoring, Timeliness, Completeness, Outbreak, Ghana

289: Acute Flaccid Paralysis (Afp) Surveillance System Evaluation In The Adentan Municipality Of Greater Accra Region, Ghana, 2025

JAMES KOFI AVI[1], Anthony Dongdem[2], Chrysantus Kubio[2,3]

[1]Fred N. Binka School of Public Health, University of Health and Allied Sciences, Hohoe Ghana, Ho, Ghana. [2]Fred N. Binka School of Public Health, University of Health and Allied Sciences, Hohoe, Ghana, Ho, Ghana. [3]Ghana Health Service, Northern Regional Health Directorate, Tamale, Ghana

Background: Acute flaccid paralysis (AFP) surveillance is an important component of the Global Polio Eradication Initiative and helps identify poliovirus in children under 15 years of age. In Ghana, it is implemented through the IDSR system, which includes reporting, stool sample collection, and laboratory confirmation. Ghana is free of poliovirus; however, there is a risk of circulating vaccine-derived poliovirus type 2 (cVDPV2). An evaluation of AFP surveillance in Adentan Municipality identified gaps and assessed its usefulness and key attributes, such as simplicity, flexibility, sensitivity, data quality, and timeliness.

Methods: A cross-sectional evaluation was conducted using CDC's updated guidelines and WHO performance standards for AFP surveillance. Data from 2020–2024 were drawn from SORMAS, structured checklists, and interviews with key health staff. Analyses were conducted in Excel and Stata v17, with findings presented using tables, graphs, and charts.

Results: A total of twenty-four surveillance stakeholders participated in the evaluation. The system demonstrated strong stability (84.7%) and moderate simplicity (62.1%). However, only 42% of facilities had complete AFP toolkits, and 60% had inadequate staff training. Timely reporting and 60-day follow-up were inconsistent. GPS coordinates were documented in just 13.5% of cases in the region, limiting geospatial analysis. All districts, including Adentan, had AFP cases, indicating widespread coverage. The predictive value was 0.0 because there were no lab-confirmed cases of AFP.

Conclusion and Public Health Implications: The Adentan AFP surveillance system is operationally stable and structurally sound but faces challenges in data completeness, sensitivity, and timeliness. The system needs targeted staff training, improved logistics for specimen collection, enforcement of GPS documentation, and the use of feedback dashboards to improve performance. These actions are vital to strengthen early detection and rapid response capacity in support of polio eradication goals.

Keywords

AFP Surveillance, Ghana, Polio Eradication, Public Health Surveillance, SORMAS, WHO Indicators

290: First Detection Of *Aphanomyces Invadans* In Wild-Caught Fish In Kamebunli, Ghana

EWURABENA NTIAMOAH BEDIAKO[1,2], Kwaku Appiah Duodu[3,2], Sandra Nyumutei[4], Angela Naa Amerley Ayiku[5], Daniel Nana Yaw Tawiah-Yingar[2], Awurama Gyamfuah Asirifi[5], Theophilus Odoom[2]

[1]Ghana Field Epidemiology Program, Accra, Ghana. [2]Veterinary Services Directorate, Accra, Ghana. [3]Fisheries Commission of Ghana, Accra, Ghana. [4]International Institute for Zoonosis Control, Hokkaido University, Sapporo, Japan. [5]University of Ghana, Accra, Ghana

Background: *Aphanomyces invadans* is a water mold affecting over 160 fish species, with global prevalence ranging from 20–90%. The World Organization for Animal Health (WOAH) lists the disease, which has been documented across four continents. It impacts subsistence fisheries, threatening food security and national economies. An outbreak affecting fish in Kamebunli, Ghana, marked the first detection in Ghana and West Africa. A one-health team aimed to identify the agent, characterize the outbreak, and implement control measures.

Methods: On 14 January 2025, an investigation was conducted on symptomatic fish naturally inhabiting and harvested from the Ebi and Fia rivers in the Ellembelle District. A case was defined as any wild fish showing ulcerative skin lesions, necrotic areas, or yellow nodules on visceral organs. Post-mortem examinations were performed, swabs taken for bacteriology, ulcerative lesions preserved in 10% neutral-buffered formalin for histology, and fish tissues stored in ethanol for PCR analysis. Phylogenetic analysis confirmed species identity and genetic relatedness.

Results: Gross examination revealed ulcerative lesions on the body surface in 10 sampled fish. Bacteriological culture identified *Bacillus cereus*, *Citrobacter braakii*, *Klebsiella pneumoniae*, *Acinetobacter tandoi*, *Edwardsiella ictaluri*, *Flavobacterium columnare*, and *Aeromonas hydrophila*, confirmed via MALDI-TOF MS. Histopathology showed epidermal necrosis extending into subcutaneous tissue. Conventional PCR detected *A. invadans* in 100% (5/5) of samples. Half (50%, 5/10) of the fish belonged to *Parachanna spp*. and half (50%, 5/10) to *Clarias spp*. Prevalence was 80% (4/5) in the Fia River and 20% (1/5) in the Ebi River. The outbreak was confined to the Ebi and Fia rivers in the Ellembelle District.

Conclusions: *A. invadans* was the cause of the outbreak, which was confined to Ebi and Fia with high prevalence. The one-health approach included community education and compliance with a ban on live fish movement.

Keywords

Aphanomyces invadans, Ghana, Clarias spp., Parachanna spp, Kamebunli

291: Improving Laboratory Service Efficiency: A Problem Analysis Of Prolonged Report Turnaround Time In Amansie West District, 2026

PRINCE KONADU[1], Belinda Nsiah Opoku[2], Bernard Badu Bediako[1], Nana Adjei Kwame[1], Elvis Osei Bonsu[1], Stephen Agyenim Boateng[1]

[1]Ghana Health Service, Manso Nkwanta, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Program, Accra, Ghana

Background: Laboratory services are essential for diagnosis, treatment, and monitoring of diseases. One major indicator of laboratory performance is turnaround time (TAT), referring to the time taken from specimen collection to the release of laboratory results. Prolonged turnaround time negatively affects patient management and health outcomes. A problem analysis was conducted to assess the root causes and critical causes of prolonged laboratory TAT and also determine the extent of district's control on these root causes

Method: The fishbone approach was adopted for this study at Amansie West District. Key stakeholders including biomedical scientists, clinicians and administrative staff were engaged in a brainstorming session to discuss the causes of laboratory TAT. Causes were classified as either being totally under the district's control (T), partial control (P) or no control (N). Results were presented on a fishbone diagram. Descriptive statistics was used to determine frequencies and proportion under various classifications.

Result: Out of the 9 participants, 67%(6/9) were males. By cadre, 11.1%(1/9) was Medical Officer, 22.2%(2/9) were Biomedical Scientists, Control, 11.1%(1/9) Administrator, 22%(2/9) were nurses, 11%(1/9) was a Patient Relative. Twenty-eight root causes were identified and classified under human resources, process and procedures, equipment and technology, supplies and inputs, administration and policies and workplace conditions. Regarding extent of control, 32%(9/28) were totally within the district's control, 32%(9/28) were not under the district's control, and 36%(10/28) partially within the district's control. The critical cause was shortage of laboratory reagents and consumables

Conclusion: The problem analysis identified about 28 root causes under human resource, logistics, administration and environment; critical cause being shortages in lab consumables. Most of the causes were found to be partially under the control of the district. Efficient, timely procurement of laboratory stocks is recommended to shorten TAT and improve patient outcomes.

Keywords

Laboratory, problem analysis, turnaround time

292: Trends And Geographical Distribution Of Snakebite Cases In Uganda, 2020–2024: An Analysis Of National Surveillance Data

MARTHA DORCAS NALWEYISO[1], Justine Wobusobozi[1], Aminah Namwabira[1], Patricia Eyu[1], Richard Migisha[1], Benon Kwesiga[1], Emmanuel Obuya[2], Fred Isaasi[2], David Were Oguttu[2], Charles Kissa[2], Rio Lexus Ario[1]

[1]Uganda National Instutute of Public Health, Kampala, Uganda. [2]Ministry of Health, Kampala, Uganda

Background: Snakebites are a neglected public health challenge in Uganda. Adverse outcomes of snakebites include paralysis, limb amputation and death. Uganda's Neglected Tropical Diseases Master Plan, 2023-2027, aligns with WHO's target to reduce snakebite mortality and disability by 50% by 2030. We described trends and distribution of snakebite cases in Uganda from 2020–2024 to inform snakebite prevention and control strategies.

Methods: We analysed snakebite cases reported through District Health Information Software (DHIS2) from January 2020 to December 2024 across 146 districts. Cases were defined as snakebite injuries with puncture wounds, regardless of envenomation status. We calculated annual incidence rates per 1,000,000 population stratified by age, sex, year, and district, using Uganda Bureau of Statistics population projections. Temporal trends were assessed using the Mann–Kendall test. We correlated annual district-level rainfall data from Uganda National Meteorological Authority with snakebite incidence using the Spearman correlation coefficient.

Results: From 2020–2024, 50,011 snakebite cases were reported, yielding a mean incidence of 250/1,000,000 population. Adults aged ≥20 years had the highest incidence (320/1,000,000), and females had a slightly higher incidence (250/1,000,000) than males (240/1,000,000) ($p<0.001$). Annual incidence ranged from 210-260/1,000,000, with no significant trend ($p=0.22$). West Nile and Acholi regions, two adjacent regions in Northern Uganda, consistently reported incidences >1,000/1,000,000, with Moyo District among the highest annually. Rainfall showed a weak negative correlation with snakebite incidence, significant only in 2022 ($\rho=-0.22, p=0.008$).

Conclusion: Snakebites disproportionately affected adults ≥20 years and females, with regions in Northern Uganda reporting highest incidences. No significant temporal trend was observed over five years. Enhancing community awareness in high-burden regions about prevention targeting high-risk behaviours and supporting locally produced antivenom tailored to Uganda's snake species could reduce morbidity from snakebites. These findings provide evidence to guide resource allocation and conservation-sensitive strategies for reducing human–snake conflict in Uganda.

Keywords

Snakebite, Incidence, Uganda, Neglected Tropical Disease

294: Factors And Barriers To Sulfadoxine Pyrimethamine Uptake For Intermittent Preventive Treatment During Pregnancy In Asokore Mampong Municipality, 2026

SABINA APPIAH[1,2], Opoku Gyamfi[2], Justice Adu-Boahen[3]

[1]Asokore Mampong Municipal Health Directorate, Asokore Mampong-Kumasi, Ghana. [2]Akenten Appiah-Menka University of Skills Training and Entrepreneurial Development, Asante Mampong, Ghana. [3]Bekwai Municipal Health Directorate, Bekwai-Ashanti, Ghana

Background: Malaria in pregnancy remains a major public health challenge in Ghana, contributing significantly to maternal and neonatal morbidity and mortality. Intermittent Preventive Treatment with Sulfadoxine-Pyrimethamine (IPTp-SP) is a proven intervention recommended by the World Health Organization and Ghana Health Service. Despite its effectiveness, uptake remains suboptimal, particularly in peri-urban municipalities such as Asokore Mampong. This study investigated the socio-demographic factors, health system barriers, and perceptions influencing IPTp-SP uptake, guided by the Health Belief Model.

Methods: A quantitative cross-sectional design was employed, involving 448 pregnant women selected through multistage sampling from antenatal care facilities in Asokore Mampong Municipality. Data were collected using structured questionnaires and analysed with descriptive statistics, chi-square tests, and binary logistic regression in SPSS version 26. Variables assessed included age, parity, gestational age at first ANC visit, total number of visits, education, employment, and marital status. Perceptions of susceptibility, severity, and benefits of IPTp-SP were also measured.

Results: Findings revealed that age group, parity, gestational age at first ANC visit, and total ANC visits were significantly associated with IPTp-SP uptake, while education, employment, and marital status showed no significant associations. Health system barriers such as long waiting times, inconsistent drug availability, lack of direct observation therapy, and poor explanation of SP's purpose were major hindrances. Despite high perceived susceptibility, severity, and benefits among respondents, systemic inefficiencies limited uptake. Regression analysis identified perceived benefit as the strongest predictor of IPTp-SP adherence.

Conclusion: The study found that reliable ANC services and health system efficiency are more crucial than socio-demographic factors. Strengthening early enrolment, flexible service delivery, consistent drug supply, and provider communication is essential to improve IPTp-SP uptake and reduce malaria burden among pregnant women within Asokore Mampong Municipality.

Keywords

Suboptimal, Sulfadoxine Pyrimethamine, Intermittent Preventive Treatment, Asokore Mampong, Ghana

295: Artificial Intelligence Applications In One Health Approaches To Antimicrobial Resistance: A Systematic Review

CHRISTOPHER EFFIONG ESSIEN, UDUAK-OBONG AKANIMOH UWAETTEH

IBOM MULTI-SPECIALTY HOSPITAL, Uyo, Nigeria

Background: Antimicrobial resistance (AMR) is a major global public health threat, contributing to approximately 4.95 million deaths annually worldwide. The growing burden of resistance is driven by inappropriate antimicrobial use across human health, veterinary medicine, agriculture, and environmental sectors. The One Health approach, integrating human, animal, and environmental health, has emerged as a critical strategy for combating AMR. Recent advances in artificial intelligence (AI) offer promising opportunities to strengthen AMR surveillance, diagnostics, antimicrobial stewardship, and antimicrobial discovery.

Objective: To systematically review the applications of AI technologies in the surveillance, prediction, diagnosis, prevention, and management of AMR across One Health sectors.

Methods: A systematic review was conducted following PRISMA 2020 guidelines. Literature searches were performed in PubMed, Scopus, Web of Science, Embase, and IEEE Xplore for studies published between January 2015 and March 2026. Search terms included "artificial intelligence," "machine learning," "deep learning," "predictive analytics," "antimicrobial resistance," "antibiotic resistance," and "One Health." Eligible studies evaluated AI applications in AMR surveillance, diagnostics, antimicrobial stewardship, resistance prediction, or antimicrobial discovery across human, animal, agricultural, or environmental settings.

Results: Of 2,146 records identified, 58 studies met the inclusion criteria. Among these, 20 (34.5%) focused on AMR surveillance, 16 (27.6%) on resistance prediction, 13 (22.4%) on rapid diagnostics, and 9 (15.5%) on antimicrobial discovery. AI-assisted diagnostic platforms consistently reduced pathogen identification and antimicrobial susceptibility testing times compared with conventional laboratory methods. Predictive models demonstrated strong performance in forecasting resistance patterns and informing stewardship interventions.

Conclusion: AI is emerging as a transformative tool in the global response to AMR. Across One Health sectors, AI enhances surveillance, accelerates diagnostics, predicts resistance trends, supports antimicrobial stewardship, and facilitates the discovery of novel antimicrobial agents.

Keywords

Artificial intelligence Machine learning Deep learning Predictive analytics Antibiotic resistance One Health

299: Strengthening Routine Surveillance For Public Health Action Through Quality Audit, Daffiama Bussie Issa District, 2026.

MODESTA BAYOR[1], Samuel Dapaa[2], Ambrose Yonye[1], Magdalene Akos Odikro[2], Genevieve Yiripare[1], Samuel Oko Sackey[2]

[1]Ghana Health Service, Daffiama Bussie Issa District, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Programme, Accra, Ghana

Background: High-quality surveillance data are essential for outbreak detection, disease monitoring, resource allocation, and evidence-based public health decision-making. Poor quality data undermines surveillance effectiveness. This audit assessed the quality of surveillance data and reporting systems in selected health facilities to identify gaps and opportunities for improvement.

Methods: A facility-based cross-sectional data quality audit was conducted from March to April 2026. The audit was conducted in Fian Health Centre, Wogu CHPS, and Tuori CHPS in the Daffiama-Bussie-Issa District. Source documents were reviewed, and health staff interviewed. Data quality dimensions assessed included accuracy, completeness, timeliness, and consistency. Findings were analysed qualitatively using a SWOT framework to identify internal strengths and weaknesses, as well as external opportunities and threats influencing surveillance data quality.

Results: Of 14 participants in the audit, females constituted 57.1% (8/14) and a mean age of 31.6 years. Nurses represented 50% (7/14) and 68% attaining tertiary education. Strengths identified included availability of surveillance registers, routine reporting practices, and staff familiarity with reporting procedures. Weaknesses included incomplete registers, inadequate documentation, limited data analysis, missing validation records, and discrepancies between source documents and reported figures. Opportunities included supportive supervision, routine validation mechanisms, and digital reporting systems, while threats comprised workload pressures, delayed feedback, and logistical constraints.

Conclusion: The audit revealed gaps in the accuracy, completeness, and timeliness of surveillance data. Strengthening supportive supervision, routine data verification, staff capacity building, and data use at the facility level will improve data quality and enhance timely public health response.

Keywords

Public Health Surveillance,Surveillance Reporting, SWOT Analysis, Daffiama-Bussie-Issa District, Ghana.

300: SORMAS In Practice: Assessing Utilization, Data Quality, And Implementation Gaps In Electronic Disease Surveillance In The Daffiama-Bussie-Issa District Of The Upper West Region Of Ghana, 2026

AMBROSE BODI YONYE[1], Samuel Dapaa[2], Magdalene Akos Odikro[2], Genevieve Yiripare[1], Samuel Oko Sackey[2]

[1]Daffiama Bussie Issa District of Ghana Health Service, Issa, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Programme, Accra, Ghana

Background: The Surveillance Outbreak Response Management and Analysis System (SORMAS) is Ghana's primary electronic platform for real-time disease surveillance and outbreak management. Since its implementation, data quality challenges continue to undermine its capacity to support early warning and rapid public health response. This study assessed SORMAS data utilization and quality in practice in the Daffiama-Bussie-Issa District.

Methods: A descriptive cross-sectional study was conducted in the Daffiama-Bussie-Issa District from March to June 2026. Surveillance focal persons and public health staff were interviewed using structured questionnaires and checklists deployed electronically in KoboCollect. SORMAS data were extracted using a standardized form. Surveillance records and SORMAS case data were reviewed to assess utilization, timeliness, completeness, and laboratory results documentation. Quantitative data were analyzed using descriptive statistics, and the qualitative data were explored using a SWOT framework.

Results: Of 15 respondents, Disease Control staff constituted 66.7% (10/15), with a mean work experience of 9 years. All (100%) cases of epidemic-prone diseases detected were entered in SORMAS. Timeliness of case notification and entry was 86.0%, while completeness of required data fields averaged 76.0%. Laboratory result documentation had 91.0% of missing records. Missing, delayed, or incomplete data entry was identified. Additional weaknesses included inadequate data verification and delayed updating of case records. Key strengths included dedicated surveillance personnel, supportive supervision, and routine feedback mechanisms.

Conclusion: Although SORMAS has achieved complete reporting of epidemic-prone diseases in the district, gaps in timeliness, data completeness, and laboratory result documentation limit its effectiveness for real-time public health action. Strengthening data quality assurance systems, improving timely case updates, and enhancing accountability for laboratory result entry will improve surveillance intelligence, outbreak preparedness, and evidence-based decision-making.

Keywords

SORMAS, Data Quality, Data Utilization,Outbreak Preparedness, SWOT, Upper West, Ghana

302: Inadequate Public Health Surveillance Activities: A Problem Analysis In Ejura-Sekyedumase Municipal, Ashanti Region, 2026

KOJO BOATENG[1,2], George Akowuah[2], Martha Arkaa Kotey[2], Courage Anku[1,2], Magdalene Odikro[2], Samuel Dapaa[2], Samuel Sackey[2]

[1]Ejura-Sekyedumase Municipal Health Directorate, EJURA, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Programme, University of Ghana School of Public Health, ACCRA, Ghana

Background: Public health surveillance systems, such as the Integrated Disease Surveillance and Response (IDSR) strategy, are critical for timely outbreak detection and response. In the Ejura-Sekyedumase Municipal, recurring outbreaks of immediately notifiable diseases (e.g., measles) exposed systemic surveillance gaps, including reporting delays, incomplete data submission, and weak data validation. This study systematically analysed the underlying root causes of these gaps to inform targeted, evidence-based interventions.

Methods: A descriptive, cross-sectional study using a qualitative approach was conducted across health facilities and the municipal health management team. Qualitative data were gathered via a focus group discussion and structured brainstorming sessions with 19 participants from purposively selected health workers by health facility. Root causes were systematically categorised using Fishbone (Ishikawa) analysis and prioritised based on the municipal health directorate's level of control.

Results: A total of 19 participants were involved in the focus group discussion. Six themes were generated. The critical cause identified was inadequate surveillance focal persons across most municipal health facilities, with an additional 26 causes identified. Consequently, surveillance functions have become an additional administrative burden for already strained clinical personnel, directly undermining reporting timelines across the system, poor data documentation, and substandard IDSR compliance. While environmental factors (poor road and telecom networks) and financial constraints (delayed funding) fall largely outside local control, multiple procedural gaps, such as weak supervision, a lack of data validation, and absent feedback loops, were identified as areas under total local management.

Conclusion: Surveillance inefficiencies in the municipality are fundamentally anchored in human resource shortages and systemic management oversights. Mitigating these vulnerabilities requires moving disease surveillance from an ad-hoc, secondary task to a properly institutionalised core operational function.

Keywords

Public health surveillance, Integrated Disease Surveillance and Response (IDSR), Ejura-Sekyedumase

303: Spatio-Temporal Modelling Of Variations In Hiv Risk In Ghana From 2018–2024

FELIX MBIBA[1], Vincent Uwumboriyhie Gmayinaam[2], Hubert Amu[3]

[1]Department of Epidemiology and Biostatistics, Fred N. Binka School of Public Health, University of Health and Allied Sciences, Hohoe, Ghana. [2]Institute of Health Research, University of Health and Allied Sciences, Ho, Ghana. [3]Department of Population and Behavioural Sciences, Fred N. Binka School of Public Health, University of Health and Allied Sciences, Hohoe, Ghana

Background: HIV remains a major public health concern in Ghana, where transmission is spatially heterogeneous and temporally dynamic, reflecting differences in demographic, behavioral, and health-system factors across districts. Spatio-temporal modelling offers a robust approach for quantifying these variations and guiding targeted, evidence-based HIV prevention and control across Ghana's 260 administrative districts.

Methods: We analysed 2018–2024 lab-confirmed HIV data extracted from the nationally representative District Health Information Management System II (DHIMS2), implemented by the Ghana Health Service. A Bayesian hierarchical spatiotemporal model estimated using Integrated Nested Laplace Approximation quantified spatial variation and clustering in HIV risk across all 260 districts. For each district and year, observed counts, standardized incidence ratios, and predicted relative risk (RR) were simultaneously mapped using an interactive web-based visualization developed in ArcGIS and RStudio.

Results: A total of 76,686 lab-confirmed HIV cases were reported nationally from 2018 to 2024. Substantial spatial and temporal differences in HIV risk emerged across districts. The predicted national RR was 0.20 (95% credible interval: 0.04–0.50), with a clear upward trend over the seven years as average RR rose from 0.09 in 2018 to 0.20 in 2024. Nandom (Upper West) and Ada West (Greater Accra) recorded elevated RR in all years except 2021 and 2024, rising from 0.34–0.57 and 0.26–0.50, respectively. In 2024, RR was sharply elevated in Adansi Akrofuom (0.77), Karaga (0.67), and Asene Akroso Manso (0.65). District-level spatial patterns shifted over time.

Conclusion: This study identifies districts with persistently elevated and evolving HIV risk requiring focused intervention. The findings and accompanying interactive web map provide a practical, evidence-based tool that enables policymakers and program managers to design targeted strategies to reduce HIV-related morbidity and mortality, in line with Sustainable Development Goal 3.3. This is especially valuable in resource-constrained settings where uniform, nationwide interventions are not feasible.

Keywords

HIV/AIDS; Spatio-temporal modelling; Bayesian hierarchical modelling; Disease mapping; Spatial epidemiology; Relative risk; Spatial clustering; Ghana.

305: Unravelling Chronic Skin Ulcers In Rural Uganda: An Epidemiological Investigation, March–December 2025

DEBORAH AUJO, Micheal Mutegeki, Sharon Namasambi, Richard Mugisha, Alex Riolexus Ario

Uganda Public Health Fellowship, Uganda National Institute of Public Health, Kampala, Uganda

Background: Chronic cutaneous ulcers affect an estimated 2.2 per 1,000 persons globally, yet remain an underrecognized cause in low-and middle-income countries. In November 2025, Uganda's Ministry of Health received reports of community deaths linked to an unknown chronic skin ulcers in Rubirizi District. We investigated to determine the aetiology, scope and recommend control measures.

Methods: A suspected case was defined as onset of a painful papule/blister with limb(s) swelling and a non-healing ulcer >4 weeks with at least one of the following symptoms: fever, headache, vomiting or abdominal pain in a Rubirizi District resident between March–December 2025. We reviewed health facility records and used snowballing for active case finding. Blood, wound swabs, and biopsies were tested for infectious pathogens and toxicants using microbiology, PCR, and metagenomic sequencing. Health-seeking behaviors data were collected using key informant interviews with cases, community leaders, and traditional healers. Quantitative data were analyzed descriptively; qualitative data thematically.

Results: We identified 18 suspect cases, including 4 deaths (case fatality rate=22%). Overall attack rate was 10/100,000; 14 (78%) were male. Median age was 43.5 years (interquartile range 22–59.5). All cases had unilateral limb swelling and painful distal leg ulcers. No household had >1 case. Cases occurred sporadically from March–December 2025, with temporal clustering in late October. Laboratory tests ruled out Buruli ulcer, filariasis, anthrax, viral hemorrhagic fevers, and toxic exposure. Metagenomic sequencing identified *Mycobacteroides abscessus* in two samples. Delayed care-seeking (>2 weeks after symptom onset) occurred in 56%. Qualitative interviews revealed fear of death at health-facilities based on hearsay led to avoidance of formal healthcare. Witchcraft beliefs drove use of herbal remedies.

Conclusions: The aetiology remains undetermined. Sporadic cases and prolonged illness suggest a chronic non-communicable condition. We recommend strengthening surveillance, community engagement and advanced diagnostics to inform preventative measures.

Keywords

Chronic skin ulcers, Neglected tropical diseases, Herbal remedies, Herbs, Uganda

306: Examining The Survival Outcome Of Unintentional Injuries In Ghana

JOYCELYN SERWAA STEVENS, Emmanuel Kweku Nakua, Daniel Gyaase, Daniel Ansong, Paul Okyere, Benjamin Noble Adjei

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY, KUMASI, Ghana

Background: Unintentional injuries are the leading causes of mortality, disability, and morbidity in Ghana and across the globe. Over 230 million dollars is spent by the Ghana government on the treatment and management of unintentional injuries annually. However, the survival outcome among victims of unintentional injuries in Ghana has not been adequately investigated.

Aim: To examine the survival outcome of unintentional injuries in Ghana.

Methods: The study was based on secondary data from an earlier study (TRANET) conducted in four teaching hospitals. TRANET instituted a routine surveillance system to capture all injuries reported to four teaching hospitals in Ghana between January 2017 and December 2020. Data extraction tool was developed to extract data from the TRANET database.

Data was analysed using STATA version 16.0. Kaplan Meier survival curves were used to estimate the survival function of the outcome, and categorical differences were tested using log-rank tests at a=5%. The Cox proportional hazards model was used to examine the predictors for survival.

Results: A total of 10,996 unintentional injury cases were reported were examined in the study. Most victims were males (69.58%) and lived in urban (60.99%) areas. Over 88% of cases were road (56.4%) and fall (33.3%) injuries. 1.4% died, 6% survived with a disability, and 92.6% survived with no disability. The mortality rate was 1.7 per 1000 person-days and higher among the aged. Deaths were associated with age [the aged] (AHR=1.9), area of residence [urban] (AHR=2.4), Norther and Southern geographical belts (AHR=5.7 and AHR=4.3) and the Glasgow coma scale [Moderate and Mild] (AHR=0.1 and AHR=0.01).

Conclusion: The mortality rate among the victims across the four teaching hospitals was relatively low but higher among the aged. The predictors identified must be considered when undertaking injury surveillance, UI prevention research, and programmes and policies aimed at reducing UI.

Keywords

Unintentional injury, survival outcome, Ghana

307: Title: Data Quality Audit Of Maternal And Child Health Surveillance In Ahafo Ano North District, Ashanti Region, Ghana, 2026

DOMINIC AMOAH AKOLGA, Federick Kwaku OFori, Samuel Dapaa

Ghana Health Service, Kumasi, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Programme, Legon-Accra, Ghana

Background: Accurate health data underpins sound public health decisions. In Ahafo Ano North District, routine data review meetings in late 2025 revealed discrepancies between facility registers and DHIMS-2 entries, delayed IDSR reports, and incomplete antenatal care documentation. With a district maternal mortality ratio of 328 per 100,000 live births exceeding regional and national averages, these gaps necessitated a formal data quality audit.

Methods: A descriptive cross-sectional study was conducted from 10–15 March 2026 at three purposively selected facilities: Betiako Health Centre, Abonsuaso CHPS Compound, and Katapei CHPS Compound, involving 28 health workers. Data were collected through review of ANC, delivery, and postnatal care registers, IDSR reports, and DHIMS-2 printouts, supplemented by interviews, focus group discussions, and direct observation. A SWOT framework guided analysis, with timeliness assessed against the national 10th-of-month deadline.

Results: Forty-five SWOT entries were identified: 15 strengths, 16 weaknesses, 8 opportunities, and 6 threats. Strengths included dedicated surveillance focal persons, functional DHIMS-2 access, standard MCH registers, an on-site laboratory at Betiako, and active community health volunteers. Weaknesses were common across sites: inadequate case-based forms, absent zero-case reporting, and late report submission. Case definitions were missing at 2/3 (66.7%) facilities, and only 2/12 (16.7%) recommended supervisory visits occurred in 2025. Staff turnover, poor connectivity, and absent CHPS-level laboratories were key threats.

Conclusions: Foundational surveillance structures exist, but persistent documentation and reporting gaps undermine evidence-based planning. Immediate actions included training 28 health workers on IDSR notification and data verification, distributing case-based forms, forming a district data quality review committee, and developing an Excel monitoring dashboard. A follow-up two weeks later showed measurable gains: BP documentation completeness rose from 72% to 89%, and reporting timeliness improved from 58% to 78%. Quarterly supervision, annual DQAs, and investment in connectivity and staff retention are recommended.

Keywords

Data Quality Audit, DHIMS-2, IDSR, Maternal and Child Health, SWOT Analysis, Ghana.

308: Determinants Of Eafya Usability For Digital Health Service Delivery In Southwestern Uganda

ASIIMWE ALBERT

Uganda National Institute of Public Helath, Kampala, Uganda. Division of Health Information, Ministry of Health, Kampala, Uganda. Makerere University Joint AIDS Program, Kampala, Uganda

Background: In 2022, Uganda's Ministry of Health launched eAfya, an Electronic Health Records (EHR) system to digitise clinical workflows, starting with government-funded hospitals. Despite significant investments, EHRs in southwestern Uganda continue to experience usability and downtime challenges that increase workloads and limit effective use, underscoring the need for continuous improvement. We assessed eAfya usability and its determinants.

Methods: We conducted a quantitative cross-sectional study across six hospitals, including two regional referral hospitals (RRH). We used a standardised usability tool to collect data from 85 purposively selected health workers using eAfya. Analysis included internal consistency testing using Cronbach's alpha and Partial Least Squares Structural Equation Modelling (PLS-SEM) guided by Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT) frameworks that evaluate determinants of adoption, with focus on Perceived Usefulness (PU), Perceived Ease of Use (PEOU), Facilitating Conditions (FC), and overall usability.

Results: Reliability testing showed acceptable to strong internal consistency for scales: PU α=0.683, PEOU α=0.773, FC α=0.748. Factor analysis of FC identified four factors (training & resources; support & responsiveness; system efficiency & reliability; system performance & consistency/uniqueness. The PLS-SEM structural model explained a meaningful share of variance (adjusted R^2 = 0.357 for Usability; 0.191 for PU). PU was the strongest predictor of usability (β=0.373, p=0.001), FC also predicted Usability (β=0.280, p=0.023), while PEOU had no direct effect on usability (β=0.094, p=0.554) but strongly predicted PU (β=0.448, p<0.001).

Conclusions: The survey showed PU is strongly and positively associated with usability, suggesting that ease of navigating the platform drives user adoption by enhancing its perceived value and utility. In contrast, FC showed that resource availability and direct use of eAfya are primary drivers of usability.

Keywords

eAfya, Electronic Health Records system, Perceived Ease of Use, Perceived Usefulness, Facilitation Conditions, Usability

310: Amélioration De La Gestion Du Programme Elargi De Vaccination À Travers L'utilisation Stratégique Des Données Dans Cinq Districts Sanitaires, Dosso, Niger, 2024-2025

MOUSTAPHA MAHAMADOU YACOUBA, Yacouba Coulibaly, Hamani Samba, Djibo Issifou, Tahirou Moussa, Yaya Ballayira

[1]AFENET, Niamey, Niger. [2]African Field Epidemiology NetworkET, Bamako, Mali. [3]Solina, Niamey, Niger. [4]Organisation Mondiale de la Santé, NIAMEY, Niger. [5]Ministère de la santé et de l'hygiène publique, Dosso, Niger. [6]African Field Epidemiology NetworkET, Kampala, Uganda

Contexte: Au Niger des insuffisances ont été relevées lors d'une analyse situationnelle du PEV conduite en 2024. Les insuffisances relevées étaient la faiblesse des systèmes de gestion des performances, les capacités techniques limitées du personnel de première ligne, la sous-utilisation des données pour la prise de décision, et le dysfonctionnement des plateformes de coordination. Suite à cela des interventions en Leadership Management et Coordination (LMC) ont été mises en œuvre. Ces interventions ont permis de corriger une grande partie de ces insuffisances.

Méthodes : Nous avons mis en œuvre l'initiative LMC dans la région de Dosso de 2024 à 2025. Les données ont été collectées à travers les différents supports de collecte de données (DHIS2, Kobocollect et Tracker). Ces données ont été analysées à l'aide du logiciel STATA. Les performances des districts sanitaires en termes de cohérence, complétude, promptitude et qualité des données ont été comparées à un objectif de 100 %. Les couvertures vaccinales ont été comparées à l'objectif de 95%. Les enfants zéro dose, insuffisamment vaccinés et les taux spécifique et global d'abandon sont générés à partir d'Excel.

Résultats : Nous avons constaté une nette amélioration de la promptitude et complétude des données dans tous les districts sanitaires. La plupart des antigènes ont connu une augmentation significative excepté la deuxième dose du vaccin contre le tétanos. Le nombre des enfants insuffisamment vaccinés se sont nettement améliorés dans tous les districts sanitaires. Cependant le nombre des enfants zéro dose restent très élevés. En ce qui concerne les taux d'abandon spécifique et global, ils sont en dessous de 10%.

Conclusion : L'intervention LMC au Niger démontre que des stratégies ciblées et axées sur le diagnostic peuvent renforcer la gouvernance, la coordination et la gestion des performances des systèmes de vaccination, même dans des contextes fragiles et précaires

Keywords

Amélioration, Gestion, Données, Programme, Vaccination,

311: Therapeutic Efficacy Of Artemether-Lumefantrine And Artesunate-Amodiaquine For The Treatment Of Uncomplicated Plasmodium Falciparum Malaria In South Sudan: A Multi-Site Therapeutic Efficacy Study

ATENTHI DHIEU DAU[1,2], Samuel Dhol Ayuen[3,1], Dhel Nhomachot Manut[2], Amanya Jacob Iboyi[2], Apal Toby Maduot[2], Mustafa Ahmad Lasu[1]

[1]University of Juba, Juba, South-Sudan. [2]Ministry of Health, Juba, South-Sudan. [3]Oxford University, London, United Kingdom

Background: Artesunate-amodiaquine (ASAQ) is the first-line regimen, and artemether-lumefantrine (AL) is the second-line regimen for treating uncomplicated Plasmodium falciparum malaria. However, no therapeutic efficacy study (TES) has been conducted in South Sudan since the adoption of ASAQ and AL. TES aimed to assess the efficacy of ASAQ and AL at four sites.

Methods: This study was conducted in Juba, Bor, Wau, and Yambio among children aged 6 months to 15 years with microscopically confirmed uncomplicated P. falciparum monoinfection, who were assigned to ASAQ (at all sites except Yambio) or AL (at Juba and Yambio) and were followed for 28 days to assess treatment response. Dried blood spots were collected to distinguish recrudescence from new infections. All participants who received treatment as per protocol were included in the primary outcome analysis.

Results: Between January 2024 and January 2025, a total of 390 children were enrolled across all arms, of whom 40 (10.3%) were lost to follow-up, and 350 (89.7%) were included in the per-protocol analysis. PCR-corrected ACPR exceeded 90% in all arms: Juba-AL 75/76 (98.7%; 95% CI: 92.9–100), Juba-ASAQ 63/63 (100%; 95% CI: 94.3–100), Bor 85/85 (100%; 95% CI: 95.8–100), Wau 34/34 (100%; 95% CI: 90.0–100), and Yambio 79/80 (98.8%; 95% CI: 93.2–100). Day 3 parasitemia positivity was elevated in Bor (13.8%), exceeding the WHO 10% threshold, indicating artemisinin partial resistance.

Conclusions: ASAQ and AL remain highly effective against uncomplicated P. falciparum malaria in South Sudan, supporting the continuation of the current treatment policy. The high Day 3 positivity rate in Bor warrants enhanced molecular surveillance and ongoing efficacy monitoring. This study establishes a baseline for systematic national TES surveillance.

Keywords

Artesunate-amodiaquine (ASAQ), Artemether-Lumefantrine (AL), Malaria, South Sudan

313: Investigation Multidisciplinaire Des Cas D'un Syndrome Ascitique Aigu D'étiologie Indéterminée Au Niger En 2026

ABOUBACAR HADJARA[1], MOUSSA Ahamadou[1,2], OUNOUSSA Tapha[1]

[1]Direction de la Surveillance et la Riposte aux Epidémies/ Ministère de la Santé et de l'Hygiène Publique, Niamey, Niger. [2]AFENET, Niamey, Niger

Contexte: Depuis mai 2024, une maladie émergente caractérisée par un syndrome ascitique aigu sévit dans la zone frontalière entre le Niger et le Nigeria et touchant principalement les enfants de moins de 15 ans. Malgré des analyses toxicologiques, biologiques et environnementales, la cause demeure inconnue. Une investigation a été menée en mai 2026 pour améliorer la prise en charge des patients, renforcer la recherche active de cas en communauté et approfondir les investigations cliniques et environnementales.

Méthodologie : Une équipe multidisciplinaire (épidémiologistes, gastro-entérologues, pédiatres, radiologues et socio-anthropologues) a été déployée dans les districts de Tibiri, Dogondoutchi et Madaoua. La méthodologie a combiné des enquêtes épidémiologiques avec l'outil ODK, des consultations gastro-entérologiques, des échographies abdomino-pelviennes, formation des agents de santé et une enquête socio-anthropologique qualitative.

Résultats : Au total, 138 cas ont été consultés, dont 63,7 % âgés des 5-14 ans et un sexe ratio de 1,1. La majorité des cas étaient du milieu rural. L'installation des symptômes était rapide, associant distension abdominale, douleurs diffuses, fièvre et vomissements. L'échographie a révélé des ascites isolées (55 cas), souvent associées à une hépatomégalie (43 cas) ou une splénomégalie (39 cas), sans signes de cirrhose ou d'hypertension portale initiale. L'enquête socio-anthropologique souligne un fort impact économique sur les ménages (coûts de PEC > 100 000 FCFA) et une perception de la maladie comme une épreuve divine, entraînant des itinéraires thérapeutiques hybrides.

Conclusion : La mission a permis d'améliorer la prise en charge, de former les agents locaux, doter en intrants, faire la recherche d'autres cas en communauté et sensibiliser la population. Cependant l'identification de l'étiologie reste le défi majeur. Il est impératif de poursuivre la recherche étiologique et de garantir la gratuité des soins pour améliorer la fréquentation des formations sanitaires et la survie des patients.

Keywords

Syndrome Ascitique, Niger, Investigation multidisciplinaire, Santé Publique, 2026

315: Beyond The Zero: A Root Causes Analysis Of Rising Maternal Mortality In Ejura Sekyedumase Municipal, 2023 To 2025

GIDEON BANDOR[1], George Akowuah[2], Magdalene Akos Odikro[2], Samuel Sackey[2], Courage Anku[1], Setina Martey[1]

[1]Ejura Sekyedumase Municipal Health Directorate, Ejura, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Programme, ACCRA, Ghana

Background: Despite achieving zero institutional maternal deaths in 2021 and 2022, the Ejura Sekyedumase Municipal experienced a resurgence of maternal mortality, with ratios rising to 94.74, 26.08, and 43.46 per 100,000 live births in 2023, 2024, and 2025, respectively. This trend threatened the municipality's progress toward national and global maternal health targets. A root cause analysis was conducted to identify contributing factors and the critical underlying cause of this resurgence.

Methods: A qualitative operational research design using the Ishikawa (fishbone) root cause analysis framework was employed. A multidisciplinary team of health workers, including midwives, public health nurses, disease control officers, health information officers, laboratory technicians, and the municipal health director, participated in a structured brainstorming session. Contributing factors were categorized into thematic areas. Each factor was classified using the Total, Partial, and Not under control (TPN) framework to determine the level of local administrative control. Results were presented using a fishbone diagram.

Results: A total of 18 health workers participated in the process. Thirty-seven contributing factors were identified across four categories: client and family factors (12), staff factors (10), management factors (10), and environmental factors (5). Using the TPN framework, 11 (29.7%) factors were classified as totally under administrative control, 18 (48.6%) as partially under admininstrative control, and 8 (21.6%) as beyond administrative control. The critical cause identified was poor implementation of maternal death audit recommendations, a total control factor with the highest leverage across the maternal care pathway.

Conclusion: Maternal mortality in Municipal is driven by a combination of health system and community-level factors. Poor implementation of maternal death audit recommendations emerged as the critical cause, influencing clinical management, emergency preparedness, supervision, and logistics. Strengthening audit enforcement through supervisory monitoring, routine performance reviews, and continuous professional development.

Keywords

maternal mortality, root cause analysis, critical cause, fishbone, audit recommendations, Ejura Sekyedumase

316: Lessons From A Schistosomiasis Outbreak Investigation In Southern Province, Zambia, February 2026: The Role Of Structural Water Contact

MATILDAH MUBANGA[1,2], Ishbak Chimfwembe[1,2], Dabwitso Banda[2], Gerald Mulumbwe[3,2], Francis Ngosa Mwenya[2], Cheepa Habeenzu[2,4]

[1]Levy Mwanawasa Medical University, Lusaka, Zambia. [2]Zambia National Public Health Institute, Lusaka, Zambia. [3]University of Zambia, Lusaka, Zambia. [4]Southern Provincial Health Office, Choma, Zambia

Background: Schistosomiasis affects 253.7 million people annually, with over 90% of cases in sub-Saharan Africa. Zambia has a national pooled prevalence of 35.5%, predominantly affecting rural school-aged children. On 24 February 2026, pupils at Bushinga Primary School presented with haematuria and dysuria, triggering an outbreak investigation in Kayeka community, Itezhi-Tezhi District, an established endemic area.

Methods: We conducted a mixed-methods study combining an unmatched case-control study (1:3 ratio) with Key Informant Interviews (KII). Cases were catchment area residents with schistosomiasis symptoms and/or positive urine microscopy; controls were asymptomatic residents. Quantitative data were analysed using multivariable logistic regression in R version 4.5.2. Qualitative data were analysed using six-step Framework Analysis and triangulated with quantitative findings.

Results: We enrolled 32 confirmed cases and 97 controls. Cases were predominantly children aged 5–13 years (68.8%), with an overall attack rate of 24.8%. Haematuria was present in 96.9% of cases. The outbreak peaked in February 2026 with 22 cases, coinciding with footbridge collapse over the contaminated Kayeka stream. Bathing in the stream was the strongest independent risk factor (aOR=30.31; 95% CI: 5.47–101.97; p<0.001). School enrolment was also significant (aOR=5.59; p=0.041), as the stream separates the village from the school. Knowledge of bilharzia was non-protective (p=0.464). Qualitative themes identified structurally unavoidable stream contact, a decade-long mass drug administration (MDA) gap, drug stockouts, absent snail control, and community convergence on boreholes, bridge construction, and regular praziquantel as priorities.

Conclusion: Transmission was driven by structurally unavoidable stream contact, not individual behavioural failure. The approximately 10-year MDA gap is the most critical and correctable programmatic failure. Sustained control requires permanent bridge and borehole infrastructure alongside annual praziquantel MDA and snail control.

Keywords

Schistosomiasis, bilharzia, outbreak investigation, case-control study, mass drug administration, WASH, Zambia.

317: Acute Watery Diarrhoea Surveillance Data Analysis In Hohoe Municipality, Ghana (2020–2024)

DIVINE YAO MAYER, Anthony Zunuo Dongdem, Fortress Yayra Aku

Fred N. Binka School of Public Health, University of Health and Allied Sciences, Hohoe, Ghana, Hohoe, Ghana

Background: Acute Watery Diarrhoea (AWD) remains a major public health concern in low-resource settings, including Ghana, where environmental and behavioural factors drive transmission. Routine analysis of AWD surveillance data is essential to understand patterns over time and place and to support timely public health action. This study examined the geographical, spatial, and temporal distribution of AWD among persons aged ≥5 years in Hohoe Municipality from 2020 to 2024.

Methods: A descriptive cross-sectional study design was used to analyse secondary data extracted from the District Health Information Management System 2 (DHIMS2), Ghana's national electronic health database. Suspected AWD cases reported from four sub-districts (Hohoe, Gbi-Urban, Agumatsa, and Alavanyo) were analysed using Microsoft Excel for temporal trends and ArcGIS for spatial mapping. Descriptive statistics were used to summarise trends by place and time, while spatial autocorrelation (Moran's I) and hotspot analysis were performed to assess clustering.

Results: A total of 3,632 suspected AWD cases were reported over the five years. The annual incidence was lowest in 2022 (452 per 100,000 population) and highest in 2024 (1,202 per 100,000 population). Monthly trends showed seasonal peaks, particularly during rainy periods, with notable increases in August and November in selected years. Hohoe sub-district recorded the highest burden of cases (58.1%), while Alavanyo recorded the lowest (9.8%). Spatial analysis showed no statistically significant clustering of cases across the municipality (Moran's I = -0.174, p = 0.669), and no hotspot areas were identified.

Conclusion and Public Health Implications: AWD among persons aged ≥5 years in Hohoe Municipality varied over time and across sub-districts from 2020 to 2024, with higher burdens in urban areas. Continuous surveillance and timely data analysis are essential for effective monitoring, early outbreak detection, and public health planning.

Keywords

Acute Watery Diarrhoea, Surveillance Data Analysis, IDSR, DHIMS2, Hohoe Municipality, Ghana

318: Factors Associated With Non-Prescription Antibiotic Use Among Small And Medium Scale Poultry Farmers In Selected Districts Of Zambia, 2022-2025.

PAUL MULOPA[1,2,3], Humphrey Banda[1,3], Liywalii Maata[3], Mathews Sichalwe[1,3,4], Fusya Goma[3], Taona Sinyawa[3], Jeff Mugoba[2], Nawa Mukumbuta[2]

[1]Zambia Field Epidemiology Training Program., Lusaka, Zambia. [2]Levy Mwanawasa Medical University, School of Public Health and Environmental Studies., Lusaka, Zambia. [3]Ministry of Fisheries and Livestock, Department of Veterinary Services., Lusaka, Zambia. [4]University of Zambia, School of Public Health., Lusaka, Zambia

Background: Inappropriate antibiotic use in Zambia's expanding poultry sector contributes to AMR, posing a threat to animal, human and environmental health. This study identified factors associated with non-prescription antibiotic use among small- and medium-scale poultry farmers in selected districts.

Methods: We conducted a secondary analysis of poultry AMR surveillance data collected 2022-2025 from CVRI database. Non-prescription antibiotic use prevalence was calculated by aggregating affirmative farm responses at veterinary camp, district and provincial levels. Spatial distributions were mapped via choropleth visualization in QGIS v3.22.10. Descriptive and multivariable logistic regression analyses were conducted in RStudio v4.5 with significance set at p≤0.05.

Results: The overall prevalence of non-prescription antibiotic use was 58.2% (177/304). The usage was highest in Choma district, with Chipata and Mongu in high use, Chilanga and Solwezi in the moderate usage tier and specific veterinary camps reporting elevated frequencies. Multivariable regression showed that female managers had over double the odds of non-prescription antibiotic use (aOR=2.16; 95% CI: 1.24-3.76; *p=0.006*) in comparison to males. Small-scale farmers exhibited significantly higher odds of non-prescription antibiotic use (aOR=7.06; 95% CI: 2.59-19.25; *p<0.001*) compared to medium-scale farmers. Furthermore, being a farm manager (aOR=2.54; 95% CI: 1.16-5.59; *p=0.020*), regular use of other non-antibiotic farm products (aOR=1.73; 95% CI: 1.03-2.91; *p=0.038*) and unawareness of withdrawal periods (aOR=1.97; 95% CI: 1.02-3.81; *p=0.044*) independently increased the likelihood of non-prescription antibiotic use. Compared to 2022, non-prescription antibiotic usage significantly declined in 2023 (aOR=0.41; 95% CI: 0.19-0.91; *p=0.029*) and 2024 (aOR=0.33; 95% CI: 0.16-0.66; *p=0.002*) after controlling for confounders.

Conclusions: Non-prescription antibiotic use is highly prevalent among small and medium-scale poultry farmers in Zambia. Key independent risk factors include female sex, small production scale, manager role, regular use of non-antibiotic farm products and unawareness of drug withdrawal periods. To mitigate AMR in poultry, targeted interventions must strengthen veterinary extension services, enhance diagnostic access at camp level, improve farmer education on withdrawal periods and reinforce antimicrobial stewardship.

Keywords

antimicrobial resistance, poultry production, non-prescription procurement, One Health, Zambia

319: Mapping Peer Influence Networks And Geographic Hotspots Of Substance Abuse Among Rural Youth In Ghana: A Social Network And Spatial Epidemiological Analysis

EYRAM KUMA HANU

Ghana Health service, Abotoase, Ghana

Background: Substance abuse among young people is an emerging public health challenge in Ghana, particularly in underserved rural communities where surveillance data remain limited. Traditional epidemiological approaches often fail to capture the influence of peer relationships and geographic clustering on substance use behaviors. This study applied social network analysis (SNA) and geographic information systems (GIS) to characterize substance use patterns among youth in the Biakoye District of Ghana.

Methods: A mixed-methods cross-sectional study was conducted among youth aged 15–35 years using respondent-driven snowball sampling. Data on substance use behaviors, peer connections, and socio-demographic characteristics were collected through structured interviews. Social network metrics including degree centrality, betweenness centrality, and network density were computed to identify influential actors. Geographic coordinates of participants were mapped using ArcGIS 10.8 to identify spatial clusters and hotspots of substance use.

Results: A total of 120 youth were recruited into the network. Alcohol, cannabis, tramadol, and tobacco were the most frequently reported substances. Network analysis identified a small number of highly connected individuals who played central roles in information dissemination and substance use initiation within the network. Spatial analysis revealed significant clustering of substance use around trading centers, transport corridors, and lakeside communities. The overlap between highly connected network actors and geographic hotspots suggested that peer influence and place-based factors jointly contributed to substance use patterns.

Conclusion and Public Health Implications: Substance abuse among rural youth is shaped by both social networks and geographic environments. Integrating social network analysis and GIS mapping into public health surveillance can improve identification of high-risk populations and inform targeted interventions. Peer-led prevention strategies focused on influential network actors may enhance the effectiveness of substance abuse control programs in rural Ghana.

Keywords

Substance abuse, social network analysis, geographic mapping

321: Evaluation Of The Diabetes Surveillance System In Ketu South Municipality, Ghana: Implications For Strengthening Diabetes Monitoring And Prevention.

REJOICE AFI OCLOO

University of Health and Allied Sciences, Ho, Ghana. Ghana Health Service, Ho, Ghana

Background: Diabetes mellitus is a growing public health challenge in Ghana, with an estimated national prevalence of 6.5%. Effective surveillance systems are essential for monitoring disease trends, informing prevention strategies, and guiding resource allocation. This study evaluated the performance, attributes, and usefulness of the diabetes surveillance system in Ketu South Municipality, Ghana.

Methods: A mixed-methods cross-sectional evaluation was conducted between January and September 2025 using the US Centers for Disease Control and Prevention Updated Guidelines for Evaluating Public Health Surveillance Systems. Surveillance data from 2020 to 2024 were retrospectively reviewed using DHIMS2 and health facility registers. Semi-structured interviews were conducted with 14 surveillance stakeholders across 12 health facilities to assess key surveillance attributes. Quantitative data were analyzed using Stata version 17, while qualitative findings were analyzed thematically.

Results: Between 2020 and 2024, the surveillance system recorded 4,353 suspected diabetes cases, of which 4,145 (95.2%) were confirmed. Reporting timeliness was 100% (48/48 monthly reports submitted on schedule through DHIMS2). The system was considered simple, acceptable, and sensitive by stakeholders and effectively monitored diabetes trends within the municipality. However, system stability was affected by recurrent reagent stock-outs, intermittent power outages, and electronic reporting downtime. Data quality was moderate, with approximately 10% of reporting fields containing incomplete or unknown information.

Conclusion and Public Health Implications: The diabetes surveillance system in Ketu South Municipality provides timely and reliable information for monitoring diabetes and supporting public health decision-making. However, improvements in data quality and operational stability are needed to maximize its effectiveness. Strengthening workforce capacity, standardizing case definitions, improving reporting tools, and ensuring uninterrupted logistics and infrastructure could enhance surveillance performance and support evidence-based diabetes prevention and control in Ghana and other resource-limited settings.

Keywords

Diabetes, Surveillance, System Evaluation, Ketu South, Integrated Disease Surveillance and Response

322: Wa West District Hidden TB Cases: What Is Stopping The Notification, 2026

SHABANU ALIDU[1], Rita Asante Kusi[2], Magdaline Odiko[2], Samuel Oko Sackey[2]

[1]Ghana Health Service, Wa West District, Ghana. [2]Ghana Field Epidemiology Training Program, University of Ghana School of Public health, Accra, Ghana

Corresponding author: shabansuhuyini@gmail.com

Background: Tuberculosis (TB) notification refers to the official system of reporting diagnosed cases to local health authorities to track and manage the disease. Wa West District struggles with undetected cases, achieving only a 53.0% (n=71) case notification rate in 2025 against an annual target of 124 cases, leaving half the burden undiagnosed. This study identified the root and critical causes of this deficit.

Methods: A descriptive cross-sectional qualitative design utilized "Five Whys" brainstorming sessions among 10 experienced healthcare professionals across nine sub-districts. Data was organized via thematic analysis, mapped using a Fishbone Diagram, and prioritized using the TPN Control Framework.

Results: Brainstorming yielded 17 root causes. Healthcare worker factors dominated at 35.3% (6), followed by health system (29.4%), community (17.6%), and administrative factors (17.6%). Majority of these factors (58.8%) fell entirely within institutional control (T). Four (23.5%) of the root causes was identified as partially within control (P) with three (17.6%) not within control (N). Inadequate staff training was identified as the critical root cause.

Conclusion and Public Health Implications: Unreported TB cases perpetuate community transmission and foster drug-resistant strains. Because most bottlenecks are highly modifiable and fall within local institutional control, the district health administration can rapidly boost notifications by executing localized, strategic capacity-building interventions. To resolve these gaps, the District Health Director must implement interactive training workshops, refresher courses, and practical demonstrations on effective TB screening guidelines for frontline staff.

Keywords

Tuberculosis; Case Notification; Wa West; Root Cause Analysis; Capacity-Building

323: Air Quality Monitoring In Some Selected Sites In Tema, 2026

HERBERT EDEM KPODO[1,2], George Akowuah[2], Belinda Nsiah Opoku[2], Samuel Dapaa[2], Martha Arkaa Frimpong[2], Magdalene Akos Odikro[2], Samuel Okoe Sackey[2]

[1]Environmental Protection Authority, Greater Accra East Region, Tema, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Programme, School of Public Health, Legon-Accra, Ghana

Background: Fine particulate matter (PM2.5) poses significant risks to respiratory and cardiovascular health. Rapid urbanization, industrial activities, traffic emissions, and port operations contribute to elevated PM2.5 levels in urban environments. Continuous monitoring is essential for assessing pollution trends and exposure risks. This study evaluated PM2.5 concentrations and Air Quality Index (AQI) patterns in Tema, Ghana.

Method: A cross-sectional air quality assessment was conducted using seven AirGradient sensors deployed across industrial, residential, and port areas in Tema. The sensors continuously monitored PM2.5, temperature, and relative humidity at 1-minute intervals. Data was transmitted to a cloud-based platform and aggregated into hourly and daily averages. Quality control procedures ensured data reliability, with daily averages calculated only when completeness exceeded 75%. Twenty-four-hour PM2.5 concentrations were converted to AQI values using standard breakpoint-based linear interpolation to evaluate spatial variations in air quality and population exposure across monitoring sites.

Results: A total of 49 suspected air pollution instances were identified during the study period. Seven monitoring sites were established; however, data from two sites were unavailable due to equipment failure, resulting in analysis of five active sites. Reporting performance was high, with timeliness and completeness ranging from 96.4% to 98.8%. AQI exceedances varied across sites, ranging from 0 to 4 events per monitoring week. AQI assessments and trend analyses revealed spatial variability in air pollution levels, indicating that pollution was unevenly distributed across the monitored locations.

Conclusion: The air quality monitoring network demonstrated high reporting completeness and timeliness, supporting reliable assessment of ambient air pollution in Tema. Despite equipment failure at two sites, the findings revealed notable spatial variations in AQI and pollution exceedances across monitored locations. These results indicate uneven distribution of air pollution exposure and highlight the importance of sustained monitoring to identify pollution hotspots, guide targeted interventions, and strengthen air quality management strategies.

Keywords

PM2.5, pollution, air quality, Air Quality Index

325: Sporadic Crimean Congo Hemorrhagic Fever Cases In Multiple Districts, Uganda, August–September, 2025

AMINAH NAMWABIRA[1], Anne Loy Alupo[1], Caroline Musubika[1], Justine Wobusobozi[1], Martha Dorcas Nalweyiso[1], Benon Kwesiga[1], Richard Migisha[2], Alex Riolexux Ario[1]

[1]Uganda National Institute of Public Health, Kampala, Uganda. [2]Uganda National Institute of Public Health, Kampala,, Uganda

Background: Crimean Congo hemorrhagic fever (CCHF) is a zoonotic tick-borne viral disease, endemic in Uganda's cattle corridor. On August 30, 2025, the Uganda Ministry of Health confirmed a CCHF case from Nakasongola District amidst alerts in multiple districts. We investigated to characterize confirmed CCHF cases and identify possible exposures in affected districts during August–September 2025, to inform control and prevention interventions.

Methods: We defined a confirmed case as a resident of either Nakasongola, Nakaseke, Wakiso, Kiruhura or Kyotera district during August 1–September 30, 2025 with a CCHF positive polymerase chain reaction test. We interviewed case-patients, relatives and attending clinicians to describe the case-patients' clinical presentation and identify potential exposures. We conducted environmental assessments at the case-patients' homes, and in-depth interviews on grazing and tick control practices, with herdsmen and veterinary officers of the affected districts, to further identify potential exposures.

Results: We identified six confirmed cases of whom three died, all were male with a median age of 24 years (IQR:22-28). Soldiers were 33% (2/6) and one case-patient each among abattoir worker, clerical officer, logger and a pupil. All six case-patients presented with fever, 83% had bloody vomitus, body weakness and headache, 50% had abdominal pain. Nakasongola registered 33% (2/6) cases, Kiruhura, Nakaseke, Wakiso, Kyotera each registered one case. Case-patients' homes near animal grazing grounds were 67% (4/6) and 33% (2/6) owned tick-infested animals. Case-patients involved in animal handling activities were 50% (3/6). Acaricide misuse, acaricide resistance, and communal grazing were identified as contributors to high tick prevalence in the affected districts.

Conclusion: The investigation identified sporadic cases in a known risk zone. Potential exposures were bites of infected ticks resulting from contact with animals and environmental risks. We recommend aligning tick-control strategies with acaricide resistance evidence to reduce virus circulation in the risk zone.

Keywords

Crimean Congo Hemorrhagic Fever, Sporadic, Multiple districts, Uganda

326: Low Dog And Cat Rabies Vaccination In Wa Metropolis, Upper West Region, Ghana, 2026

AGNES MAANA-ANG[1], Rita Asante Kusi[2]

[1]Veterinary Service, Wa, Ghana. [2]GFETP, Accra, Ghana

[1]Ghana Field Epidemiology and Laboratory Training Program, School of Public Health, University of Ghana, Legon, Accra, Ghana.

[2]Veterinary service directorate, Upper West Region, Ghana

Background: Rabies remains a major public health challenge in Ghana despite being entirely preventable through vaccination. In the Wa Metropolis of the Upper West Region, rabies vaccination coverage among dogs and cats remains low, increasing the risk of disease transmission to humans and animals. Root causes of the low vaccinations in the metropolis were determined and measures in improving them identified.

Methods: A cross-sectional design was employed in Wa Metropolis from 4th to 29th May 2026 using focus group discussions and the "but why" brainstorming technique. Twenty-four participants, including veterinary officers, national service personnel, and pet owners were engaged. A fishbone diagram was used to summarize the root causes, while the Total, Partial, and No Control (TPN) framework assessed the level of control of identified factors.

Results: Eighteen causes of low rabies vaccination uptake were identified and grouped into six categories: veterinary staff, cost, information, campaigns, regulations, and irresponsible pet ownership. Of the identified causes, 27.7% were within total control, 38.8% were partially controllable, and 33.3% were beyond direct control.

Conclusion: Low dog and cat rabies vaccination uptake in Wa Metropolis is driven by institutional, economic, informational, regulatory, and behavioural factors. Strengthening community education, vaccination campaigns, stakeholder collaboration, and responsible pet ownership practices is essential to improve vaccination coverage and reduce rabies transmission. Bottom of Form

Keywords

Wa Metropolis, Vaccine, Rabies, Fishbone

330: Cholera Surveillance Data Analysis In The Greater Accra Region, Ghana, 2020–2024

SOLOMON NANG-LAZUMA KOGGOH, Anthony Dongdem, Fortress Yayra Aku

University of Health and Allied Sciences, Fred Binka School of Public Health, Department of Epidemiology and Biostatistics, Hohoe, Ghana

Background: Cholera remains a significant public health threat in Ghana, particularly in densely populated urban settings. Despite being preventable, recurrent outbreaks continue to strain health systems. This study examined temporal trends, spatial distribution, demographic characteristics, and factors associated with cholera infection in the Greater Accra Region from 2020 to 2024, to inform targeted outbreak prevention and response.

Methods: A retrospective secondary data analysis was conducted using routinely collected cholera surveillance data from the District Health Information Management System (DHIMS2) and the Surveillance Outbreak Response Management and Analysis System (SORMAS), from January 2020 to December 2024. Descriptive statistics summarised suspected and confirmed cases. Temporal trends were plotted using line and bar graphs. Spatial distribution and hotspots were mapped using ArcGIS version 10.4. Chi-square tests and logistic regression examined associations between sociodemographic variables and cholera infection.

Results: A total of 697 suspected and 102 confirmed cases were recorded; 96% of suspected cases occurred in 2024 alone, after minimal transmission between 2020 and 2023. Of 799 cases with complete data, 52.4% were males and 30.9% were aged 10–24 years. Cases rose sharply from August, peaking in October 2024, coinciding with the rainy season. Ablekuma West (35.3%), Ada East (22.6%), and Ga East (8.8%) recorded the highest burden, with clustering in southwestern coastal districts. Age was significantly associated with infection, with higher odds among those aged 10–24 (aOR=2.94), 25–34 (aOR=4.51), and ≥35 years (aOR=2.92) compared to children under 10 years ($p<0.01$ each).

Conclusion and Public Health Implications: The 2024 resurgence reflects a cyclical, rainfall-driven outbreak concentrated in specific districts and age groups. Findings support targeted water, sanitation, and hygiene interventions, vaccination and health education for adolescents and young adults, and rainfall-linked early warning systems in high-burden districts, advancing Ghana's cholera elimination goals.

Keywords

Cholera, surveillance, outbreak, spatial epidemiology, risk factors

331: Epidemiology Of Yellow Fever In The Savannah Region Of Ghana, 2019–2023: A Secondary Data Analysis

ISAAC ISSAH[1], George Akowuah[2], Cyril Kwami Azornu[3], Alhassan Abukari[4], Ibrahim Saeed[4], Salifu Bawa[4], Abubakari Ibrahim[4], Seth Owusu-Agyei[5], Samuel Oko Sackey[2], Ernest Oko Kenu[2]

[1]East Gonja Municipal Health Directorate, Ghana Health Service, Savannah Region, Salaga, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Program (GFELTP), School of Public Health, University Of Ghana, Accra, Ghana. [3]Salaga Municipal Hospital, Ghana Health Service, Savannah Region, Salaga, Ghana. [4]Savannah Regional Health Directorate, Ghana Health Service, Damango, Ghana. [5]Institute of Health Research, University of Health and Allied Sciences, Ho, Ghana

Background: Yellow Fever remains a serious public health problem in Africa. An estimated 200,000 cases and 30,000 deaths are recorded annually with 90% occurring in Africa. Ghana continuous to battle Yellow Fever outbreaks despite mass vaccination campaigns. We determined the burden, distribution and trend of Yellow Fever in the Savannah Region of Ghana from 2019-2023 and proposed recommendations towards eliminating epidemics by 2026.

Methods: We conducted a descriptive secondary data analysis using the Savannah region's Yellow Fever linelist. Variables included demographics, laboratory results, immunization status and clinical outcomes. Data were analyzed using Microsoft Excel, EpiInfo, and ArcMap to generate rates, proportions, and maps. Outbreak thresholds were determined using computed C2 values. Findings are presented via tables, charts, and maps.

Results: Out of 388 cases detected over the period 16.4%(64/388) were confirmed whiles feedback for 53.1% (206/388) were pending. The annual reporting rate increased from 3.1 to 5.3/100,000 population for 2019 to 2023. Average incidence was 1.9/100,000 population with the highest incidence of 9.4/100,000 population reported in 2021. Case fatality rate was 20.3% (13/64). Cases were more common among males, 56.3% (36/64), and children under 5 years, 26.6% (17/64). Majority, 85.9% (55/64) of confirmed cases were reported from the West Gonja District. Significant peaks were reported in the rainy season from April, through to November. An Outbreak occurred between September and December 2021.

Conclusion: The Savannah Region experienced significant increase in Yellow Fever transmission during the study period resulting in a major outbreak centered in the West Gonja District. The vulnerability of children under five and seasonal fluctuations underscore critical gaps in population immunity and surveillance timelines. To achieve the 2026 Eliminate Yellow Fever Epidemics (EYE) targets, the Regional Health Directorate must urgently intensify routine childhood immunization coverage and implement targeted catch-up vaccination campaigns in ecological hotspots before transmission season.

Keywords

Yellow Fever, Epidemic, Secondary Data, Epidemiology, Savannah Region, Ghana

332: Investigating Delayed Reporting: A Fishbone Analysis In The Mion District, Northern Region, 2026

FREDERICK MAANI-ANU[1], Belinda Nsiah Opoku[2]

[1]Ghana Health Service, Tamale, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Program, Accra, Ghana

Background: Timely submission of health service reports is vital for effective health system management. The Mion District experiences delays in report submissions from health facilities, impacting data quality and the responsiveness of the District Health Directorate. This study aims to identify the root causes and critical causes of these delays, determine the extent of the district's control on the root causes and suggest interventions to resolve the issues.

Methods: A problem analysis was employed, using the fishbone approach in the Mion District. Focus group discussions were held: stakeholders brainstormed on the causes of delays in report submission. Data were analyzed thematically and organized into categories: Manpower, Materials/Technology, Management/Supervision, Methods/Processes, and Environment/Logistics. Root causes were further classified by extent of control – total control (T), partial control (P), and not under control (N). Descriptive analysis was performed using frequencies and proportions

Results: A total of 50 staff, 44% (22/50), were clinical nurses, while only 2% (1) were health promotion officers. Various causes for delays in report submission were identified: poor internet connectivity, limited IT skills, low prioritization of reporting, and, among others, a critical cause identified as poor monitoring and supervision. About 47.8% (11/23) were fully under the district's control, 30.4% (7/23) were partially under control, and 21.7% (5/23) were beyond control.

Conclusion: The delay in report submission in the Mion District is driven by systemic and operational challenges in manpower, logistics and management, the critical cause being poor monitoring and supervision. Almost 50% of causes were fully under district control. Strengthening supportive supervision and enforcing accountability mechanisms are recommended to improve reporting timeliness and overall data quality.

Keywords

Problem analysis, Fishbone, Mion District, Delayed reporting

334: *Suboptimal Vaccination Coverage And Diagnostic Logistical Bottlenecks As Factors Associated With Persistent Measles Transmission In The Gambia, 2014 - 2024: A Retrospective Population-Based Study*

ABDOULIE JANNEH[1], Bakalilu mealses Kijera[1], Obafemi Joseph Babalola[2], Amadou Barry[1]

[1]Expanded Programme On Immunisation, Banjul, Gambia. [2]African Field Epidemiology Network, Plot 42, Lugogo Bypass, Kampala, Uganda, kampala, Uganda

Background: Despite national efforts toward measles elimination, the disease remains a significant public health challenge in The Gambia. Recurrent outbreaks are driven by suboptimal vaccination coverage, consistently falling below the 95% herd immunity threshold. This study analysed years of national surveillance data (2014–2024) to assess the epidemiology, vaccine impact, and performance of the national measles surveillance system.

Methods: We conducted a retrospective, population-based cross-sectional study using the national vaccine-preventable disease (VPD) surveillance database. A total of 1,266 suspected cases were analysed. Annual incidence rates per million population were calculated, and surveillance performance was evaluated against WHO-AFRO benchmarks.

Results: Of the 1,266 cases, 238 (18.8%) were laboratory-confirmed. The non-measles febrile rash illness (NMFRI) rate met the WHO benchmark of ≥ 2 per 100,000 population in nine out of the eleven years. Children aged 1–5 years represented 41.6% of confirmed cases. A strong dose-dependent protective effect was observed: receipt of ≥ 2 doses was associated with an 88.8% reduction in the odds of infection (aOR: 0.11; 95%CI: 0.06–0.20; $p < 0.001$). Geographically, Western Region 1 (WR1) and Western Region 2 (WR2) were identified as the primary epicentres. While the system met targets for notification (89%) and investigation (97%), sample transportation timeliness was critically low in the Upper River Region (46%).

Conclusion: The Gambian measles surveillance system is sensitive and timely in detection; however, persistent transmission is associated with an immunity gap among young children in urban hotspots. The disparity in sample transportation logistics for remote regions like the Upper River Region poses a risk of delayed outbreak confirmation. We recommend that the Ministry of Health prioritise vaccination campaigns and supplementary immunisation activities (SIAs) specifically in Western Regions 1 and 2 to address urban transmission. Furthermore, a dedicated logistics framework must be established to improve sample transport timeliness.

Keywords

Measles; Surveillance; Vaccination Coverage; The Gambia; Disease Elimination; Public Health Action;

335: Trends And Distributions Of Crimean Congo Hemorrhagic Fever Outbreaks In Uganda, 2013–2025

ANNE LOY ALUPO[1], Aminah Namwabira[2], Joshua Kayiwa[1], Benon Kwesiga[1], Richard Migisha[1], Alex Riolexus Ario[1]

[1]Uganda National Institute of Public Health, Kampala, Uganda. [2]Trends and distributions of Crimean Congo Hemorrhagic Fever outbreaks in Uganda, 2013–2025, Kampala, Uganda

Background: Crimean Congo Hemorrhagic Fever (CCHF) is a tick-borne viral hemorrhagic fever (VHF) caused by the CCHF virus endemic in Uganda, particularly within the cattle corridor, where ecological and occupational factors facilitate transmission. We described the trends and distribution of CCHF outbreaks in Uganda from 2013–2025 to inform surveillance and prevention strategies.

Methods: A confirmed CCHF case was defined as a person with a positive RT-PCR test for CCHF virus. An outbreak was defined as any confirmed case not epidemiologically linked to another case, according to national VHF surveillance guidelines. We analyzed outbreak data reported between 2013 and 2025 from the Public Health Emergency Operations Centre database and the Results Dispatch System. Descriptive analyses summarized cases, deaths, affected districts, regions, and case fatality rates (CFR). Temporal trends were assessed using the Mann-Kendall test.

Results: From 2013 to 2025, Uganda reported 49 CCHF outbreaks and 63 confirmed cases with a CFR of 57% (36 deaths). A median of 4 outbreaks (IQR: 1-10) and 5 confirmed cases (IQR: 1-12) were reported annually. Outbreaks occurred across all regions, with the central region accounting for the highest proportion of outbreaks (27/49), cases (36/63), and deaths (CFR: 58%). Twelve districts reported ≥2 outbreaks, while more than half (16/29) of the affected districts were within the cattle corridor. Among 33 cases with individual-level data, 79% were male, 69% were aged 15-50 years, and 48% were farmers. Outbreak peaks were observed in 2018, 2022, and 2025, coinciding with periods of intensified VHFs surveillance when Uganda had confirmed Ebola outbreaks.

Conclusion: CCHF remains endemic in Uganda, characterized by recurrent, geographically widespread outbreaks and high mortality. Strengthening targeted surveillance, clinical suspicion, and diagnostic testing in high-risk populations and regions may improve early detection. Enhanced surveillance during other outbreaks may contribute to increased CCHF cases detection.

Keywords

Keywords: Cholera, well water, Outbreaks, Uganda

336: Factors Associated with Delayed Healthcare-Seeking Behavior among Healthcare Workers during the 2025 Lassa Fever Outbreak in Ondo State, Nigeria

DUPE ARINOLA HAMBOLU[1], Stephen Oyegoke Fagbemi[2], Gobyega Adekunle Famokun[2], Funmilola Adeolu[2], Olufunmilayo Ibitola Fawole[3], Victoria Olusola Adetunji[3], Aishat Bukola Usman[4], Okoro Aja Nwenyi[5], Kaza Joseph Abok[6], Sunday Emmanuel Hambolu[6], Ibironke Christianah Odita[6], Kingsley Ugochukwu Dike[7], Stephen Adeshina Ohuneni[7], Matthew Oluwole[7], Oladayo David Awoyale[8], Zainab Bello Dambazau[9], Abdulkareem Iyanda Durosinlorun[10], Chinyere Ijeoma Akujobi[11], Elizabeth Adedire[12], Oladipo Olanrewaju Ogunbode[13], Muhammad Shakir Balogun[14]

[1]Nigerian Field Epidemiology and Laboratory Training Program (NFELTP) and Federal Ministry of Livestock Development, Abuja, Nigeria. [2]Ministry of Health, Akure, Ondo State, Nigeria. [3]University of Ibadan, Ibadan, Nigeria. [4]ECOWAS Regional Centre for Surveillance and Disease Control, West African Health Organization (WAHO), Abidjan, Côte d'Ivoire. [5]Africa Centres for Disease Control and Prevention (Africa CDC), Addis Ababa, Ethiopia. [6]National Veterinary Research Institute, Vom, Jos, Nigeria. [7]Nigerian Field Epidemiology and Laboratory Training Program (NFELTP), Abuja, Nigeria. [8]Sydani Group, Abuja, Nigeria. [9]Nigerian Field Epidemiology and Laboratory Training Program (NFELTP) and Nigeria Centre for Disease Control and Prevention (NCDC),, Abuja, Nigeria. [10]Nigerian Field Epidemiology and Laboratory Training Program (NFELTP) and Federal Ministry of Livestock Development, Abuja, Nigeria. [11]Federal Ministry of Livestock Development, Abuja, Nigeria. [12]Nigerian Field Epidemiology and Laboratory Training Program (NFELTP)&African Field Epidemiology Network (AFENET), Abuja, Nigeria. [13]Nigerian Field Epidemiology and Laboratory Training Program (NFELTP)&Nigeria Centre for Disease Control and Prevention (NCDC), Abuja, Nigeria. [14]Nigerian Field Epidemiology and Laboratory Training Program (NFELTP)& African Field Epidemiology Network (AFENET),, Abuja, Nigeria

Background: Healthcare workers (HCWs) remain at risk of Lassa fever (LF) infection during outbreaks. During the 2025 outbreak in Ondo State, 14 HCWs were infected and four died. We assessed delayed healthcare-seeking behaviour and associated factors among HCWs.

Methods: A convergent mixed-methods cross-sectional study was conducted among 366 HCWs selected through multistage sampling across six LGAs in Ondo State, Nigeria. A structured questionnaire assessed LF knowledge, Health Belief Model constructs (perceived susceptibility, severity, benefits, barriers, cues to action, and self-efficacy), IPC practices, environmental risk factors, and healthcare-seeking behaviour. Delayed healthcare-seeking was defined as seeking care ≥7 days after onset of symptoms suggestive of LF during the 2025 outbreak. Knowledge was categorized as good or poor using a composite score. Variables with p≤0.20 in bivariate analysis were included in multivariable logistic regression. Twenty key informant interviews were analyzed thematically and integrated with quantitative findings through triangulation.

Results: The mean age of respondents was 40.5±9.1 years, and 82.8% were female. Good LF knowledge was observed among 61.5% of HCWs. Twenty-nine (7.9%) respondents reported delayed healthcare-seeking. HCWs aged ≥40 years (AOR=2.57; 95% CI: 1.10–6.65), those who received recent IPC/LF-related training (AOR=2.74; 95% CI: 1.03–7.97), and those who perceived environmental risk (AOR=5.19; 95% CI: 2.11–14.30) had higher odds of delayed healthcare-seeking, while HCWs from Owo LGA had lower odds (AOR=0.20; 95% CI: 0.04–0.80). Qualitative findings complemented the quantitative results by identifying self-medication, delayed symptom recognition, stigma, workplace pressures, poor environmental sanitation, delayed laboratory confirmation, and weak referral systems as barriers to timely healthcare-seeking.

Conclusion: Integrated quantitative and qualitative findings identified behavioural, environmental, and health-system factors associated with delayed healthcare-seeking among HCWs. Strengthening risk communication, timely diagnosis, referral systems, and healthcare-seeking messages within IPC/LF training may promote timely care-seeking during future LF outbreaks.

Keywords

Lassa fever; healthcare workers; delayed healthcare-seeking; environmental risk; One Health; Nigeria.

337: Yellow Fever Surveillance Data Analysis, Ashanti Region, Ghana, 2025

NINYEN PAUL, Oxygen Wuller

Ghana Field Epidemiology and Laboratory Training Programme, University of Ghana School of Public Health, Accra, Ghana; oxygenbay@yahoo.com, Accra, Ghana

Background: Yellow fever is a vaccine-preventable arboviral hemorrhagic disease that remains a threat in West Africa. In 2021, Ghana reported a major outbreak in its northern and middle belt with a case fatality rate of 50%. We aimed to describe the distribution of Yellow Fever, determine temporal and seasonal trends, identify factors associated with laboratory confirmation of Yellow Fever, and assess the association between vaccination and severe disease outcomes among confirmed Yellow Fever cases in the Ashanti Region from 2019 to 2024.

Methods: A secondary analysis of Yellow Fever SORMAS line-list data for Ashanti Region was conducted for 2019-2024. Person, place, and time distributions were summarized using frequencies, proportions, and epidemic-month trends. Crude odds ratios were estimated using 2 by 2 tables with Fisher's exact tests. A multivariable logistic regression model estimated adjusted odds ratios for factors associated with laboratory confirmation.

Results: A total of 837 records were analyzed. Twenty-seven cases were laboratory-confirmed, giving a confirmation proportion of 3.2%. The median age was 14 years with an interquartile range of 5 to 26 years. Suspected reports increased from 66 in 2019 to 198 in 2024. Confirmed cases were concentrated in 2024, accounting for 23 of 27 cases. In adjusted analysis, reporting in 2024 was strongly associated with confirmation compared with 2019-2023 (aOR 29.94, 95% CI 9.20-97.46; p<0.001). Reporting during July-October was also independently associated with confirmation (aOR 6.27, 95% CI 2.48-15.85; p<0.001). No deaths, hemorrhagic syndrome, or bleeding/bruising were recorded among confirmed cases.

Conclusion: Yellow Fever analysis over the 6-year period showed concentration of confirmed cases in 2024 and a marked temporal-seasonal signal in July-October. The main public health priorities are pre-season preparedness, district-level active surveillance, vaccination verification, and targeted risk communication in districts with confirmed cases or high suspected burden, improved data completeness and rapid laboratory result reconciliation.

Keywords

Keywords: Arboviral, surveillance, risk communication

338: Assessment Of Data Quality Using SWOT Analysis: Evidence From Three Health Facilities In The Mion District, 2026

DAVID NANKIDENT KONMON[1], Belinder Nsiah Opoku[2]

[1]Ghana Health Service, Tamale, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Program, Accra, Ghana

Background: High-quality health data is essential for effective public health surveillance, planning, and evidence-based decision-making. Challenges such as poor internet connectivity, inadequate logistics, and inconsistencies in reporting continue to affect data quality in rural districts such as Mion District in the Northern Region of Ghana. This study focused on a Data Quality Audit (DQA) to assess the strengths, weaknesses, opportunities, and threats affecting the district's data management system.

Methods: A cross-sectional audit using the SWOT framework was employed. The audit was conducted in three selected CHPS compounds: Dabogni, Bofoyili, and Nanvili. Study participants included disease surveillance officers, nurses, midwives, health information officers, facility heads, and data entry personnel. Data were collected through key informant interviews, records review, and direct observation using standardized data verification checklists and interview guides adapted from the FETP Frontline Fieldwork Guide. Data were analyzed using the SWOT analytical framework, while descriptive statistics were summarized using frequencies and proportions.

Results: A total of eight health workers participated, of whom 62.5%(5/8) were females and 62.5%(5/8) were Community Health Nurses. Major strengths identified included trained staff, teamwork, availability of reporting tools, and knowledge of reporting standard operating procedures. Weaknesses observed were data discrepancies, inadequate reporting forms, poor data analysis practices, limited IT skills, and delays in report submission. Opportunities included staff training, community support, and provision of standard operational protocols by the district health directorate. Key threats identified were poor road networks, inadequate funding, limited logistics, network challenges, and inadequate staffing.

Conclusion: The Mion District data management system demonstrates strong human resource commitment but remains constrained by infrastructural and operational challenges. Strengthening staff capacity, improving logistics and internet connectivity, and ensuring consistent supply of reporting tools are recommended to improve data quality and surveillance performance.

Keywords

Data Quality Audit, Surveillance System, SWOT Analysis, DHIMS2, Public Health, Mion District, Ghana

339: Inadequate Surveillance Data Use For Decision-Making In Health Facilities: A Systematic Problem Analysis Of Ejura Sekyedumase Municipality, 2026

RICHMOND OFOSU[1,2], George Akowuah[1], Martha Arkaa Kotey[1], Samuel O. Sackey[1], Magdalene A. Odikro[1], Courage Anku[1,2]

[1]Ghana Field Epidemiology and Laboratory Training Program (GFELTP), School of Public Health, University of Ghana, Accra, Ghana. [2]Ghana Health Service, Municipal Health Directorate, Ejura, EJURA, Ghana

Background: Surveillance data are essential for evidence-based decision-making in public health. Despite routine data collection and reporting in Ejura Sekyedumase Municipality, surveillance data are not adequately reviewed or utilised for appropriate public health action. We analysed underlying causes of inadequate use of surveillance data for decision-making in health facilities within the municipality.

Methods: A descriptive problem analysis was conducted in May 2026 in Ejura Sekyedumase Municipality. Brainstorming sessions were held with 19 key surveillance officers at the Municipal Health Directorate conference hall. Contributing factors were categorised using a fishbone (Ishikawa) diagram. The Totally (T), Partially (P), and Not (N) controllable framework assessed the degree of control over each identified cause.

Results: Out of 19 participants, health information officers constituted the highest (26.3%). Eighteen factors were identified under five categories: Staff (poor data analysis skills, limited interpretive capacity, high workload, inadequate training, poor knowledge on data importance, inadequate officers); Administrative (weak supervision, poor data review, inadequate feedback, limited motivation, funding gaps); Data Management (late reporting, poor documentation, poor data presentation); Tools (limited computer access); and Environmental (network challenges affecting DHIMS2). The critical cause was poor knowledge of the importance of surveillance data, a totally controllable factor directly influencing data interpretation and utilisation.

Conclusion: Inadequate use of surveillance data for decision-making in Ejura Sekyedumase Municipality is driven by interrelated staff, administrative, data management, tools, and environmental factors, with poor knowledge on surveillance data importance as the critical cause. Targeted training, routine data review meetings, strengthened feedback, and supportive supervision are critical to improving evidence-based decision-making.

Keywords

Surveillance, fishbone diagram, IDSR, DHIMS2, Ejura Sekyedumase, Ghana Health Service

343: Investigation Of A Yellow Fever Case In The Manyini Community, Mion District, Northern Region, 2026.Pascal Bagbulo1, F. Maani-Anu1, D. Konmon1, M. Gaaze1, R. Amoako1, B. N. Opoku2

BAGBULO PASCAL[1,2], Frederick Maani-Anu[1,2], David Konmon[1,2], Mohammed Gaaze[1,2], Rebecca Amoako[1], Belinda Nsiah Opoku[3]

[1]Ghana Health Service, Tamale, Ghana. [2]Ghana Field Epidemiology and Laboratory Programme, Tamale, Ghana. [3]Ghana Field Epidemiology and Laboratory Programme, Accra, Ghana

Background: Yellow fever (YF) is a mosquito-borne viral haemorrhagic disease that remains a major public health concern in Africa. In May 2026, a suspected case of yellow fever was reported from Manyini CHPS Compound in Mion District, Northern Ghana. An investigation was conducted to confirm the diagnosis, identify the source of infection, assess the risk of local transmission, and implement control measures.

Methods: An investigation was conducted in the Manyini community of Mion District. Data were collected through interviews with the case patient and relatives, review of medical records, active case search within a 500-metre radius of the case's residence, rapid assessment of yellow fever vaccination coverage, and evaluation of vaccine storage and cold chain systems. District and community were engaged. Standard outbreak case definitions were used to identify suspected, probable, and confirmed cases.

Results: The confirmed case was a 25-year-old unvaccinated male student from Manyini who had travelled to Wassa-Nkran in the Western Region for artisanal mining activities. He developed fever, jaundice, nausea, and weakness while in the mining community and was initially treated for malaria without improvement. Following presentation at Manyini CHPS Compound, a serum sample tested positive for yellow fever IgM antibodies. Active case search covered 42 households and 76 individuals but identified no additional suspected cases. Vaccination assessment revealed suboptimal yellow fever vaccine coverage (70%), particularly among persons aged 12 months and above, indicating a substantial susceptible population. Although cold chain management was satisfactory, storage capacity was inadequate for reactive vaccination campaign.

Conclusion: The investigation confirmed an imported case of yellow fever, with probable exposure occurring in Wassa-Nkran. While no secondary transmission was detected, low vaccination coverage and favourable environmental conditions for *Aedes* mosquitoes pose a risk for local transmission. Strengthened surveillance, reactive vaccination, risk communication, and vector control measures are recommended to prevent future outbreaks.

Keywords

Yellow fever, outbreak investigation, vaccination coverage, surveillance, Aedes mosquito, Mion District, Ghana.

344: Investigating And Analyzing Factors Contributing To Poor Antenatal Clinic Attendance : A Fishbone Analysis In Upper Denkyira West District,April 2926.

ISAAC GYAN[1], Belinda N. Opoku[2]

[1]Pentecost Hospital, Dunkwa-Ayanfuri, Ghana. [2]GFELT(FETP), Accra, Ghana

Background: According to the 2024 National Annual report, the proportion of pregnant women attending at least one ANC Visit declined from 79.2% in 2020 to 70.8% in 2024. Poor ANC attendance remains a major public health concern in many districts in Ghana, because early and regular ANC attendance is essential for improving maternal and newborn health outcomes. Upper Denkyira West District serves a heavy population and this poor attendance at the ANC poses significant risk to mother and unborn babies. We conducted a problem analysis is to assess the factors contributing to poor ANC attendance in the district.

Method: A problem analysis using fishbone approach was conducted in Upper Denkyira West District of the Central Region. Data was collected using focus groups discussions with pregnant women, health workers and a community stakeholders. Fishbone analysis was used to summarize the problems identified and grouped according to level of district's control: total, partial or no control. Microsoft Excel was also used to generate frequencies and proportions for the identified causes, their groups, and their extent of control

Result: Among the 26 root causes identified are financial constraints, lack of knowledge, transportation challenges, staff attitudes, long waiting times and religious beliefs. These factors were broadly categorized under: patient factors, health system, geographic, socio-cultural and economic factors. Critical cause identified was lack of knowledge about ANC. Causes under district's total control represented 42.3% (11/26), partial control - 53.8% (14/26) and 3.9% (1/26) represented no control

Conclusion: The problem analysis indicated that root causes of poor ANC attendance were largely health system factors; critical cause being patient's limited knowledge on ANC. Majority of causes were partially under the control of the district .Improving quality of health services and expanding community education will improve ANC attendance and maternal and child health.

Keywords

Fishbone Analysis, Poor ANC attendance, Root causes

345: Enteric Bacteria Of Toads; Implication For Public Health And One Health

TIWALADE OLUYEMISI SOBOWALE-IKONNE[1,2], Adewunmi Gabriel Dedeke[3]

[1]Olabisi Onabanjo University Teaching Hospital, Sagamu, Nigeria. [2]Olabisi Onabanjo University, Ago-Iwoye, Nigeria. [3]Olabisi Onabanjo University, Ago iwoye, Nigeria

Background: Toads (*Bufo species*) are amphibians, known to alternate between the aquatic and terrestrial habitats. They live in close proximity with humans, especially during the rainy seasons. They are eaten as delicacies in some parts of the world. Children hunt them and play with them. However, toads are reservoirs of zoonotic infections and could transmit some bacteria to humans through environmental pollution of water source. They could also compromise food safety through cross-contamination during food handling. Enteric bacteria infection are a public health challenge because of the interaction between the environment, human health and animal health as depicted by the one health model. This study aim to identify the bacteria flora of toads gut and to create an awareness on the need for safety awareness in order to interrupt the enteric bacteria transmission to humans.

Methods: Toads were collected and put in aerated cylinders and transferred to the laboratory. The toads were anaesthezed with chloroform in dessicators for twenty minutes and were rinsed with distilled water. They were pinned down on a dissecting board to expose their ventral surface which was swabbed with alcohol. Dissection was done with sterile scissors and forceps and the the gut was removed aseptically. The gut regions were cut open with sterile scapel. Inocuum was collected from the esophagus, stomach, small-intestine and streaked onto culture media (Nutrient, Mac Conkey agar) while rectum inoculm was streaked on Deoxycholate agar. The plates were incubated. The isolated bacteria were characterized and analyzed.

Result: *Staphylococcus aureus, Escherichia coli, Klebsiella species, Proteus species and Salmonella species* were isolated with percentage of total occurrence of 17.3%, 24.6%, 26.3%, 24.0% and 7.7% respectively. The occurrence of each bacteria species is lowest in the stomach region.

Conclusion: Enteric bacteria of toads reflects the environmental hygiene and pose public health risk to humans.

Keywords

Keywords: Amphibians, Zoonotic, One health, Food safety

346: A Measles Outbreak Linked To Hospital Exposure And Suboptimal Vaccine Coverage In Kumi District, Uganda, May–July 2025

KYOMUGISHA DENISE AMAN[1], Benon Kwesiga[1], Yasiini Nuwamanya[2], Alex Riolexus Ario[1]

[1]Uganda Public Health Fellowship Program, Uganda National Institute of Public Health, Ministry of Health, Kampala, Uganda. [2]Uganda National Expanded Program on Immunization, Ministry of Health, Kampala, Uganda

Background: In July 2025, Kumi District in Eastern Uganda reported a Measles outbreak among children admitted in high-volume healthcare facilities. This followed on-going measles outbreaks in neighbouring districts. We investigated to determine the scope of the outbreak, identify risk factors for transmission and recommend evidence-based control measures.

Method: A suspected case was acute onset of fever and maculopapular rash with ≥1 of cough, coryza or conjunctivitis in a Kumi District resident from 1 May–31 July 2025. A confirmed case was a suspected case with positive measles-specific IgM test. We reviewed healthcare facility records and conducted community case searches. We conducted descriptive epidemiology and environmental assessment to characterize the outbreak by time, place and person. We conducted an age group-matched case-control study (1:2) with neighbourhood controls selected from non-case households. Factors associated with measles transmission were assessed through conditional logistic regression. Vaccine coverage and effectiveness were estimated for the first Measles-Rubella vaccine dose (MR1).

Results: We identified 177 cases, including 6(3%) confirmed and 2(1.1%) deaths. Among the cases, 104(61%) were vaccinated with MR1. Children aged 6–8 months (AR=41/10,000), males (AR=7/10,000) and Northern Division (AR=76/10,000) were most affected. Poor isolation and triage practices were observed in high-volume healthcare facilities. The odds of visiting healthcare facilities (aOR=20, 95% CI:5.9–70), playing around neighbouring homes (aOR=5, 95% CI:1.2–21), and attending religious gatherings (aOR=1.9, 95% CI:1.03–3.5) during the exposure period were higher among cases than controls. Vaccination with ≥1 MR dose was protective (aOR=0.35, 95% CI:0.16-0.77). Vaccine coverage among controls was 73% for MR1 and 13% for MR2. Vaccine effectiveness for MR1 was 65% (95% CI:23–84).

Conclusion: Suboptimal vaccination coverage and poor isolation and triage practices in healthcare facilities fuelled transmission of measles in this outbreak. We recommend mass vaccination to increase coverage and health worker infection-prevention refresher training.

Keywords

Measles, Nosocomial infection, Vaccine coverage, Vaccine effectiveness, Uganda

347: Evaluation Of Food Handlers Medical Screening Surveillance System, Kadjebi District, 2025

LATIF GBADAMASHIE[1,2], George Akowuah[2], Samuel Oko Sackey'[2]

[1]Kadjebi District Assembly, Environmental Health and Sanitation Directorate, Kadjebi, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Program (GFELTP), University of Ghana School of Public Health, Accra, Ghana

Background: Foodborne infections cause about 600 million illnesses and 420,000 fatalities globally. In Ghana, foodborne illnesses have been associated with hazardous food handling practices. Food handlers' medical screening surveillance system was instituted in the Kadjebi District to screen infectious illnesses among food handlers and assess their health status before authorizing them to serve the public. We evaluated the system to assess its performance in meeting its objectives, usefulness and system attributes.

Method: Descriptive cross-sectional study using Centers for Disease Control and Prevention (CDC) updated guidelines for evaluating public health surveillance systems was adapted in this evaluation. Food handlers medical screening data from 2020- 2024 was reviewed. The stakeholders in the surveillance system were interviewed with a semi-structured questionnaire. Quantitative data was analyzed using summary statistics such as proportions and qualitative data described based on themes. Results were presented in tables and graphs.

Results: The surveillance system screened 3,911 food handlers with 7% (274/3,911) having typhoid and 1% (40/3,911) having whitlow as the cases recorded from 2020- 2024. No changes made to the screening questions, and laboratory testing. The screening process was easy as described by health staff, 100% (10/10). Completeness of filled lab request forms was 80% (24/30) . Data is stored using notebooks and pen drives. The system prosecuted 40 non-compliant food handlers.

Conclusion: The food handler's medical screening surveillance system in Kadjebi District was useful and partially meeting its objectives. The system was flexible, simple, representative and sensitive. Data quality was fair and its stability was poor. To improve performance, on the job training of staff and better data management practices such as storing data in the cloud should be implemented.

Keywords

Food handlers, screening, Kadjebi District, typhoid, whitlow

348: Wealth-Related Immunization Inequality And Circulating Vaccine-Derived Poliovirus Occurrence And Burden In Africa From 2015 To 2024

TAMBE ELVIS AKEM[1], Florence Gyembuzie Wongnaah[2]

[1]Independent Public Health Consultant, Yaounde, Cameroon. [2]Department of Global Public Health, Karolinska Institutet, Stockholm, Sweden

Background: Despite Africa's certification as wild poliovirus-free in 2020, circulating vaccine-derived poliovirus (cVDPV) continues to threaten eradication progress. National immunization coverage averages may conceal socioeconomic pockets of under-immunized children. This study examined whether wealth-related inequality in immunization coverage was associated with cVDPV occurrence and burden across African countries and territories.

Methods: We conducted a longitudinal ecological panel study of 58 African countries and territories from 2015 to 2024. The primary analytical sample included 402 country-year observations from 44 countries and territories with usable wealth-quintile immunization data from the WHO Health Inequality Data Repository and survey lag <=7 years. The exposure was the survey-assigned third dose of diphtheria-tetanus-pertussis-containing vaccine (DTP3) wealth gap, defined as richest-quintile minus poorest-quintile coverage and scaled per 10 percentage-point increase. The primary outcome was cVDPV occurrence, defined as any confirmed cVDPV case in a country-year. The key secondary outcome was cVDPV burden, defined as annual confirmed case count. Generalized estimating equation logistic regression was used for occurrence, and negative binomial regression with log under-5 population as the offset was used for burden. Models adjusted for continuous national third dose of polio-containing vaccine (Pol3) coverage, survey lag, conflict/fragility status, calendar year, and population structure as appropriate.

Results: In the primary sample, 99 of 402 country-years (24.6%) had at least one confirmed cVDPV case. cVDPV occurrence increased across DTP3 wealth-gap quartiles: 10.6%, 12.4%, 25.0%, and 50.5% in the lowest, second, third, and highest quartiles, respectively. Each 10 percentage-point increase in the survey-assigned DTP3 wealth gap was associated with higher odds of cVDPV occurrence (OR 1.47, 95% CI 1.13-1.91; p=0.004) and higher cVDPV burden (IRR 1.38, 95% CI 1.11-1.71; p=0.004). Findings were broadly robust across survey-lag restrictions, exclusion of the two highest-burden countries, alternative inequality measures, temporal-dependence adjustment, and surveillance-adjusted models.

Conclusions: Wealth-related inequality in immunization coverage was associated with both cVDPV occurrence and burden in Africa. These findings support integrating equity-disaggregated immunization monitoring into polio risk assessment and eradication planning, alongside national coverage indicators.

Keywords

polio; circulating vaccine-derived poliovirus;health equity; ecological study; DTP3 coverage; wealth gap

351: Timeliness And Determinants Of First Measles Vaccination Among Children Aged 12–23 Months In Mozambique

EDMILSON EUGÉNIO FILIMONE[1], Sheyla Rodrigues Cassy[1], Edy Chissaque[2], Esperança Guimarães[2], Orvalho Augusto[3], Assucênio Chissaque[2]

[1]Eduardo Mondlane University, Maputo, Mozambique. [2]Instituto Nacional de Saude, Maputo, Mozambique. [3]University of Washington, Seattle, United States

Background: Measles remains a leading viral cause of child mortality globally. In 2024, Mozambique reported over 340 confirmed cases, underscoring persistent immunity gaps. Delayed vaccination prolongs susceptibility and increases outbreak risk. This study assessed the timeliness and determinants of first measles vaccination among children aged 12–23 months.

Methods: We conducted a cross-sectional analysis of 1,807 children using data from the 2022–23 Mozambique Demographic and Health Survey. Vaccination timeliness was categorized as early (<9 months), timely (9–12 months), or delayed (>12 months). All analyses accounted for the complex survey design. Cox proportional hazards regression identified determinants of vaccination timeliness, reported as hazard ratios (HR) with 95% confidence intervals (CI).

Results: Among children aged 12–23 months, 79.0% were vaccinated on time, 13.8% delayed, and 7.2% early. Timely vaccination was more likely among children of mothers with higher education (HR=1.29; 95% CI: 1.03–1.77), households in the highest wealth quintile (HR=1.57; 95% CI: 1.04–2.35), children whose mothers attended ≥4 antenatal visits (HR=3.88; 95% CI: 2.02–7.45), and households with more than two children under five (HR=3.94; 95% CI: 1.37–11.3).

Conclusions: Most children received measles vaccination within the recommended window. However, a notable number experienced delays beyond 12 months, sustaining outbreak risk. Strengthening antenatal care and addressing socioeconomic disparities may improve vaccination timeliness and support measles control efforts in Mozambique.

Keywords

Measles, Vaccination Timeliness, Immunization Coverage, Survival Analysis, Mozambique

352: Willing But Not Yet Interoperable: Readiness For AI-Powered Mpox Surveillance In Three Health Districts, Cameroon.

JOEL PARFAIT NGEMA TABOT[1], Elvis Asangbeng Tanue[1], Florence Binwi[2], Dickson Shey Nsagha[1]

[1]Department of Public Health & Hygiene, Faculty of Health Sciences, University of Buea, Cameroon, Buea, Cameroon. [2]Department of Nursing, Faculty of Health Sciences, University of Buea, Cameroon, Buea, Cameroon

Background: Mpox surveillance in Kumba North, Kumba South and Mbonge Health Districts remains largely paper-based, with delayed reporting, incomplete data capture and weak linkage to laboratory systems. AI-powered surveillance could improve timeliness, data integration and outbreak intelligence, but implementation depends on local system readiness. This study assessed readiness for AI-powered Mpox surveillance in three health districts in the South West Region of Cameroon.

Methods: A mixed-methods cross-sectional study was conducted among Mpox surveillance actors across the three districts. Exhaustive sampling recruited 19 quantitative respondents and nine key informant interviewees. Data were collected using a structured questionnaire, observational data-audit checklist and semi-structured interview guide. Quantitative data were analyzed in SPSS using descriptive statistics, composite readiness scoring and Fisher's exact test. Qualitative data were analyzed thematically using Braun and Clarke's six-phase approach.

Results: Overall, AI readiness was moderate, 11 (57.9%), but key readiness domains remained suboptimal. Infrastructure readiness was 9 (47.4%), AI perception readiness 8 (42.1%) and data quality readiness 9 (47.4%). Although most respondents reported prior digital health training, 18 (94.7%), and positive attitudes toward AI, 17 (89.5%), implementation capacity was constrained by poor internet connectivity, limited digital devices and absent linkage between surveillance and laboratory data. HMIS use and IT support were significantly associated with better data quality ($p<0.001$ and $p=0.002$, respectively). Qualitative findings confirmed strong stakeholder willingness to adopt AI-supported surveillance but highlighted infrastructure gaps, weak governance arrangements and sustainability concerns as major barriers.

Conclusion: Mpox surveillance systems in the study districts are digitally receptive but not yet implementation-ready for AI-powered surveillance. Before district-wide deployment, investments should prioritize connectivity, device availability, laboratory interoperability, data-quality systems, IT support and governance mechanisms for sustainable, real-time outbreak surveillance.

Keywords

Artificial intelligence; Mpox surveillance; AI readiness; Digital health; Laboratory interoperability; Cameroon

354: From Use To Readiness: Determinants Of Healthcare Professionals' Adoption Of Artificial Intelligence In Mamfe Health District, Cameroon.

NTOUNG-MBI VAHID ESANGAYA[1,2], Tendongfor Nicholas[1], Elvis Asangbeng Tanue[1]

[1]University of Buea, Buea, Cameroon. [2]Cameroon Innovative Health Network, Buea, Cameroon

Background: Artificial intelligence (AI) could strengthen clinical decision-making, surveillance and disease control in African health systems, but its implementation depends on whether healthcare professionals are willing, able and ready to use it. Evidence from rural and semi-urban districts remains limited. This study assessed AI perception, utilization and adoption readiness among healthcare professionals in MamfeHealth District, Southwest Cameroon.

Methods: A hospital-based cross-sectional study was conducted from September 2025 to June 2026 among 377 healthcare professionals in 14 selected health facilities. Data were collected using a structured questionnaire assessing socio-demographic characteristics, AI perception, AI utilization and readiness for AI adoption. Data were analyzed using SPSS version 27. Descriptive statistics summarized study outcomes, while chi-square tests, t-tests and multivariable logistic regression identified factors independently associated with high AI readiness. Statistical significance was set at $p<0.05$.

Results: Participants had a mean age of 34.1 years (standard deviation=10.3), and 113 (29.9%) were aged 26–30 years. Nurses constituted the largest professional group, 225 (59.5%), while 180 (47.6%) worked in public health facilities. Overall, 235 healthcare professionals (62.2%) had positive perceptions of AI, 202 (53.4%) reported high AI utilization and 221 (58.5%) demonstrated high readiness for AI adoption. In adjusted analysis, high AI utilization was the strongest predictor of readiness for AI adoption (aOR=6.27; 95% CI: 3.64–10.79; $p<0.001$). Positive AI perception was also independently associated with readiness (aOR=4.17; 95% CI: 2.31–7.53; $p<0.001$).

Conclusion: Healthcare professionals in Mamfe demonstrated promising readiness for AI adoption, driven mainly by current AI use and favorable perceptions rather than passive exposure alone. Scaling AI in similar underserved districts should prioritize hands-on AI training, digital literacy, practical use cases, and governance frameworks that support responsible integration into clinical care, surveillance and disease-control systems.

Keywords

Artificial intelligence; AI readiness; Healthcare professionals; Digital health; Disease surveillance; Cameroon

355: Prevalence And Risk Factors Of Hepatitis Among Adults (18-59 Years) In Calabar Municipal, Cross River State, Nigeria

MARGARET INEMESIT AKPAN[1], Mabel Joshua Thompson[1], Henrietta Chinemerem Ashang[2], Inemesit Asuquo Akpan[1], Abasiofon Inemesit Akpan[1]

[1]University of Calabar, Calabar, Nigeria. [2]College of Health Technology, Calabar, Nigeria

Background: Hepatitis B Virus (HBV) infection remains a major public health concern in endemic regions such as Nigeria. This study examined the prevalence, risk factors, and preventive measures associated with HBV infection in Calabar Municipal, Cross River State, Nigeria.

Methods: A cross-sectional study design was used, involving 1,000 respondents aged 18–59 years. Data were collected using a semi-structured questionnaire and laboratory testing. Descriptive and inferential statistics, including chi-square analysis, were employed to assess associations between variables.

Results: The study found a high HBV prevalence of 22.8%, which exceeds the WHO high-endemicity threshold of 8%. Socio-demographic variables showed no statistically significant association with HBV infection, indicating that behavioural and awareness-related factors were more influential. Unsafe sexual practices were strongly associated with HBV infection ($\chi^2 = 53.669$, $p < 0.001$), identifying sexual transmission as a major route. Conversely, injection drug use and blood transfusion history were not statistically significant, suggesting improved safety in medical procedures. Awareness levels were moderate, with 58.6% reporting some knowledge of HBV, yet only 38.7% had been vaccinated. Safe injection practices were significantly associated with reduced infection rates ($\chi^2 = 16.260$, $p < 0.001$). Screening uptake was low (28.6%), and awareness of screening and vaccination services was significantly linked to HBV status ($\chi^2 = 4.102$, $p = 0.043$), highlighting gaps in preventive health utilization.

Conclusion: HBV infection remains a serious public health challenge in Calabar Municipal, driven mainly by unsafe sexual practices and inadequate preventive healthcare uptake. The study recommends intensified health education campaigns, promotion of safe sexual behaviour, improved vaccination coverage, integration of free or subsidized screening into routine healthcare services, and increased government investment in HBV prevention. These findings provide evidence to guide targeted public health interventions in endemic urban settings.

Keywords

Prevalence, Risk Factors, Hepatitis

357: Antimicrobial Susceptibility Testing Capacity In Selected Private Hospitals Of Western Uganda, May–June 2025

NAKAWEESA VIVIAN, Samuel Gidudu, Musubika Florence Caroline, Alex Riolexus Ario

Uganda National Institute of Public Health, Kampala, Uganda

Background: Antimicrobial resistance (AMR) poses a major public health threat globally, with bacterial AMR contributing to millions of deaths annually, disproportionately affecting low- and middle-income countries like Uganda. Reliable antimicrobial susceptibility testing (AST) is essential for guiding therapy, supporting stewardship, and informing surveillance. However, laboratory capacity remains limited in many settings, particularly in private hospitals, which play a significant role in healthcare delivery. We assessed the AST capacity in private hospitals in Western Uganda to identify gaps and inform integration into Uganda's national AMR response framework.

Methods: We conducted a cross-sectional assessment from May to June 2025 in three purposively selected private hospitals in Western Uganda (X and Y in Mbarara District; Z in Kabale District) with functional microbiology units. Data were collected using the CDC-validated Laboratory Assessment of Antibiotic Resistance Testing Capacity (LAARC) tool, a self-scoring questionnaire with 15 modules covering infrastructure, human resources, quality assurance, organism identification, AST methods, panels, and data management. Four staff per hospital (manager, quality officer, bench personnel) responded. Scores ranged 0–100%, classified as low (0–49%), moderate (50–79%), or good (80–100%).

Results: The three laboratories had an overall average AST capacity of 53%. B scored highest at 61% (moderate), while A and C scored 49% each (low); none reached good capacity. Seven modules scored below 50%: identification methods (31%), AST quality control (34%), AST panels/policy/analysis (36%), overall quality control (43%), AST expert rules (46%), and processing (48%). These gaps compromised result reliability and surveillance utility.

Conclusion: Private hospitals in Western Uganda exhibit moderate-to-low AST capacity, with critical deficiencies in identification, quality control, and interpretive rules, consistent with regional challenges. Targeted interventions prioritizing training, standardized tools, reagent supply, laboratory information systems, and integration into national surveillance are essential to enhance readiness and support Uganda's NAP-AMR II.

Keywords

Antimicrobial resistance, Antimicrobial susceptibility testing, Private hospitals, Uganda, LAARC tool, AMR surveillance

360: Investigation Of A Yellow Fever Outbreak Case And Risk Assessment In Jirapa Municipal, Upper West Region, Ghana, June 2026

DABUO FELIX

Jirapa Municipal Health Directorate, Jirapa, Ghana

Background: Yellow Fever remains a severe public health threat in sub-Saharan Africa, capable of triggering explosive urban outbreaks despite the availability of effective vaccines. On February 22, 2026, a suspected case of yellow fever presenting with acute fever and jaundice was reported from Kogri No. 1 community in the Jirapa Municipality. We investigated the case to confirm the diagnosis, trace immediate contacts, assess entomological risks, and implement localized outbreak containment measures.

Methods: We conducted face-to-face clinical and epidemiological interviews with the patient's mother, reviewed facility clinical records at Kogri CHPS and Ullo Health Centre, and actively searched for suspected cases across 30 community households. Blood samples were collected for molecular testing. Vector risks were assessed through larval and breeding site tracking for *Aedes aegypti*.

Results: The case was a 2-year-old male who developed a fever and jaundice on February 10, 2026. Clinical examinations revealed a warm abdomen, yellowing of the sclera, and a concurrent right scrotal hernia. Blood serum analyzed via Reverse Transcriptase Polymerase Chain Reaction (RT-PCR) at the National Public Health Reference Laboratory confirmed the presence of the Yellow Fever virus genome. Active community surveillance traced 30 close contacts; none exhibited clinical signs or symptoms of secondary transmission. Epidemiological mapping identified active larval breeding grounds in open household water storage containers. Targeted community risk communication and vector larviciding were carried out immediately.

Conclusion: We confirmed a single localized case of Yellow Fever in a 2-year-old male from Jirapa Municipality with no active secondary transmission. The identification of proximal *Aedes aegypti* vector breeding sites underscores a latent risk of community spread. Public health responses successfully mobilized intensive contact monitoring, larval control, and targeted institutional health education.

Keywords

Investigation, contacts, CHPs,Yellow Fever, outbreak, case tracking, Jirapa Municipal, Ghana

362: Endemic Mpox At The Human–Animal–Conflict Interface: Epidemiology And Surveillance Constraints In South West Region Of Cameroon, 2020–2026

NDI JERRY ALBANIE NSAGHA[1], Elvis Asangbeng Tanue[2], Kouam Fondjo Arnaud[3], Nsagha Dickson Shey[2]

[1]Department of public health and hygiene, Faculty of Health Sciences, University of Buea. Cameroon, Buea, Cameroon. [2]Department of Public Health & Hygiene, Faculty of Health Sciences, University of Buea, Cameroon, Buea, Cameroon. [3]Department of Biomedical Sciences, Faculty of Health Sciences, University of Buea, Cameroon, Buea, Cameroon

Background: Southwest Cameroon is a high-risk setting for Mpox because forest-dependent livelihoods, human–animal contact, cross-border mobility and sociopolitical instability converge with a fragile surveillance system. Yet evidence on who is affected, where transmission concentrates and why surveillance under-detects cases remains limited. This study described the epidemiological profile of Mpox and healthcare workers' perspectives on surveillance in the Southwest Region, Cameroon, from 2020 to 2026.

Methods: A mixed-methods cross-sectional study used DHIS2 records of 202 suspected Mpox cases reported across 11 health districts from January 2020 to June 2026. Quantitative data were analyzed using descriptive statistics and chi-square tests to assess epidemiological patterns and outcome correlates. Six healthcare workers participated in in-depth interviews, and transcripts were analyzed thematically using NVivo.

Results: Children under 15 years accounted for 101 (49.8%) cases, 126 (62.4%) were male, and farmers/forest workers represented 77 (38.5%), indicating concentration among children and forest-exposed populations. Mbonge Health District reported 105 (51.9%) cases, and annual notifications peaked in 2023, 57 (28.2%). Of 202 suspected cases, 47 (23.3%) were PCR-confirmed; Clade II predominated among confirmed cases, 35 (74.5%). Six deaths were recorded, giving a case fatality ratio of 3.0%. Death was significantly associated with complications (χ^2=16.49, p=0.015), hospitalization (χ^2=20.40, p<0.001) and exposure to confirmed cases (χ^2=10.92, p=0.042). Qualitative findings showed that laboratory centralization, PPE shortages, conflict-related workforce displacement, fragmented reporting and community stigma delayed detection and weakened response.

Conclusion: Mpox in the South West Region of Cameroon is concentrated among children, males, and forest-exposed groups, suggesting endemic zoonotic transmission amplified by surveillance fragility and conflict. Strengthening decentralized testing, worker training, PPE supply, conflict-sensitive reporting and community stigma-reduction is essential for earlier detection and control.

Keywords

Mpox; Disease surveillance; Zoonotic transmission; Conflict-sensitive surveillance; Cameroon

363: Willing But Technically Constrained: Readiness For AI-Supported Mobile Malaria Surveillance In Buea And Tiko Health Districts, Cameroon

METICA SIH KUM, ELVIS ASANGBENG TANUE, Odette Dzemo Kibu, Innocentia Kwalar Ginyu, Dickson Shey Nsagha

Department of Public Health & Hygiene, Faculty of Health Sciences, University of Buea, Cameroon, Buea, Cameroon

Background: Malaria remains a major public health challenge in Cameroon, where timely reporting and effective surveillance are essential for control and elimination efforts. AI-supported mobile surveillance could improve real-time reporting, data quality and decision-making, but implementation depends on frontline worker readiness and the strength of existing surveillance systems. This study assessed health-system and community readiness for AI-supported mobile malaria surveillance in Buea and Tiko Health Districts.

Methods: A cross-sectional study was conducted among 382 healthcare workers and community health workers involved in malaria surveillance and response in Buea and Tiko Health Districts. Data were collected using semi-structured questionnaires and analysed in SPSS version 27. Readiness domains were assessed using composite scores, and internal consistency was evaluated using Cronbach's alpha. Descriptive statistics, group comparison tests and multivariable linear regression were used to identify predictors of AI readiness, with statistical significance set at $p<0.05$.

Results: Overall readiness for AI-supported malaria surveillance was moderate, characterized by high psychological readiness, moderate human resource readiness and low technical readiness. Only 41 (10.7%) respondents reported reliable internet connectivity, and 133 (34.8%) routinely used digital tools for malaria reporting. Technical readiness was significantly higher in Buea than Tiko (1.80±0.75 vs. 1.69±0.62; $p=0.002$), while psychological readiness and willingness to adopt AI-supported surveillance were higher in Tiko than Buea (4.02±0.67 vs. 3.78±0.81; $p=0.002$). The leading barriers were poor internet connectivity (96.9%), irregular electricity supply (92.4%) and lack of training (86.4%). In adjusted analysis, mobile network availability ($\beta=0.330$, $p<0.001$) and electricity reliability ($\beta=0.273$, $p<0.001$) were the strongest predictors of AI readiness.

Conclusion: Frontline malaria surveillance actors in Buea and Tiko are willing to adopt AI-supported mobile tools, but weak digital infrastructure limits implementation readiness. Successful deployment will require reliable connectivity, stable electricity, device access, practical training and district-level technical support.

Keywords

Malaria surveillance; Artificial intelligence; Mobile health; AI readiness; Community health workers;

365: Dead Animal Meat Consumption And Vaccination Barriers Drive Recurrent Anthrax In Kanungu District, Uganda: Implications For One Health Prevention

JUSTINE WOBUSOBOZI

Uganda National Institute of Public Health, Kampala, Uganda

Background: Anthrax is a priority zoonotic disease in Uganda. Despite health education on risks of consuming dead animal meat, cattle corridor communities including Kanungu still experience repeated outbreaks linked to this practice. We assessed knowledge, attitudes, and practices (KAP) regarding anthrax and factors associated with poor knowledge, negative attitudes, and risky practices in Kanungu District.

Methods: We conducted a mixed-methods study in 7 previously affected sub-counties of Kanungu District from 4-12 March, 2026. Structured questionnaires were administered to 222 systematically-sampled respondents aged ≥ 18 years on anthrax KAP and livestock loss. In-depth interviews were conducted with previous anthrax case-patients and persons with sudden animal deaths until saturation. Knowledge (8 items), attitudes (4 items), and practices (4 items) were scored using modified Bloom's cut-offs (good ≥80%, moderate 60–79%, poor <60%). Multivariable logistic regression estimated aORs for factors associated with poor knowledge, negative attitudes, and risky practices. Qualitative data were analyzed thematically.

Results: Among 222 respondents [120 (54%) male; mean age 45 ±16.2 years], 62(28%) had good knowledge, 81(37%) moderate, and 79(36%)poor. For attitudes, 168 (76%) had good scores and 84 (38%) had good practices. Crop farming only was associated with poor knowledge (aOR=2.5, 95%CI:1.1–5.7) and risky practices (aOR=2.9, 95%CI:1.1–7.4). Lack of previous animal vaccination was associated with negative attitudes (aOR=3.1, 95%CI:1.3–7.4) and risky practices (aOR=4.1, 95%CI:1.6–10.0). Perceived high vaccination cost was associated with risky practices (aOR=3.5, 95%CI:1.4–8.6). Qualitative data showed cost and limited access to vaccines and veterinary services hindered vaccination, while poverty and scarce meat protein drove consumption of dead animal meat despite known risks.

Conclusions: Knowledge was moderate, attitudes were positive, but preventive practices were poor. Improving access to affordable livestock vaccination, carcass compensation for safe disposal and context-specific risk communication may reduce recurrent anthrax transmission in Kanungu District.

Keywords

Keywords: Anthrax, knowledge-attitudes-practices, zoonoses, Kanungu District, Uganda

366: Evaluation Of Schistosomiasis Surveillance System From 2020 To 2024 In Krachi West Municipality, Oti Region, Ghana

RICHARD NUNYUIETO[1,2], George Akowuah[1], Victor Ahiaba[2], Samuel Dapaa[1], Rita Agyekumwah Asante[1], Magdalene Akosua Odikro[1], Joseph Asamoah Frimpong[1], Samuel Oko Sackey[1]

[1]Ghana Field Epidemiology and Laboratory Training Programme, Accra, Ghana. [2]Krachi West Municipal Health Directorate, Ghana Health Directorate, Kete Krachi, Ghana

Background: Schistosomiasis is a public health concern in Ghana with 10.56% prevalence in riverine districts. This evaluation assessed whether the schistosomiasis surveillance system is achieving its objectives, examined the system's attributes and usefulness in Krachi West municipality.

Methods: A descriptive cross-sectional study was conducted in Krachi West Municipality using both quantitative and qualitative methods. Data was collected through interviews, record review and observations using semi-structured questionnaires in May 2025. The updated Centre for Disease Control and Prevention (CDC) guidelines for public health surveillance system evaluation were used to assess simplicity, flexibility, data quality, timeliness, sensitivity, predictive value positive (PVP), acceptability, stability, representativeness and usefulness. Data was analyzed using Microsoft Excel to summarize quantitative data into frequencies and proportions and presented in charts and tables while content analysis was used for qualitative data.

Results: From 2020 to 2024, 128 cases were detected without laboratory confirmation. Case definition, simple registers and forms were used in the system. The reporting forms are adaptable, though the guidelines did not change. Data completeness was 27% (82/300). Only one facility reports data but with inconsistencies. Symptoms are reported to health facilities usually after 1 week of onset. Sensitivity was 3.3% (128/3904) and predictive value Positive (PVP) is zero. There was no reporting feedback, or trend analysis and surveillance data were not used for public health action.

Conclusion: The surveillance system in Krachi West did not meet its objectives. Although the system showed strength in simplicity and flexibility, it was significantly hindered by poor data quality, low acceptability, low sensitivity. The lack of data utilization has limited the system's ability to inform decision-making and control interventions. Limitations such as poor case detection, poor data quality and lack of response need improvement by strengthening diagnostic capacity, reporting and stakeholders' engagement for system's effectiveness.

Keywords

Surveillance System, Schistosomiasis, Evaluation, Attributes, Krachi West Municipality

367: Evaluation Of The Under-Five Malnutrition Surveillance System In The Weija-Gbawe Municipality, Greater Accra Region, 2024

ALICE SALLAR ADAMS[1], Belinda Nsiah-Opoku[1], Paul Dsane-Aidoo[2], Joseph Asamoah Frimpong[1], Ernest Kenu[1]

[1]Ghana Field Epidemiology and Laboratory Training Programme, Accra, Ghana. [2]United Nations Children;s Fund, Accra, Ghana

Background: Despite significant progress over the past 20 years, childhood malnutrition rates remain high in Ghana, with stunting at 17.4% and underweight at 12.3%. The under-five malnutrition surveillance system exists to identify malnutrition cases, link to care, provide counselling and reduce malnutrition prevalence. In the Weija-Gbawe Municipality, the surveillance system had never been evaluated. We evaluated the system to describe its attributes and determine whether it is useful and meeting its objectives.

Methods: We conducted a cross-sectional study using CDC's updated guidelines for surveillance system evaluation. We purposively sampled and interviewed 16 key health actors, conducted observations of routine activities, and reviewed case-based forms and DHIMS 2 records from 2019 –2023. We summarised quantitative data as counts and proportions, and qualitative data thematically.

Results: From 2019 to 2023, the system detected 19,562 cases of stunting and underweight, with cases declining from 5,264 to 1,549. All cases (100%) were linked to care. All nutrition officers interviewed at the sub-district level (6/6) stated case definitions correctly. Of 50 case-based forms reviewed, 94.0% (47/50) were complete. Monthly reporting timeliness in DHIMS-2 was 100%. While all 3 public facilities reported cases, none of the private facilities (82.6%, 19/23) reported any. Case reports covered all age categories, but data was not sex disaggregated. The system integrates with infectious disease surveillance systems and child welfare clinics. There were periodic shortages of nutrient supplements and funding for home visits. System data informed nutrition education and health promotion drives.

Conclusion: The system is useful and meeting its objectives. It is simple, timely and sensitive, but only partially acceptable, representative and stable. We recommend that the health directorate builds capacities of private facilities to identify and report cases, and the government dedicates funding for nutrient supplements and home visits. We conducted nutrition counselling for caregivers at child welfare clinics.

Keywords

children under-five, malnutrition, surveillance system evaluation

368: Dietary Patterns And Their Determinants Among Undergraduate Students At The Kwame Nkrumah University Of Science And Technology

REGINA AMA ELINAM PAPAH, Daniel Boateng, Johnpaul Amenu, Joseph Kwasi Brenyah, Ebenezer Dassah

Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Background: University students are often exposed to new dietary influences arising from their food environment, personal preferences, and increasing independence from parental oversight. This study identified dietary patterns among undergraduate students at Kwame Nkrumah University of Science and Technology, assessed factors influencing food choices, and examined the associations of dietary patterns with food choice factors and sociodemographic characteristics.

Methods: A cross-sectional study was conducted among 438 undergraduate students selected through proportionate stratified sampling across the university's colleges. Data were collected through a structured questionnaire that captured sociodemographic characteristics, dietary intake using a food frequency questionnaire, and factors influencing food choices. Principal component analysis was used to derive dietary patterns, and linear regression was performed to assess associations between dietary patterns, food choice factors, and sociodemographic characteristics at a 5% significance level. After excluding incomplete responses and non-responses, 342 participants were included in the final analysis.

Results: Four dietary patterns emerged: Mixed Diet and Beverage, Sugary and Refined Carbohydrate, Protein- and Fat-Rich, and Traditional. Adherence to the Mixed Diet and Beverage pattern was significantly associated with monthly income, religion, weight control, and food price. Gender, monthly income, and preference for natural content were associated with the Sugary and Refined Carbohydrate pattern. Students aged 21–25 years were more likely to follow the Protein- and Fat-Rich pattern ($p < 0.05$). No significant associations were observed for the Traditional pattern. Among food choice determinants, price was rated the most influential (mean = 3.18, S.E. = 0.046), whereas religion had the least influence (mean = 2.28, S.E. = 0.064).

Conclusion: Dietary patterns among undergraduate students were significantly associated with sociodemographic characteristics and food choice factors. The prominence of patterns characterized by sugary, refined, and energy-dense foods raises potential nutritional concerns and underscores the need for interventions that promote healthier dietary choices among university students.

Keywords

Dietary patterns, undergraduate students, food choices, sociodemographic characteristics

370: Insights Into Knowledge, Outcomes And Challenges For Sickle Cell Individuals Living With Musculoskeletal Disorders At The Chantal Biya Foundation Yaounde, Cameroon

ASHU ELISABETH TAMBE

Cameroon innovative health network, Cameroon, Buea, Cameroon

Background: Sickle Cell Disease (SCD) is a major public health challenge in sub-Saharan Africa. Musculoskeletal disorders (MSDs), including avascular necrosis, osteomyelitis, and chronic joint pain, are common complications that contribute to disability, recurrent hospitalizations, and poor quality of life. However, evidence on patient knowledge, clinical outcomes, and healthcare challenges associated with MSDs among individuals living with SCD in Cameroon remains limited.

Methods: A descriptive cross-sectional and retrospective hospital-based study was conducted among 80 individuals living with SCD between September 2024 and June 2025. Participants were selected through systematic sampling. Data were collected using structured questionnaires and medical record reviews. Data were analyzed using SPSS version 25 and Epi Info version 7. Associations between knowledge and patient outcomes were assessed using Pearson Chi-square tests at a significance level of $p < 0.05$.

Results: Approximately 60% of participants demonstrated moderate knowledge of musculoskeletal complications associated with SCD. Despite this, 70% experienced vaso-occlusive crises and 45% required hospitalization within the previous year. Financial constraints (60%), limited access to medications (55%), and inadequate psychosocial support (48%) were identified as major barriers to effective disease management. No statistically significant association was found between knowledge level and functional status ($p = 0.911$), concern score ($p = 0.862$), or impact rating score ($p = 0.705$).

Conclusion: Musculoskeletal disorders remain a significant source of morbidity among individuals living with SCD. Persistent socioeconomic and healthcare barriers continue to adversely affect patient outcomes despite moderate awareness levels. Addressing financial, treatment access, and psychosocial support gaps may improve health outcomes and quality of life among affected individuals.

Keywords

Sickle Cell Disease, Musculoskeletal Disorders, Clinical Outcomes, Healthcare Challenges, Cameroon.

371: Evaluation Of The Yellow Fever Surveillance System In The Ho Municipality, Volta Region, Ghana, 2026

ISAAC KONADU[1], Ebenezer Kofi Mensah[2], Donne Ameme[1]

[1]Field Epidemiology and Laboratory Training Programme, School of Public Health, University of Ghana, Legon, Accra, Ghana. [2]Public Health Laboratory, Sekondi, Ghana

Background: Yellow fever remains a public health threat in many parts of sub-Saharan Africa, despite the availability of vaccines for effective prevention. Ghana is listed as a yellow fever endemic country and has experienced outbreaks in recent years. Periodic evaluation of surveillance systems is essential to assess performance and identify gaps for improvement. We assessed the performance of the yellow fever surveillance system in the Ho Municipality, Volta Region, from 2021 to 2025.

Methods: We reviewed 2021-2025 yellow fever surveillance data from the Ho Municipality and Health Directorate between April and June 2026. Twenty stakeholders were interviewed using a semi-structured questionnaire. The Centers for Disease Control and Prevention's Updated Guidelines for Evaluating Public Health Surveillance Systems, 2001 were used to assess the system's attributes and usefulness. We performed univariate analysis and results expressed as frequencies and percentages. Data was entered, cleaned, and analyzed using Microsoft Excel.

Results: Eleven suspected Yellow fever cases were reported during the evaluation period. All suspected cases were investigated, and samples collected for laboratory confirmation; however, no confirmed yellow fever case or outbreak was recorded. The system achieved a score of 75% in meeting its objectives and 77% for usefulness. Attribute scores were simplicity (100%), representativeness (100%), acceptability (98%), stability (83%), flexibility (81%), data quality (80%), and timeliness (75%). The system demonstrated prompt reporting, with all suspected cases notified within 24 hours of detection. Laboratory feedback was available for six of the eleven (54.5%) suspected cases reviewed. Stakeholders identified the absence of a dedicated yellow fever surveillance budget, occasional staffing constraints, and poor record archiving as major challenges.

Conclusion: The Yellow Fever Surveillance System in the Ho Municipality was found to be functional and useful. Addressing identified gaps in laboratory feedback, record management, and resource allocation could strengthen surveillance performance and support early outbreak detection.

Keywords

Yellow Fever, Surveillance, Ho Municipality, Attributes

372: Assessing The Feasibility, Acceptability, And Usability Of Incorporating Neurodevelopmental Assessment Into Routine Child Welfare Clinics In The Kintampo North Municipality And Kintampo South District Of Ghana

FRANCIS AGBOKEY[1,2], Kenneth Ayuurebobi Ae-Ngibise[1], Richard Joshua Tetteh[1], Sule Awuni[1], Ferguson Saapiire[2], Abdul-Rashid Yelebepouri[1], Godfred Nsowine Asayah[1], Kwaku Poku Asante[1], Frank Ekow Baiden[2]

[1]Kintampo Health Research Centre, Kintampo, Bono East Region, Ghana. [2]Fred N. Binka School of Public Health, University of Health and Allied Science (FNBSPH, UHAS), Hohoe, Ghana

Background: Neurodevelopmental disorders are a leading cause of childhood disability, yet early-detection systems remain weak across sub-Saharan Africa. Child welfare clinics (CWCs) offer a strategic platform for developmental surveillance, but their use depends on whether providers find such assessment feasible, acceptable, and usable. This study evaluated integrating neurodevelopmental assessment into routine CWCs in the Kintampo North Municipality and Kintampo South District of Ghana.

Methods: A single-arm, pre–post implementation study was conducted with healthcare providers across CHPS compounds, health centres, and district hospitals in the two areas. The intervention comprised provider training and introduction of the Ages and Stages Questionnaire (ASQ-3) for routine screening. Endline assessment was conducted 8 weeks after training. Of 102 providers enrolled at baseline, 87 (85.3%) were retained at endline, giving 87 matched pairs. Hence the analysis was restricted to complete match pairs. Knowledge, acceptability, practices, feasibility, and usability were measured at both time points using structured, validated multi-item scales (Cronbach's a 0.72–0.90). Paired comparisons used McNemar's test for binary indicators and paired-samples t-tests for composite scores, with two-sided significance set at a = 0.05.

Results: All constructs improved significantly. Mean knowledge rose from 4.55 to 6.95 (+2.40; $p<0.001$) and acceptability from 3.14 to 3.68 (+0.54; $p<0.001$). Feasibility increased from 2.70 to 3.65 and usability from 2.66 to 3.59 (both $p<0.001$). Practice gains were largest (1.71 to 4.98; +3.26; $p<0.001$): providers conducting assessment rose from 33.3% to 77.0% and use of standardised tools from 14.9% to 67.8%.

Conclusion and Public Health Implications: Incorporating neurodevelopmental assessment into routine CWCs was feasible, acceptable, and usable, with marked gains in knowledge and screening practice. Findings suggest that structured training and ASQ-3 introduction may improve provider knowledge and screening practices, although controlled studies are needed to confirm intervention effects.

Keywords

neurodevelopmental assessment, child welfare clinics, developmental screening, implementation feasibility, Ghana

384: Strengthening Disease Surveillance Through The District Health Information Software 2 (DHIS2): Health Workers' Knowledge, Practices And Data Quality In The Tiko Health District, Cameroon

FOMIN EFUETNGWA QUINTA[1,2], Nyassa Raymond Babila[1], Tchamba Getrude[1]

[1]University of Buea, Buea, Cameroon. [2]HealthTech For All Foundation, Buea, Cameroon

Background: Reliable health information is essential for effective disease surveillance, outbreak response, and evidence-based public health decision-making. In Cameroon, the District Health Information Software 2 (DHIS2) serves as the national platform for collecting, reporting, and managing health data. Despite its widespread use, challenges related to user capacity, reporting practices, and data quality continue to affect its effectiveness. This study assessed health workers' knowledge and practices regarding DHIS2 and examined their association with routine health information quality in the Tiko Health District of Cameroon.

Methods: A facility-based analytical cross-sectional study was conducted from September 2025 to June 2026 among 387 health workers involved in routine health information management across 16 health facilities. Data were collected using a structured questionnaire assessing knowledge and practices related to DHIS2 use. Routine health information quality was evaluated using standard indicators of completeness, timeliness, and accuracy. Data were analyzed using SPSS version 27. Descriptive statistics summarized participant characteristics, while Chi-square tests and logistic regression analyses identified factors associated with routine health information quality.

Results: The mean age of participants was 35.2 ± 10.2 years. Overall, 287 (74.4%) demonstrated good knowledge of DHIS2, while 303 (78.3%) reported appropriate utilization practices. Good routine health information quality was observed in 14(87.5%) of facilities, with completeness, timeliness, and accuracy levels of 92%, 94%, and 95%, respectively. Health workers with good knowledge of DHIS2 were more likely to demonstrate appropriate reporting and data management practices than those with poor knowledge (AOR=2.84; 95% CI: 1.71–4.72; p<0.001).

Conclusion: Improved knowledge and practices with DHIS2 are associated with better routine health information quality. Strengthening training, digital infrastructure, and data-use practices could enhance disease surveillance and support evidence-based public health decision-making.

Keywords

Disease Surveillance; Data Quality; Health Information Management; Digital Health; Cameroon

385: Epidemiological Characterization Of HIV Testing And Case Detection In Greater Accra Region, Ghana, 2020–2024

EPHREM EIBINSE AKUNZULE[1,2], Irene Amedzro[3]

[1]Ghana field Epidemiology and Laboratory Trining Program (GFELTP), Accra, Ghana. [2]Ghana Poultry Network, Accra, Ghana. [3]Public Health Laboratory,Sekondii-Takoradi, Sekondi-Takoradi, Ghana

Background: HIV remains a public health concern in Ghana. This study described HIV testing and case detection trends by person, place and time in the Greater Accra Region from 2020 to 2024.

Methods: A retrospective descriptive cross-sectional analysis of DHIMS2 surveillance data was conducted for all 29 districts from January 2020 to December 2024. Data were checked for completeness and consistency and analysed using Microsoft Excel.

Results: Between 2020 and 2024, 746,163 people were tested for HIV, yielding 47,742 positive results. Of these, 41,293 (86.5%) were newly diagnosed cases and 6,449 (13.5%) were previously known positives. Females formed 60.9% of those tested and 62.7% of new diagnoses. Persons aged 25–49 years accounted for 66.2% of new diagnoses. Overall HIV positivity declined from 8.1% in 2020 to 5.2% in 2024, while new diagnosis yield decreased from 7.2% to 4.3%. Testing coverage increased from 2.3% to 3.1%. The new HIV diagnosis rate declined from 163.0 to 134.6 per 100,000 population. Ashaiman contributed 7.4% of all new diagnoses and recorded a sharp increase from 379 cases in 2020 to 1,217 in 2021.

Conclusion and Recommendations: HIV is still an important public health problem in Greater Accra. The burden differs by district, year, sex and age. Testing increased while positivity reduced, showing good progress. However, testing coverage remains low. HIV testing and prevention should target districts and groups with higher positivity rates. Ashaiman needs further investigation because of its high yield. Index testing should be strengthened among adults aged 40 years and above. PMTCT services should be reviewed to reduce HIV infections among children, and male testing outreach should be sustained.

Keywords

HIV surveillance, DHIMS2, Greater Accra Region, HIV testing, positivity rate, Ghana.

386: Maternal Mortality In The Volta Region Of Ghana: A Five-Year Epidemiological Assessment, 2020-2024.

LOIS EDINAM SENOU, Joyce Berkumwin Der

University of Health and Allied Sciences, Hohoe, Ghana

Background: Maternal mortality remains a major public health challenge globally despite sustained efforts to improve maternal health. According to the World Health Organization, approximately 260,000 women died from pregnancy and childbirth-related complications in 2023 with most occurring in Sub Saharan Africa. Data collected through the maternal mortality surveillance system provides an opportunity to understand the distribution and determinants of maternal deaths. This study analysed maternal mortality surveillance data in the Volta Region of Ghana from 2020 to 2024 to describe the epidemiological pattern and inform public health action.

Methods: A retrospective descriptive cross-sectional study was conducted using maternal mortality data extracted from the District Health Information Management System 2 (DHIMS2). Data was analysed using Microsoft Excel and ArcMap. Frequencies, percentages, graphs, and maps were generated to describe the distribution of maternal deaths by person, time, and place.

Results: A total of 186 maternal deaths were recorded in the Volta Region between 2020 and 2024. Women aged 30–39 years accounted for the highest proportion of maternal deaths. Geographically, Ho Municipality recorded nearly half of all maternal deaths (48.92%), followed by North Tongu (10.22%) and Kpando (9.68%). Maternal mortality trends fluctuated over the five-year period, with the lowest number of deaths and maternal mortality ratio recorded in 2022. Despite some reductions, the increase in maternal mortality ratio to 103.66 per 100,000 live births in 2024 indicates that maternal mortality remains a significant public health challenge in the region.

Conclusion and Public Health Implications: Maternal mortality in the Volta Region was highest among women aged 30–39 years and was concentrated in Ho Municipality. Maternal mortality trends fluctuated over the five-year period, with the highest burden recorded in 2024 and the lowest in 2022. These findings highlight the importance of continued maternal mortality surveillance to guide targeted public health interventions.

Keywords

Maternal mortality, surveillance, Volta Region, Ghana

388: She Knew The Dangers, Yet Delayed Unravelling A Maternal Death Case From Secondary Postpartum Hemorrhage Involving A Community Health Volunteer In The Jirapa Municipality

FLORENCE DARIMAANI

GHS, Jirapa, Ghana

FLORENCE DARIMAANI[1], George Akowuah[2], Magdalene A. Odikro[2], Samuel O. Sackey[2], Kaaih Edward[3]

1Jirapa Municipal Health Directorate, Ghana Health Service, Jirapa, Upper West Region, Ghana

2Ghana Field Epidemiology and Laboratory Training Programme, Accra, Ghana

Email: darimaanif@gmail.com

Background: Maternal mortality remains an ongoing public health challenge in Ghana, with the national average remaining above the Sustainable Development Goal target of fewer than 70 deaths per 100,000 live births. The Maternal Deaths Surveillance and Response (MDSR) system is designed to audit these events to uncover systemic and community gaps. This case investigation reviews the death of a 35-year-old multipara and a community health volunteer to determine the contributing factors of her death.

Methods: The descriptive case investigation was conducted between 3rd - 20th May 2026 in the Jirapa Municipality. Data were gathered through a comprehensive desk review of the deceased's maternal health record booklet and clinical folders at Nambeg CHPS compound and St. Joseph's Hospital. We mapped her care from her first antenatal care (ANC) visit on the 29th August 2024 to her death on the 22nd April 2025. In-depth interviews were conducted with the doctor and midwives. A focus group discussion was held with family members.

Results: The case was registered early for ANC at 7 weeks' gestation and completed 8 uneventful visits. Her initial hemoglobin was 12.4 g/dL, and she maintained it throughout her visit, receiving optimal prophylactic care. Following an emergency caesarean section for anhydramnios, she was discharged home safely. However, she experienced secondary postpartum bleeding at home for 3 days without seeking care. Upon late presentation at St. Joseph's Hospital, emergency intervention failed to stop the haemorrhage.

Conclusion: The direct maternal death resulted from hypovolemic shock secondary to postpartum hemorrhage and severe anaemia.

Keywords

Maternal mortality, Postpartum haemorrhage, hypovolemic shock, jirapa referral dela, haemorrhage, defuve

392: Dietary Knowledge, Dietary Patterns, Food Security And The Double Burden Of Malnutrition And Anaemia Among Migrant Female Head Porters (Kayayei) In Accra, Ghana: A Cross Sectional Study

CARMILLA SHALTEL NAA ANGERLEY MENSAH

Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Background: Migrant female head porters, known as Kayayei, carry goods for a fee in Ghana's urban markets and form a young, mobile and economically insecure workforce. Their diet quality and nutritional status remain poorly understood. This study examined their dietary knowledge, dietary patterns and food security, and how these related to malnutrition and anaemia.

Methods: This cross-sectional study enrolled 415 Kayayei at the Agbogbloshie and Makola markets in Accra, selected by simple random sampling, with the sample size derived from the Taro Yamane formula. Dietary knowledge was assessed with a revised General Nutrition Knowledge Questionnaire, dietary intake with a 24-hour recall and a food frequency questionnaire, and food security with the Food Insecurity Experience Scale. Body mass index was calculated from measured height and weight, and haemoglobin from a portable haemoglobinometer. Dietary patterns were derived by principal component analysis, and associations were tested using chi-square tests and binary logistic regression at a significance level of 0.05.

Results: Most participants were aged 18 to 24 years (59.3%) and had no formal education (52.0%). Intake fell below the recommended allowance for most nutrients, including vitamin C (94.2%), iron (92.3%) and protein (82.2%). Almost 95% were moderately or severely food insecure. A double burden of malnutrition was evident: 12.3% were underweight and 17.4% overweight or obese, while anaemia affected 52.5%. Zinc intake below the recommended allowance was independently associated with higher odds of anaemia (adjusted odds ratio 2.70, 95% confidence interval 1.04 to 7.04).

Conclusion and Public Health Implications: Kayayei in Accra carry a hidden double burden of undernutrition and rising excess weight, compounded by widespread anaemia, near-universal food insecurity and poor diet quality. Responses should combine access to affordable nutrient-dense foods, practical nutrition education, and routine screening for anaemia and undernutrition.

Keywords

Kayayei; female head porters; food security; dietary patterns; anaemia; nutrition knowledge; Ghana

394: Drivers And Patterns Of Antibiotic Consumption In The Asante Akyem North District, Ghana: Implications For Antimicrobial Stewardship And Resistance Control

PATRICK NSOR AGASIYA[1,2,3], Jonathan Mawutor Gmanyami[1,2,3], Leslie Mawuli Aglanu[1,3], Wilm Quentin[4], John Humphrey Amuasi[1,2,5]

[1]Global Health and Infectious Diseases Research Group (GHID), Kumasi Center for Collaborative Research in Tropical Medicine (KCCR), Kumasi, Ghana. [2]School of Public Health, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Kumasi, Ghana. [3]Bernard Nocht Institute for Tropical Medicine (BNITM), Germany, Humberg, Germany. [4]Department of Health Care Management, Technische Universität Berlin, Germany, Berlin, Germany. [5]Bernard Nocht Institute for Tropical Medicine (BNITM), Germany, Humberg, Ghana

Background: Inappropriate antibiotic use remains a key driver of antimicrobial resistance, particularly in low- and middle-income countries, where consumption is high and regulation, weak. Ghana has adopted the WHO AWaRe classification to promote rational antibiotic use, yet district-level evidence on consumption patterns and prescribing practices remains limited. This study examined clinical presentations and antibiotic prescribing patterns across health facilities in the Asante Akyem North District, Ghana.

Methods: A multi-facility retrospective cross-sectional study was conducted across five health facilities in the district between January and December 2024. Mixed-effects logistic regression was used to identify factors associated with antibiotic prescribing practices. Analyses were performed in R, with statistical significance set at $p<0.05$.

Results: Of 175,633 patient encounters, 35,321 (20.1%) received at least one antibiotic. The median age was 33 years (IQR: 18–57), and 67.9% were female. Access-group antibiotics accounted for 50.01% of prescriptions, and Watch-group antibiotics for 46.99%, predominantly third-generation cephalosporins and fluoroquinolones; 2.98% were WHO non-recommended antibiotics. The most frequently prescribed antibiotics were amoxicillin-clavulanic acid (20.81%), cefuroxime (18.83%), and tetracycline (11.73%). Conjunctivitis (13.72%), urinary tract infection (9.52%), pneumonia (9.32%), were the leading indication. Health centers were less likely than hospitals to prescribe Watch-group over Access-group antibiotics (OR = 0.26, 95% CI: 0.22–0.30). Males had higher odds of receiving Watch-group antibiotics than females (aOR = 1.14, 95% CI: 1.04–1.25), while children had lower odds than adults (aOR = 0.22, 95% CI: 0.17–0.28; aOR = 0.30, 95% CI: 0.22–0.40).

Conclusion: Despite the predominance of Access-group antibiotics, the substantial use of Watch-group agents signals meaningful AMR risk in this setting. These findings underscore the need for strengthened antimicrobial stewardship and routine district-level surveillance of antibiotic consumption, anchored in the WHO AWaRe framework, to guide targeted interventions in Ghana's primary healthcare system.

Keywords

Antibiotics, antimicrobial resistance, consumption, AWaRe

395: Assessing The Factors Contributing To Low Measles Two (2) Coverage In The Ahafo Ano North Municipal, Ghana, 2026.

STEPHEN OSEI YEBOAH[1,2], Samuel Dapaah[2,3], Magdalene A. Odikro[2], Frederick Kwaku Ofori[4], Samuel Sackey[2], Martha A Frimpong[2]

[1]Ghana Health Service, Ahafo Ano North Municipal Health Directorate, Tepa, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Programme, School of Public Health, Legon, Accra, Accra, Ghana. [3]Ghana Health Service, Accra, Ghana. [4]Ghana Health Service, Ahafo Ano North Municipal Health Directorate, Accra, Ghana

Background: Despite the measles vaccine's proven effectiveness in reducing measles-related morbidity and mortality, the Ahafo Ano North Municipal in the Ashanti Region of Ghana has consistently failed to attain the national Measles-Rubella second dose (MR2) coverage target of 90%. Coverage declined from 89.5% in 2024 to 77.0% in 2025, heightening the risk of measles outbreaks and undermining childhood immunization protection across the municipality.

Objective: This study aimed to identify the root causes contributing to persistently low MR2 coverage in the Ahafo Ano North Municipal using fishbone (Ishikawa) analysis.

Methods: A qualitative brainstorming session was conducted on 5th May 2026 at the Betiako Health Centre with six participants, comprising three community health nurses and three clinicians. Identified causes were organized using a fishbone diagram into five thematic categories: Target Population, Community and Demand, Staffing, Logistics and Transport, and Health System and Service Delivery factors.

Results: Twenty-one contributing causes were identified. Key findings included staff shortages and high workloads, inadequate transport and vaccine carriers for outreach services, poor road networks, weak immunization register management, low caregiver awareness of MR2 importance, competing household activities, seasonal migration, and frequent movement of families between communities. The critical root cause identified was the absence of a robust defaulter identification, tracking, and follow-up system, which results in missed vaccination opportunities and failure to reach eligible children who default or migrate.

Conclusion: Low MR2 coverage in Ahafo Ano North Municipal is driven by a convergence of health system, logistical, community, and population-level factors. Establishing a standardized defaulter-tracking system, strengthening supervisory mechanisms, improving logistics forecasting, and intensifying community engagement are recommended as priority actions to reverse the decline in coverage.

Keywords

Problem analysis, root cause, report, vaccination, defaulter, fishbone analysis

396: Five-Year Trends In Hypertension Surveillance In The Hohoe Municipality, Volta Region, Ghana (2019–2024): Burden, Gaps, And Public Health Implications

DELALI SALLAH

University of Health and Allied Science, school of public health, Hohoe, Ghana

Background: Hypertension is the most common modifiable risk factor affecting cardiovascular disease, stroke and chronic kidney disease worldwide. It impacts more people in sub-Saharan Africa. In Ghana, surveillance data is rarely analyzed locally to guide public health action at this level. This study analyzes the (2019 -2024) hypertension surveillance data in Hohoe Municipality of Volta Region to know the trends, the high-risk population and the performance of the surveillance system.

The methods adopted were descriptive cross-sectional surveillance evaluation, where data retrieved from District Health Information Management System (DHIMS2) in the period of 2019-2024 were used. Data were analyzed in MS-Excel and plotted using ArcMap. Using the new guidelines for assessing public health surveillance systems, findings were disaggregated by person, place and time.

The outcome: There were a total of 16,492 new cases of hypertension throughout. Case counts increased from 1,684 (2023) to 2,878 (2024), with a 70.9% surge in 2024 driven by expansion to 14 active facilities from 5. Adults aged 50 years and older accounted for 68.3% of all cases. The distribution of cases also showed that 89.5% of the cases were detected in Hohoe Urban sub-district, while there were only 22 cases in the Agumatsa/Wli area across the period, indicating a critical detection gap. Facility participation improved from 25% (5/20) in 2019 to 70% (14/20) by 2024. The estimated annual detection is 6-7 % of the projected disease burden indicating an iceberg ratio of 13-14 undetected cases for every case detected.

Conclusion and Public Health implications: Burden of hypertension is increasing, and grossly under-detected in the Hohoe Municipality. Immediate scaling up of community-based screening in sub-districts that are not being screened. Ensuring data completeness in DHIMS2 and taking output from the surveillance explicitly for health planning is key to changing Ghana's hypertension trajectory.

Keywords

Keywords: Hypertension, Hohoe Municipality, Ghana, DHIMS2, epidemiological trends, sub-Saharan Africa

399: Trend Of Pneumonia In Children Under Five Years In Denkyembour District, Eastern Region, 2014-2023

AUGUSTINE DARKWA OPOKU[1,2], Florence Nzilanye Idrisah[1], Karikari Yaw Asamoah[1], Benjamin Kojo Safo Acquah[1], Daniel Derby[3], Ernest Kenu[1]

[1]Ghana Field Epidemiology and Laboratory Training Programme, School of Public Health, University of Ghana, Legon, Accra, Ghana. [2]Kwaebibirem Municipal Health Directorate, Ghana Health Service, Eastern Region, Kade, Ghana. [3]Denkyembour District Health Directorate, Ghana Health Service, Eastern Region, Akwatia, Ghana

Background: Pneumonia is prevalent in most African countries, particularly in Kenya, Uganda, Sudan, and Ethiopia, causing 14% of deaths in children under five. The burden persists, with only 60% of children having access to care and 39% being exclusively breastfed. Understanding the current burden and distribution is critical for public health interventions and child survival. This study determined the incidence, distribution, and trends of pneumonia among children under five years in the Denkyembour District.

Methods: A descriptive analysis of secondary data from the District Health Management Information System 2 (DHIMS 2) and Monthly Morbidity Returns in the Denkyembour district was conducted. We calculated proportions and incidence, developed epidemic curves, established cumulative sum (CUSUM 2) thresholds, and generated choropleth maps using QGIS software. Results were presented in tables, text, and charts.

Results: Of the 4,294 pneumonia cases, age group 1-4 years had the highest proportion (71.5%, 3072/4,294), with males constituting the majority 55.7% (2392/4,292). Lowest proportions of cases were reported in Apinamang (0.0%, 0/4,294), Boadua (0.1%, 3/4,294), and Topremang (0.2%, 10/4,294) sub-districts. The overall incidence was 243 cases per 10,000 children. Akwatia sub-district reported the highest incidence rate of 679 cases per 10,000 children. The annual incidence ranged 64 cases per 10,000 children in 2020 to 454 cases per 10,000 children in 2022. Multiple peaks were observed in 2015, 2016, 2018, 2019, 2021 and 2023, with periodic fluctuations.

Conclusion: The study highlighted the epidemiological patterns of pneumonia in the Denkyembour District over the past decade showed a high burden among children aged 1-4 years, predominantly in males. Spatial variations and lower cases across the three sub-districts need further investigation to identify potential surveillance gaps. The fluctuating temporal trends, emphasize the need for year-round surveillance. Public health efforts should target high-burdened age groups and sub-districts, while strengthening surveillance systems.

Keywords

Pneumonia, Children under five, Surveillance data, Denkyembour District

400: Mosquito-Borne Viral Diseases Risk In Military Settings In Ghana

SAMUEL ATSITSRE[1], IRENE OWUSU DONKOR[2], DANIEL MINGLE[1], Samuel Dadzie[2]

[1]37 Military Hospital, Accra, Ghana. [2]Noguchi Memorial Institute for Medical Research (NMIMR), Accra, Ghana

Background: Mosquito-borne viral diseases (MBVDs) remain a public health issue, with Africa being a hotspot due to favourable environmental conditions. Military personnel, due to their frequent internal and external operations, are at high risk of infection and transmission. These diseases, which form part of vector-borne diseases (VBDs), have historically posed significant threats to military operations by diminishing combat power and imposing physical, psychological, and economic burdens. The evolution of MBVDs continues to outpace progress in preventive measures, especially in resource-limited tropical settings. In Ghana, the risks of MDBVs are heightened by its proximity to West African countries with recent outbreaks of West Nile virus (WNV), Zika virus (ZIKV), and Chikungunya virus (CHIKV). However, there is a paucity of data on the distribution and transmission risks of MBDVs in military environments.

Methods: This entomological cross-sectional study evaluated MDBVs risks in two Ghanaian military barracks, Burma Camp and Teshie.

Results: 1,236 Culex and Aedes female adult mosquitoes were trapped with BG-Sentinel traps and identified using morphological and molecular methods. The presence of DENV, YFV, WNV, CHIKV, and ZIKV was determined in the mosquitoes using conventional PCR and real-time RT-PCR assays. While no viral pathogens were detected in the sampled mosquitoes, the presence of Aedes aegypti and Aedes albopictus, known vectors for MBVDs suggests a potential transmission risk.

Conclusion: These findings suggest the urgent need for wider surveillance on MBVDs and their vectors and targeted protective interventions among these populations in military settings in Ghana.

Keywords

entomological, Mosquito-borne, viral diseases, Military, mosquitoes, morphological and molecular methods,

401: Trends And Geographical Distribution Of Malaria Burden In Nasarawa State: A Five-Year Analysis Of Routine Surveillance Data, 2019-2023

IFEYINWA FRANCISCA MARTINS[1,2,3], Peter Christopher Ejim[3], Izzatu Yakubu Akwe[3], Peter Attah[3], Bisola Adebayo[4,1], Hashim Abdulmumin Bala[1,5], Gordon Igbodo[2]

[1]Nigerian Field Epidemiology and Laboratory Program (NFELTP), ABUJA, Nigeria. [2]Nigeria Centre for Disease Control, ABUJA, Nigeria. [3]Nasarawa State Ministry of Health, Lafia, Nigeria. [4]Lagos State University Teaching Hospital, Lagos, Nigeria, Lagos, Nigeria. [5]African Field Epidemiology Network (AFENET), Abuja, Nigeria, ABUJA, Nigeria

Background: Malaria remains a significant public health concern in Nasarawa State, Nigeria, contributing to morbidity and mortality. Despite ongoing control efforts, it continues to pose a substantial threat among vulnerable populations. Understanding temporal trends and the geographical distribution of malaria burden is essential for guiding targeted interventions and resource allocation. This study analyzed five-year routine malaria surveillance data to assess incidence patterns, testing rates, treatment rates, and identify high-burden geographical areas (local government areas, LGAs).

Methods: We conducted a retrospective descriptive study of using aggregated malaria surveillance data reported through the District Health Information System (DHIS2) across all 13 LGAs in Nasarawa State from 2019 to 2023. Key malaria surveillance indicators, including annual malaria incidence per 1,000 population, testing rate among febrile patients, test positivity rate (TPR), and treatment rate were analyzed. Trends were assessed to determine temporal patterns and geographical variation across LGAs.

Results: A total of 4,382,964 suspected cases and 3,095,195 confirmed malaria cases were reported over the five years. Malaria accounted for an average of 53% of all outpatient visits. Incidence fluctuated, peaking at 234 per 1,000 population in 2022 and lowest at 192 per 1,000 population in 2020. Wamba, Karu, and Nasarawa Eggon LGAs consistently recorded the highest incidence, with Wamba reaching 577 per 1,000 population in 2023. Testing rates remained high across the state (>97%), while TPR remained high at an average of 71%. Treatment coverage for uncomplicated malaria exceeded 90% annually.

Conclusion: Malaria burden in Nasarawa State remains high with demonstrated geographic disparities despite strong diagnostic and treatment performance. Persistently high incidence in specific LGAs highlights the need for localized, data-driven interventions. Sustaining high testing and treatment rates, strengthening surveillance, and targeted vector control strategies are essential to reduce malaria transmission and advance malaria elimination goals.

Keywords

Malaria, incidence, test positivity rate, DHIS2, surveillance, spatial distribution, Nigeria, Nasarawa State,

404: Solving The Mpox Mystery In Volta Region Of Ghana: Why A Neonate Tested Positive While Her Mother Tested Negative, 2025

SAMUEL ADOLF BOSOKA[1,2], Mary Opoku[2], Norbert Appiah Asimbalaam[2], Felix Bosonkui[3,2], Gameli Goka Kwesi[4,2], Fafali Thywill Wormade[4,2], Perpetual Asantewaa[5,2], Joseph Yaw Jerela[6,2], Amatus Nambagyiraa[1], Samuel Dapaa[2], Magdalene Akos Odikro[2], Joseph Asamoah Frimpong[2], Chrysantus Kubio[7,2]

[1]Disease Surveillance Department, Ghana Health Service, Accra, Ghana, Ho, Ghana. [2]Ghana Field Epidemiology and Laboratory Training Programme, Ghana, Accra, Ghana. [3]Environmental Health Directorate, Volta Region, Ho, Ghana. [4]Food and Drug Authority, Ho, Ghana. [5]veterinary Service Department, Ho, Ghana. [6]Disease Surveillance Unit, Volta Regional Health Directorate, Ghana Health Service, Ho, Ghana, Ho, Ghana. [7]Northern Regional Health Directorate, Tamle, Ghana

Background: Mpox is a zoonotic viral disease capable of human-to-human transmission. Neonatal cases are rare, and maternal infection is typically presumed when they occur. On 19 May 2025, the Volta Regional Health Directorate (VRHD) confirmed mpox in a neonate whose mother tested negative in the postpartum period. This serologically discordant case prompted immediate investigation.

Method: We conducted a descriptive outbreak investigation. A suspected case was defined as any person with fever and at least one of headache, lymphadenopathy, or muscle pain, followed by progressive rash between 29 April and 11 June 2025 in Volta Region. We interviewed case patients using a semi-structured questionnaire, reviewed medical records, and conducted active case search. Laboratory samples from the neonate and mother were analysed descriptively using STATA 17 and Microsoft Excel 2022.

Results: A 21-day-old female neonate whose mother underwent caesarean section on 14 May 2025 for elevated blood pressure was admitted to the Neonatal Intensive Care Unit for meconium aspiration syndrome. On postoperative day two, the mother developed a vesicular rash attributed to suspected varicella-zoster virus. She was discharged to isolate while the neonate remained hospitalized. Despite confirmed varicella exposure, Varicella Zoster Immunoglobulin was unavailable. The neonate was discharged on 19 May without prophylaxis. Neonate subsequently developed a widespread vesiculopustular rash and was readmitted on 31 May. Laboratory results confirmed mpox infection in neonate but were negative for mother. The mother had healed palmar lesions consistent with mpox. The neonate received antiviral therapy and was discharged in stable condition on 9 June.

Conclusion: This case highlights significant diagnostic challenges in distinguishing mpox from varicella in neonates and underscores the critical importance of clinical vigilance and improved diagnostic protocols. The VRHD should establish comprehensive training programs for healthcare professionals on mpox recognition and differentiation from varicella to enable early case detection and appropriate management.

Keywords

Mpox, neonate, varicella zoster, nosocomial transmission, infection prevention, outbreak investigation, Ghana

409: Association Between Discriminatory Attitude Towards People Living With HIV/AIDS And HIV Testing Behaviour Among Women Of Reproductive Age In The Gambia: Analysis Of The 2019–20 Gambia Demographic Health Survey

KELVIN THOMAS[1,2], Manjally Ndow[1], Kabiru Abubakar[1], Amie Conteh[1,2], Lamin Makalo[1,2], Zelalem T. Haile[3]

[1]University of the Gambia, Banjul, Gambia. [2]Edward Francis Small Teaching Hospital, Banjul, Gambia. [3]Ohio University, Ohio, United States

Background: HIV remains a major public health concern globally, with women of reproductive age being particularly vulnerable. Despite the importance of early diagnosis, HIV testing uptake remains suboptimal in this population.

Methods: The Gambia Demographic and Health Survey (GDHS), 2019-20 women data was used to obtain HIV testing. Analysis employed weighted descriptive, bivariate and multivariable logistic regression analyses were conducted, adjusting for potential confounders.

Results: The findings showed that 58.8% of women had been tested for HIV, while 78.7% expressed discriminatory attitudes toward PLHIV. Women with discriminatory attitudes (aOR=0.53, 95% CI: 0.44-0.64) have lower odds of HIV testing compared with those without such attitudes. Other factors associated with lower odds of HIV testing included having no formal education (aOR=0.61, 95% CI: 0.52-0.71), being single (aOR=0.39, 95% CI: 0.23-0.66), limited comprehensive HIV knowledge (aOR=0.63, 95% CI: 0.53-0.75) and lower media exposure (aOR=0.74, 95% CI: 0.59 -0.93). Conversely, women aged 20–24 years (aOR=1.17 (1.02-1.34) have higher odds of HIV testing uptake than older women.

Conclusion: Discrimination against PLHIV, age, education, marital status, comprehensive knowledge on HIV and media exposure were significant predictors for HIV testing. Interventions aimed at reducing HIV-related stigma, improving HIV knowledge, enhancing educational opportunities, and increasing access to health information through media may help improve HIV testing uptake.

Keywords

Discriminatory attitude, HIV testing, women of reproductive age, Gambia

410: Socioeconomic Inequalities In The Adequacy Of Antenatal Care Utilization In The Gambia

MARIAM JAW[1,2], Ibrahim Kayode Suleiman[1], Abdoulie Nanko[1], Lydia Ngozi Chukwu[1], Zelalem Haile[3]

[1]University of The Gambia, Banjul, Gambia. [2]Edward Francis Small Teaching Hospital, Banjul, Gambia. [3]Ohio University, Ohio, United States

Background: Adequate antenatal care (ANC) is critical for preventing pregnancy-related complications and improving maternal and neonatal health outcomes. Although ANC coverage is generally high in many low- and middle-income countries, disparities in adequacy of care remain a concern. Evidence on socioeconomic inequalities in adequate ANC utilization based on the 2016 World Health Organization (WHO) recommendation is limited in The Gambia. This study examined socioeconomic disparities in adequate ANC among women of reproductive age.

Methods: We conducted a cross-sectional analysis using data from the 2019–2020 Gambia Demographic and Health Survey (GDHS) among women aged 15-49 years who had a live birth. Women aged 15–49 years with live births from 2018 to 2020 (n = 3,578). Adequate ANC was defined as a composite measure comprising initiation of ANC in the first trimester, at least 8 ANC contacts, and receipt of blood pressure measurements, blood tests, and urine tests. Socioeconomic predictors included maternal education, household wealth, employment status, and place of residence. Covariates included maternal age, parity, marital status, sex of household head, access to care, and pregnancy intention. Weighted descriptive statistics, chi-square tests, and multivariable logistic regression analyses were performed.

Results: Overall, only 4.0% of women received adequate ANC based on WHO recommendations. In the multivariable model, none of the socioeconomic factors were significantly associated with adequate ANC. However, women aged 35–49 years (AOR = 2.41; 95% CI: 1.08–5.39) and primigravida women (AOR = 2.86; 95% CI: 1.44–5.70) had higher odds of receiving adequate ANC.

Conclusion: ANC utilization, in line with WHO recommendations, was extremely low in The Gambia. Despite the absence of significant socioeconomic inequalities, low overall coverage highlights important gaps in maternal health service utilization. Interventions targeting younger and multiparous women may improve adequate ANC uptake and maternal and neonatal health outcomes.

Keywords

Adequate antenatal care; socioeconomic inequalities; women of reproductive age; The Gambia

411: Association Between Exposure To Family Planning Messages And Modern Contraceptive Utilisation Among Women In The Gambia.

ISATOU DAMPHA[1], Mariama A Jallow[1], Buba Bah[1], Ibrahim Umaru Fewudu[1,2], Professor Zelalem Haile[3]

[1]University of The Gambia, Banjul, Gambia. [2]Maryam Abacha America University, Abuja, Nigeria. [3]Ohio University, Athens, United States

Background: Modern contraceptive use is an effective strategy for preventing unintended pregnancies and improving maternal and child health outcomes. Despite widespread awareness of family planning methods, modern contraceptive utilisation remains low in The Gambia. Exposure to family planning (FP) messages through mass media and other communication channels may increase awareness and promote contraceptive uptake. This study examined the association between exposure to family planning messages and modern contraceptive utilisation among women of reproductive age in The Gambia.

Methods: We conducted a cross-sectional analysis of data from the 2019–2020 Gambia Demographic and Health Survey (GDHS). The outcome of interest was the current use of a modern contraceptive method (yes/no). The primary exposure was to family planning messages through media and other sources (no exposure, media only, other sources only, both media and other sources). Weighted descriptive statistics, Rao-Scott Chi-square tests, and multivariable logistic regression analyses were performed.

Results: Overall, approximately 18% of women reported using a modern contraceptive method. In the multivariable model, compared with women with no exposure to family planning messages, those exposed to interpersonal and community-based sources had higher odds of modern contraceptive use (aOR = 1.63, 95% CI: 1.32–2.01). Similarly, women exposed to both media and other communication channels had higher odds of modern contraceptive use (aOR = 1.67, 95% CI: 1.28–2.17).

Conclusion: Exposure to family planning messages was significantly associated with modern contraceptive utilisation among women of reproductive age in The Gambia. Strengthening the dissemination of accurate and culturally appropriate family planning information through multiple communication channels may help improve contraceptive uptake and support reproductive health outcomes.

Keywords

Family planning messages; Modern contraceptive utilisation; Reproductive-age women; The Gambia.

412: Socioeconomic Inequalities and Drivers of HIV Testing Uptake Among Women in Ghana: A Fairlie Decomposition Analysis of the 2022 GDHS

KHADIJATU ADISS YUSIF[1], 2. Samuel Antwi[2], 3. Morrison Asiamah[2], 4. Augusta Oppong[2], 5. Ethel Henyo[2], Yvonne Naa Maku Nartey[2], 7. Ramatu Adamu[2], 8. Eric Koka[3]

[1]WHO/TDR Implementation Research Leadership Programme, School of Public Health, University of Ghana, Accra, Ghana. [2]University of Ghana, Accra, Ghana. [3]University of Cape Coast, Cape Coast, Ghana

Background: HIV testing is the critical entry point to the HIV care continuum, enabling early diagnosis, timely initiation of treatment, and prevention of onward transmission. Despite expanded access in Ghana, socioeconomic inequalities persist, with disadvantaged women less likely to undergo testing. Quantifying the drivers of these disparities is essential for designing equity-focused interventions.

Methods: This study analysed nationally representative data from the 2022 Ghana Demographic and Health Survey (GDHS), comprising 15,014 women aged 15–49 years. Weighted descriptive statistics were used to estimate the prevalence of HIV testing uptake. Multilevel mixed-effects logistic regression models identified determinants of testing, while the Fairlie decomposition method partitioned socioeconomic inequality into explained and unexplained components. A Lorenz curve was employed to graphically assess inequality across wealth quintiles.

Results: Overall, 57.4% of women reported ever being tested for HIV. Uptake increased steadily across wealth quintiles, from 42% among the poorest to 67% among the richest. Regression analysis revealed that higher education (AOR = 12.80, 95% CI: 10.08–16.25), health insurance coverage (AOR = 2.56, 95% CI: 2.17–3.01), and urban residence were strongly associated with testing. The Fairlie decomposition showed that 76% of the observed inequality (−0.280) was explained by differences in education, wealth, age, marital status, and employment, while 24% remained unexplained. Education (−0.120) and wealth index (−0.080) were the largest contributors.

Conclusion: Socioeconomic inequalities in HIV testing uptake among Ghanaian women remain substantial, driven primarily by disparities in education and wealth. Targeted interventions that expand testing access among poorer and less educated women are urgently needed to reduce inequities and accelerate progress toward national and global HIV targets.

Keywords

HIV testing uptake, Socioeconomic inequalities, Fairlie decomposition, Women's health, Ghana DHS,

413: Prevalence And Factors Associated With Malaria Infection Among Refugee Children Aged 6-59 Months In Uganda

DAVID NGMENBELLE

Independent Researcher and Data Consultant, Kumasi, Ghana

Background: Refugee children are particularly vulnerable to malaria infection due to displacement, inadequate living conditions, and barriers to accessing preventive health services. However, evidence on malaria burden and associated factors among refugee populations remains limited. This study assessed the prevalence and factors associated with malaria infection among refugee children aged 6–59 months in Uganda.

Methods: A secondary analysis was conducted among refugee children aged 6–59 months using the 2024–2025 Uganda Malaria Indicator Survey (UMIS). Malaria infection was determined using malaria rapid diagnostic testing. Survey-weighted logistic regression was used to identify factors associated with malaria infection. Firth penalized logistic regression was conducted as a sensitivity analysis to assess the robustness of estimates in the presence of potential sparse data and separation. Adjusted odds ratios with 95% confidence intervals were reported.

Results: Of 394 refugee children, the prevalence of malaria infection was 15.6%. This varied across household and sociodemographic characteristics, with higher prevalence observed among children from households with lower maternal education, poor housing conditions, and limited malaria prevention coverage. Children whose mothers had no formal education had higher odds of malaria infection compared with those whose mothers had at least primary education (aOR = 2.54, 95% CI: 1.54–4.18). Those living in households with unimproved roofing materials had increased odds of malaria infection (aOR = 4.71, 95% CI: 1.83–12.11). Conversely, children from households that received indoor residual spraying in the previous 12 months had lower odds of malaria infection (aOR = 0.10, 95% CI: 0.01–0.92). These association were consistent in the Firth analysis.

Conclusions: Malaria infection remains prevalent among refugee children in Uganda. Strengthening IRS programmes, improving housing conditions, and enhancing caregiver education may contribute to reducing malaria burden among refugee children.

Keywords

Uganda; Refugee children; Firth logistics regression; Sparse data; survey-weighted; Design effect

417: Drone-Assisted Geospatial Census And Electronic Data Capture For A Large-Scale Cluster-Randomised Vaccine Trial In Rural Ghana: An Innovation In Field Epidemiology Data Management

OBED ATSU-OFORI[1], Oscar Lambert[1], Sadat Ibrahim[1], Setsoafia Kpodo[2], Jonathan Gmanyami[3]

[1]KNUST-IVI Collaborative Center, Agogo, Ghana. [2]Living Oasis Medical Centre Medical, Dzemeni, Ghana. [3]Kumasi Centre for Collaborative Research in Tropical Medicine, Kumasi, Ghana

Background: Robust, real-time census and data management systems are foundational to the scientific rigour of large field-based epidemiological studies, yet enumeration areas in many rural African settings are outdated and poorly mapped. We describe an integrated geospatial census and electronic data capture system developed to support enrolment and quality assurance for TyVEGHA, a large cluster-randomised vaccine trial in rural Ghana.

Methods: Unmanned aerial drones captured spatial imagery across 15 communities, generating digitised Geographic Information System (GIS) maps with clearly delineated enumeration area (EA) boundaries. Every structure was assigned a unique identifier linked to the GIS layer. Trained enumerators used a mobile census questionnaire (Comcare platform) to capture household, socio-economic and water/sanitation/hygiene indicators, while an electronic case report form (eCRF) built on a validated REDCap platform, with full audit trail, supported ongoing trial data capture. A structured data flow incorporated range and consistency checks, logical/integrity checks and weekly query resolution between site and central data managers.

Results: The baseline census enumerated 88 EAs across 15 towns, capturing 55,881 individuals in 13,266 households, of whom 22,539 (40.3%) were trial-eligible. A subsequent census update recorded 3.84% immigration versus 1.91% out-migration, demonstrating real-time population dynamics tracking. This platform underpinned successful enrolment of 20,046 participants with 87.2% vaccine coverage, and REDCap's built-in logic and audit trail enabled systematic detection and resolution of data entry and case-report-form errors throughout follow-up.

Conclusion and Public Health Implications: Integrating drone-based geospatial mapping with validated electronic data capture and structured quality-control workflows offers a scalable, replicable model for accurate census enumeration and high-integrity data management in large-scale field trials and surveillance systems. This approach has direct application to strengthening routine health information systems, demographic surveillance, and outbreak-response logistics across resource-limited settings in Africa.

Keywords

Geospatial mapping; drone/UAV census; GIS; electronic data capture; REDCap; data quality assurance

419: Nutritional Status Of Tuberculosis Patients And Its Associated Factors In Four Districts In Ghana

MAVIS PEARL KWABLA[1], Eleazer Junior Addo[1,2], Nadia Martey[3,4], Rhoda Yayra Doku[3,5], Stephany Nyame[3,6], Eyram Kuma Hanu[1,7], Frank Baiden[1]

[1]Department of Epidemiology and Biostatistics, Fred N. Binka School of Public Health, Uni-versity of Health and Allied Sciences, Hohoe, Ghana. [2]Jasikan Municipal Health Directorate, Jasikan, Ghana. [3]Department of Family and Community Health, Fred N. Binka School of Public Health, Uni-versity of Health and Allied Sciences, Hohoe, Ghana. [4]Ho Municipal Health Directorate, Ho, Ghana. [5]Hohoe Municipal Health Directorate, Hohoe, Ghana. [6]Kpando Municipal Health Directorate, Kpando, Ghana. [7]Biakoye District Health Directorate, Biakoye, Ghana

Background: Malnutrition is a significant concern in tuberculosis (TB) patients, with a bidirectional relationship between the two conditions. While malnutrition increases the risk of developing active TB by 6 to 10 times, TB also leads to malnutrition. TB patients who are malnourished have delayed recovery and higher mortality rates compared to well-nourished individuals. Hence, WHO recommends addressing malnutrition in TB management to improve treatment outcomes and reduce mortality rates. This study assessed the nutritional status of pulmonary TB patients and its associated factors in four districts in Ghana.

Methods: We reviewed records of TB patients who were registered between January 2021 and August 2024 from four districts and used their contact information to trace them for interviews using a structured questionnaire. We conducted face-to-face and telephone interviews. We extracted data on weight and height from available health and civic records to compute body mass index (BMI). Logistic regression analysis was used to determine the relationship between variables.

Results: Of 607 TB patients surveyed, 253 (41.7%) were aged 49+, 387 (63.8%) were males and 309 (50.9%) were low-income earners. The study found 206 (33.9%) patients to be underweight, 304 (50.1%) malnourished based on BMI indices while 272 (44.8 %) and 310 (51.1%) experienced weight loss and food insecurity, respectively. A total of 281 (46.3%) indicated having consumed balanced diets while 228 (37.6%) had received moderate level of support during treatment. One-third of patients 183 (33.8%) had good knowledge of nutrition. Significant predictors of malnutrition included residence in Jasikan (aOR=4.19, p<0.001) or Kpando (aOR=3.72, p<0.001), male gender (aOR=2.02, p=0.003), being unemployed (aOR=2.4, p=0.02), having had tertiary education aOR=0.4, p=0.02), and limited healthcare access (aOR=0.4, p=0.003).

Conclusion: More than half of TB patients were malnourished. There is the need to integrate nutrition assessment and support systems into TB management in the study districts.

Keywords

Tuberculosis, Malnutrition, BMI, Nutritional status, TB patients, Ghana

421: Trends And Predictors Of Routine Childhood Immunization Coverage Among Children Under 5 Years In Two Selected Districts, Ghana

RAHAM YAW TAWIAH AGBENORKU, Mavis Pearl Kwabla

Department of Epidemiology and Biostatistics, University of Health and Allied Sciences, Hohoe, Ghana

Background: Childhood immunization remains one of the most effective public health interventions globally, yet vaccine-preventable diseases continue to account for approximately 17% of annual under-five mortality. National coverage data frequently obscure substantial subnational disparities, particularly in underserved areas, underscoring the need to understand coverage trends, dropout patterns, and contextual determinants of immunization uptake to improve programme performance.

Objective: The study assessed childhood immunization coverage and dropout rates, and its predictors in two selected districts.

Methods: A concurrent mixed-methods design was employed across two districts of varying immunization performance in the Volta Region. Annual coverage for routine childhood immunization antigens (Penta-3, Measles/Rubella-2) and dropout rates (Penta-1/Penta-3) from DHIMS2 (2015-2024) were analysed to assess trends. Trends were tested using the Mann-Kendall test. In-depth interviews with 18 health staff explored barriers and facilitators to immunization service delivery, with verbatim transcripts analysed thematically.

Results: Penta-3 and Measles/Rubella-2 coverage remained consistently high in Afadzato South District across the study period, whilst Kpando Municipal recorded persistently low coverage for both antigens throughout. Penta-1/Penta-3 dropout rates were consistently negative in Afadzato South District, whilst Kpando Municipal recorded fluctuating rates, with no statistically significant trend detected in either district. The Mann-Kendall test identified a statistically significant downward trend in Penta-3 coverage in Kpando Municipal as the only significant trend across all analyses. Eighteen health workers were interviewed. Teamwork and inter-facility collaboration facilitated immunization delivery, whereas population mobility, limited staff and workload, and financial and logistical constraints posed challenges, particularly in Kpando Municipal.

Conclusion: Despite sustained immunization access in both districts, differences in health system capacity, service delivery quality, and contextual factors produced divergent coverage trajectories and programme retention outcomes, with Afadzato South District consistently outperforming Kpando Municipal across all indicators. These findings underscore the importance of district-level monitoring and context-specific programmatic interventions in bridging immunization performance gaps.

Keywords

Childhood Immunization, , Penta-3, Measles/Rubella-2, Dropout Rate, DHIMS2, Mann-Kendall test

424: Reorienting Neglected Tropical Disease Control In Sub-Saharan Africa: Epidemiological Lessons And Future Directions For Sustainable Elimination

MAWULI GOHOHO[1], Alfred Kwesi Manyeh[2], Mustapha Immurana[3], Margaret Gyapong[3], John Owusu Gyapong[2,4]

[1]Jasikan Municipal Health Directorate, Jasikan, Ghana. [2]Centre for Neglected Tropical Diseases Research, Institute of Health Research, University of Health and Allied Sciences, Ho, Ghana. [3]Centre for Health Policy and Implementation Research, Institute of Health Research, University of Health and Allied Sciences, Ho, Ghana. [4]African Research Universities Alliance, Legon, Accra, Ghana

Background: Neglected tropical diseases (NTDs) continue to impose major health and socio-economic burdens, particularly in vulnerable populations across sub-Saharan Africa (SSA). Although global partnerships and investments have accelerated progress towards NTD elimination, persistent transmission, inequities in intervention coverage and health system challenges remain major concerns. We reviewed the current NTD interventions to highlight progress, persistent challenges and future priorities for sustainable control and elimination.

Methods: We conducted a narrative review of evidence on major NTD interventions, including preventive chemotherapy (PC), innovative and intensified disease management, vector control, One Health approaches, water, sanitation and hygiene (WASH) interventions, and community engagement and involvement (CEI). We synthesized evidence on intervention successes, implementation challenges and future priorities with emphasis on their implications for epidemiological practice and NTD programmes in SSA.

Results: Global NTD cases declined by 29% between 1990 and 2019, and the population requiring interventions declined from 2.19 billion (2010) to 1.62 billion (2022). Major reductions occurred in lymphatic filariasis (77.6% decline in the African Region, 1990–2021) and human African trypanosomiasis (from 62,000 to just over 2,000 cases). By February 2025, 55 countries had eliminated at least one NTD. PC remained a highly cost-effective intervention, generating an estimated US$25 return per US$1 invested. Despite these gains, SSA continues to carry about 40% of the global burden, with about 600 million people requiring treatment. Barriers include inequitable intervention access, logistical challenges, donor dependency, inadequate financing, stigma and poor integration into health systems. Integrated delivery models showed integrating NTD interventions into primary healthcare can reduce treatment costs by up to 33%.

Conclusions: Achieving the 2030 NTD elimination targets requires moving beyond disease-specific interventions through sustained political commitment, innovative financing, stronger integration of NTD interventions into broader health systems, strengthened surveillance, multisectoral One Health approaches, improved WASH interventions, vector control, and CEI, particularly in SSA.

Keywords

Neglected tropical diseases; One Health; WASH; Vector control; Health systems integration

426: Triggers Of Acute Adenolymphangitis And Comorbidities In Filarial Lymphedema: Preliminary Cohort Findings From Northern Ghana

JOHN BOATENG[1,2,3], Linda Batsa Debrah[1,2,3], Ute Klarmann-Schulz[4,5], Alex Owusu-Ofori[1], Janina Kuehlwein[4,5], Caroline Wauschkuhn[4], Franziska Lenz-Plet[4], Vera Serwaa Opoku[2], Monica Ahiadorme[6], Jubin Osei-Mensah[2,7], Patricia Jebett Korir[4,5], Manuel Ritter[4], Achim Hoerauf[4,5], Alexander Yaw Debrah[2,3,8]

[1]Department of Clinical Microbiology, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana. [2]Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR), Kumasi, Ghana. [3]German-West African Centre for Global Health and Pandemic Prevention (G-WAC), Partner Site Kumasi, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana. [4]Institute for Medical Microbiology, Immunology and Parasitology (IMMIP), University Hospital Bonn (UKB), Bonn, Germany. [5]German Center for Infection Research (DZIF), Bonn-Cologne, Germany. [6]Department of Basic Sciences, School of Basic and Biomedical Sciences, University of Health and Allied Sciences, Ho, Ghana. [7]Department of Pathobiology, School of Veterinary Medicine, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana. [8]Department of Medical Diagnostics, Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana

Background: Filarial lymphedema (elephantiasis) is a chronic, disabling condition affecting over 15 million people worldwide. Acute adenolymphangitis (ADL) attacks, characterized by fever, chills, and painful inflammation, contribute substantially to morbidity. These episodes are thought to be precipitated by bacterial entry through leg wounds or lesions, yet evidence on specific triggers and comorbidities remains limited. Understanding these factors is essential for improving patient care and supporting the World Health Organization's Global Programme to Eliminate Lymphatic Filariasis (GPELF).

Methods: A longitudinal cohort study was conducted in northern Ghana involving 162 participants. The study monitored ADL attacks, documented leg injuries, and assessed comorbidities among individuals with lymphedema.

Results: Of the 162 participants, 17 (10.2%) experienced ADL attacks during follow-up. Blood cultures were consistently negative for bacteria, fungi, and yeasts. Most attacks (82.4%) occurred following injuries to the lymphedematous legs. Wounds or lesions were observed in 22.2% of participants, and among these, 36.1% were diabetic. Overall, comorbidities included hypertension (29.6%) and overweight/obesity (30.2%). Multimorbidity was present in 6.2% of participants, underscoring the complexity of care needs in this population.

Conclusion: Current findings indicate that leg injuries are the predominant triggers of ADL attacks in this population, while diabetes, hypertension, and other comorbidities pose additional challenges for management. These insights highlight the need for strengthened hygiene-based interventions, wound management strategies, and integrated approaches to comorbidity care, contributing to improved morbidity control within GPELF.

Keywords

lymphedema, elephantiasis, diabetes, hypertension, comorbidities

427: Relationship Between Nutritional Status And Malaria Risk Among Children Receiving Routine Seasonal Malaria Chemoprevention: Evidence From A Prospective Cohort Study In Mali

SOUMBA KEITA, Mahamoudou Toure, Fousseyni Kane, Daouda Sanogo, Cheick Oumar Tangara, Seydou Doumbia

University Clinical Research Center (UCRC)/ University of Sciences, Techniques and Technologies of Bamako (USTTB), Bamako, Mali

Background: Malnutrition and malaria remain major overlapping causes of morbidity among children in the Sahel, where seasonal malaria chemoprevention (SMC) is widely implemented. This study assessed the relationship between nutritional status and malaria outcomes, and whether SMC exposure influenced nutritional changes during routine implementation.

Methods: A prospective cohort study was conducted among children aged 3-59 months during the 2024 malaria transmission season in Sirakorola, Mali. Children were enrolled before the first SMC round and followed monthly (July-October) for *Plasmodium (P.) falciparum* infection by microscopy, anthropometry, and SMC coverage. Clinical malaria incidence was measured through passive case detection (August-November), defined as fever with parasitological confirmation. Nutritional status was assessed using weight/height for age z-scores. Mixed-effects logistic and Poisson models estimated associations between nutritional status, *P. falciparum* infection, and clinical malaria incidence, adjusting for age, sex, SMC exposure, and follow-up period. Interaction terms assessed whether SMC modified the association between nutritional status and malaria risk. Nutritional changes were assessed using McNemar's test and longitudinal mixed-effects models for MUAC and weight.

Results: Of 425 enrolled children, 42.6% were malnourished at baseline. Malnutrition was independently associated with higher *P. falciparum* prevalence (6.5% vs 2.6%; OR = 2.20, 95% CI 1.21-3.99) and increase malaria incidence (9.1 vs 6.0 per 100 person-months, adjusted incidence rate ratio = 1.82, 95%, CI 1.11-2.97). Malaria incidence was higher during periods without SMC protection (>28 days since last dose). No evidence of interaction was observed between nutritional status and SMC exposure. MUAC and weight increased over the season across all nutritional groups, with no differential trajectories by baseline status.

Conclusion: Malnutrition substantially increased malaria vulnerability despite high SMC coverage. Nutritional improvements observed during follow-up suggest potential synergistic benefits. Integrating nutrition interventions with SMC delivery could enhance child survival and accelerate malaria control in high burden regions.

Keywords

Seasonal Malaria Chemoprevention; malnutrition; changes in nutritional status; children under five

428: Perception And Knowledge Of Neural Tube Defects And Folic Acid Supplement Among Pregnant Women Following Antenatal Care In Mekelle, Tigray, Ethiopia: Application Of The Health Belief Model

ASQUAL GEBRESLASSIE[1], Aregawi Gebreyesus Beley[1,2], Yonas Moges Legese[3], Alo Eiden Musa[4]

[1]Department of epidemiology, Faculty of Public Health, College of Health Sciences, Mekelle University., Mekelle, Ethiopia. [2]Department of Epidemiology Biostatistics and Occupational Health, Faculty of Medicine and Health Sciences, McGill University., Montreal, Canada. [3]Department of Health System, Faculty of Public Health, College of Health Sciences, Mekelle University., Mek'ele, Ethiopia. [4]Department of Epidemiology, School of Public Health, Institute of Health, Bule Hora University., Blue Hora, Ethiopia

Background: Neural tube defects (NTDs) are a significant public health challenge in Ethiopia, with a disproportionately high burden in the Tigray regional state, with a prevalence of 262.5 per 10,000 births. Despite the proven efficacy of periconceptional folic acid (FA) in reducing NTD risk by 72%, uptake remains critically low. This study investigated the behavioral determinants of folic acid practice using the Health Belief Model (HBM) to inform targeted disease prevention strategies.

Methods: An institution-based cross-sectional study was conducted (May –June 2024) among 727 pregnant women in Mekelle, Ethiopia. Using a multi-stage systematic random sampling technique, data were collected via validated, interviewer-administered questionnaires (Cronbach's alpha > 0.7 for all HBM constructs). Multivariable logistic regression was used to identify independent predictors of folic acid intake, adjusting for socio-demographic and obstetric confounders.

Results: Among 670 participants (92.2% response rate), only 4.5% practiced periconceptional folic acid supplementation. Knowledge was critically low; 83.3% had poor knowledge of NTDs, and 96.9% of FA. High perceived severity was reported by 87.9%, yet 80.7% felt low personal susceptibility. In the final multivariable model, perceived threat (combined susceptibility and severity) was the only significant predictor of folic acid intake (AOR = 1.69; 95% CI: 1.133–2.517). Key structural barriers identified were unplanned pregnancies and limited preconception counseling.

Conclusion and Public Health Implications: There is a critical risk-perception gap in Tigray: women recognize the severity of Neural Tube Defects but do not perceive personal risk. To improve disease response, public health policy must shift from late-stage antenatal care to preconception health innovation, including large-scale food fortification and HBM-based educational interventions. These findings provide a data-driven roadmap for reducing the NTD burden in high-risk African settings.

Keywords

Neural Tube Defects, Folic Acid Supplementation, Health Belief Model, Perceived Threat, Tigray, Ethiopia

429: Evaluation of the Laboratory Pillar Response During The Sudan Virus Disease Outbreak In Uganda, 2025: An After-Action Review

CAROLINE MUSUBIKA[1], Joshua Kayiwa[2], Alisen Ayitewala[3], Samuel Gidudu[4], Godfrey Ekuka[5], Andrew Nsawotebba[3], Vivian Nakaweesa[4], Martha Nakaye[4], Diana Namanya[6], Ibrahim Mugerwa[3], Morgan Ottita[7], Bridget Ainembabazi[4], Roger Micheal Eilu[7], Rebecca Kakude[3], Thomas Nsibambi[8], Jonathan Ntale[8], Daniel Kadobera[8], Alex Riolexus Ario[4], Susan Ndidde Nabadda[3]

[1]Uganda National Institute of Public Health, Kampala, Uganda. [2]Ministry of Health, Kampala, Uganda. [3]National Health Laboratory and Diagnostics Services, Ministry of Health, Kampala, Uganda. [4]Uganda National Institute of Public Health, Ministry of Health, Kampala, Uganda. [5]Department of Integrated Epidemiology Surveillance and Public Health Emergencies, Ministry of Health, Kampala, Uganda. [6]Uganda Virus Research Institute, Ministry of Health, Entebbe, Uganda. [7]Infectious Diseases Institute, Kampala, Uganda. [8]Division of Global Health Protection, Global Health Center, US Centers for Disease Control and Prevention, Kampala, Uganda

Background: Following the containment of the 2025 Sudan Virus Disease (SVD) outbreak in Uganda, the Ministry of Health conducted an After-Action Review (AAR) to document lessons across multiple response pillars as required by the International Health Regulations Monitoring and Evaluation Frame work. This paper evaluates the laboratory pillar's performance in containing the outbreak.

Methods: Using a working group AAR format, we conducted facilitated exercises to evaluate the response. We reviewed pre-existing capacities across four domains: plans, coordination, resources, and preparedness activities to establish a baseline. We reconstructed the response timeline against an epidemiological curve and cross- validated milestones with other pillars. Performance gaps were identified by contrasting planned and actual out-comes, and the five whys technique was applied to determine the root causes of the identified challenges.

Results: Fifteen professionals from national and subnational levels participated. Pre-response enablers included the existence of the National laboratory guidelines for preparedness and response to public health emergencies, the Uganda National Health Laboratory Hub and sample network, National health laboratory policy, the Ebola 2022 response plan, the national laboratory budget, the national laboratory pillar, the Laboratory Leadership Program, the One Health platform, reference and mobile laboratories. The referral network confirmed the case within 72 hours; however, analysis revealed delays in deploying mobile laboratories and incomplete investigation forms. Key strengths included emergency information systems and biosafety protocols, while key constraints were limited funding, Low district-level involvement, and conflicting guidance on result dissemination. Root causes were traced to an inactive electronic logistics system and lack of pre-positioned supplies at the district level.

Conclusion: The laboratory pillar demonstrated functional preparedness and response capabilities. To ensure resilience against future high-consequence threats, we recommend standardizing communication protocols, strengthening emergency logistic systems and embracing lessons learnt.

Keywords

Sudan Virus Disease, Outbreak, After-Action Review, Laboratory Pillar Response, Uganda

430: Acceptability Of Immunization Educational And Completeness Tracker Application (Amatekun Omo) Among Mothers Attending Immunization Clinic In Selected PHC Facilities In Oyo State

TAOFEEK ADEKOLA BASIRU[1], Dawud Ibrahim Oyedemi[2], Salome Chibuzor Abbah[1], Oluwole Fayemi[1]

[1]College of Community Health , Lagos University Teaching Hospital, Lagos, Nigeria. [2]University of Medical Sciences ,, Ondo, Nigeria

Background: Successful implementation of mHealth interventions for childhood immunization depends largely on end-user acceptability, yet evidence from low- and middle-income countries regarding locally developed applications remains limited. This study assessed the acceptability of the Amotekun Omo mobile health application breastfeeding mothers in Oyo State, Nigeria.

Methods: A quasi-experimental study involving 128 mothers (64 intervention, 64 control) was conducted across six primary healthcare facilities selected through multistage sampling from the three senatorial districts of Oyo State. The intervention group received the Amotekun Omo app, which provided vaccine reminders, immunization education, and vaccination tracking, while the control group received routine immunization services. Acceptability was assessed using a validated questionnaire administered before and after the intervention, with independent and paired t-tests employed at a 5% significance level.

Results: At baseline, the intervention group had significantly lower acceptability scores than controls (21.31±6.22 vs. 26.13±4.23; mean difference = −4.822; $t = 6.083$, $p < 0.001$). Post-intervention, acceptability increased markedly in the intervention group to 40.00±13.05 compared with 25.77±9.09 in controls (mean difference = 14.233; $t = 8.491$, $p < 0.001$). Within-group analysis showed significant improvement among intervention participants (mean difference = −18.689; paired $t = 11.540$, $p < 0.001$), while no significant change occurred in the control group (mean difference = 0.367; paired $t = 0.385$, $p = 0.701$). Post-intervention acceptability was significantly higher among mothers with good immunization knowledge and positive attitudes towards childhood immunization ($p < 0.001$).

Conclusion: The Amotekun Omo mobile health application was highly acceptable among breastfeeding mothers and significantly improved willingness to adopt and sustain digital immunization support compared with routine care. These findings demonstrate that culturally tailored mHealth interventions are feasible and acceptable strategies for strengthening routine childhood immunization programmes in resource-limited settings and support their integration into primary healthcare services.

Keywords

Acceptability, Amotekun Omo, mobile health application , immunization, vaccination tracking

431: Dix Ans De Surveillance Sentinelle Des Diarrhées À Rotavirus Chez Les Enfants De Moins De Cinq Ans Au Burkina Faso (2015–2025)

AHMED DIEUDONNÉ OUÉDRAOGO[1], Lassané Kafando[2], Madi Nikiéma[1], Hermann Yoda[1], Hamed Sidwaya Ouédraogo[2], Pauline Yanogo[1]

[1]Université Joseph KI-ZERBO, Ouagadougou, Burkina Faso. [2]Ministère de la Santé, Ouagadougou, Burkina Faso

Contexte: La gastro-entérite due au rotavirus entraîne une morbidité et une mortalité importantes surtout chez les enfants de moins de 5 ans dans les pays à revenu faible ou intermédiaire. Cette étude visait à décrire les caractéristiques épidémiologiques et moléculaires des diarrhées à rotavirus à partir des données de la surveillance sentinelle au Burkina Faso entre 2015 et 2025.

Méthodes : Nous avons mené une étude transversale descriptive des données de surveillance sentinelle des cas de diarrhée chez les enfants de moins de cinq ans hospitalisés. Nous avons calculé des proportions pour décrire les caractéristiques des cas en temps, lieu et personne à l'aide du langage de programmation Python 3.14

Résultats : Au total, 983 cas de diarrhée à rotavirus ont été confirmés parmi 6728 cas suspects, soit une proportion de confirmation de 14,61% dans les quatre sites sentinelles du pays. Les enfants de moins de 12 mois représentaient 53,12% et le sexe masculin 60% des cas confirmés. La létalité était de 1,63% et 20,37% des cas confirmés présentaient une déshydratation aiguë sévère. Aussi, 24,51% des cas de plus de 6 mois souffraient de malnutrition aiguë sévère. Les cas étaient majoritairement enregistrés entre décembre et mars durant la période de l'harmatan. Le génotype G9 a réémergé en 2024 et a représenté 68,52% des génotypes G identifiés. Les souches G1P[8] et G1P[6] représentaient plus de 60% de tous les génotypes combinés.

Conclusion: La persistance de la circulation du rotavirus et la réémergence du génotype G9 soulignent la nécessité de renforcer la surveillance virologique. Aussi, les interventions de prévention telle que la sensibilisation durant la période de l'harmattan et le renforcement de la prise en charge clinique sont recommandés.

Keywords

Diarrhée, Rotavirus, Génotype, Burkina Faso, malnutrition aiguë sévère

432: Malaria Surveillance System Evaluation In Hohoe Municipality, Ghana

FRANCIS KWAKU DUSI

Fred N. Binka School of Public Health, Hohoe, Ghana

Background: Malaria remains a major public health challenge in Ghana, particularly among children under five years and pregnant women. An effective surveillance system is essential for monitoring disease trends, guiding interventions, and supporting Ghana's malaria elimination agenda. This study evaluated the performance of the malaria surveillance system in the Hohoe Municipality, Volta Region, Ghana, from 2020 to 2024..

Methods: A descriptive cross-sectional evaluation was conducted using interviews, observations, records review, and secondary data extracted from the District Health Information Management System (DHIMS2). Thirteen purposively selected health workers involved in malaria surveillance at facility and municipal levels participated in the study. The surveillance system was assessed for its ability to achieve its objectives, usefulness, and key attributes, including simplicity, data quality, acceptability, and flexibility among others. Attribute performance was graded using standard Centres for Disease Control evaluation criteria.

Results: Between 2020 and 2024, the surveillance system recorded 168,827 suspected malaria cases, of which 160,911 (95.3%) were tested and 58,309 were laboratory confirmed, giving an overall PVP of 34.5%. The system effectively monitored malaria morbidity and mortality and demonstrated high reporting completeness and timeliness. The system showed strong performance in usefulness (76.9%), acceptability (69.2%), stability (69.2%), representativeness (100.0%), and simplicity (61.5%). However, flexibility (46.2%), data quality (38.5%), and resource availability (30.8%) were suboptimal. Major challenges included inadequate dedicated funding, limited data analysis capacity, absence of documented outbreak thresholds, and periodic shortages of rapid diagnostic tests (RDTs) and antimalarial medicines, which affected surveillance operations and outbreak preparedness.

Conclusion: The malaria surveillance system in Hohoe Municipality is functional, useful, and capable of monitoring malaria trends and informing public health action. Its strengths include high sensitivity, timeliness, representativeness, and stakeholder acceptability. However, improvements are required in data quality, outbreak detection, flexibility, and sustainable resource allocation to strengthen system performance and support Ghana's malaria elimination goals.

Keywords

Malaria, Surveillance system evaluation, DHIMS2, Public health surveillance; Hohoe Municipality; Ghana.

433: Hypertension Artérielle Et Diabète Sucré Chez Les Adultes Sous Thérapie Antirétrovirale À Kinshasa, République Démocratique Du Congo

LÉON SHONGO[1], Jack KOKOLOMAMI[1], Christelle KHONDE[2]

[1]Département Epidémiologie-Biostatistique, Ecole de Santé Publique, Université de Kinshasa, Kinshasa, Congo, the Democratic Republic of the. [2]Ecole de Santé Publique, Université de Kinshasa, Kinshasa, Congo, the Democratic Republic of the

Contexte : La thérapie antirétrovirale a entraîné une réduction significative de la morbidité et la mortalité associées à l'infection au Virus de l'Immunodéficience Humaine. Les patients vivent plus longtemps, développent les maladies non transmissibles à l'instar de la population générale, et en meurent. L'objectif de cette étude était de déterminer la prévalence et les facteurs associés à l'hypertension et au diabète chez les adultes séropositifs sous thérapie antirétrovirale à Kinshasa.

Méthodes : Une étude transversale analytique a été menée entre Octobre et Novembre 2024 dans 16 structures de prise en charge ayant des cohortes d'au moins 200 bénéficiaires des soins VIH/SIDA. Les données ont été recueillies à l'aide d'un questionnaire modifié de l'instrument STEPwise de l'OMS. La glycémie, la pression artérielle et les mesures anthropométriques ont été prélevées.

Résultats : Au total 647 bénéficiaires des soins VIH âgés de 18 à 87 ans ont été inclus. La proportion des hypertendus était de 32,1% (IC 95% : 28,6- 35,9) et celle des diabétiques était de 13,3% (IC95% : 10,7-16,3%). Un hypertendu sur cinq et un diabétique sur dix ignoraient leur statut. L'âge avancé, le surpoids ou l'obésité, le tabagisme et le diabète sucré étaient associés à l'hypertension tandis que le tabagisme, les antécédents familiaux de diabète, l'hypertension et la prise des antirétroviraux de deuxième intention étaient associés au diabète.

Conclusion: Ne pas intégrer la prise en charge des maladies non transmissibles, en particulier l'hypertension et diabète dans les programmes de lutte contre le VIH va contrebalancer les efforts fournis pour garder en vie et en bonne santé les adultes bénéficiaires des soins VIH dans la ville de Kinshasa.

Keywords

Hypertension, Diabète, Bénéficiaires des soins VIH, traitement antirétroviral, Kinshasa.

434: Long-Term Stability Of Cervical And Plasma Specimens For Hrhpv And HIV Viral Load Testing In A Rwandan Biobank

FAUSTIN KANYABWISHA[1,2], Kim Hae-Young[3], Xiaotao Xiaotao[4], Shi Qiuhu[4], Obed Tuyishime[1], Gallican Kubwimana[1], Anthere Murangwa[5], Zozimo Mpatswenumugabo[6], Venuste Ntakirutimana[7], Kathryn M. Anastos[8], Thierry Habyarimana[9], Cuthbert Musarurwa[10], Leon Mutesa[11]

[1]Research for Development (RD Rwanda), Kigali, Rwanda. [2]Postgraduate Studies, School of Health Sciences, College of Medicine and Health Sciences, University of Rwanda, Kigali, Rwanda. [3]Boston Children's Hospital, Boston, United States. [4]Department of Public Health, New York Medical College, Valhalla, New York, United States. [5]Rwanda Military Teaching Hospital, Kigali, Rwanda. [6]Doctors without Borders (MSF), Niamey, Niger. [7]Rwanda Revenue Authority, Kigali, Rwanda. [8]Division of General Internal Medicine, Albert Einstein College of Medicine/Montefiore Medical Center, Bronx, New York, United States. [9]Department of Biomedical Laboratory Sciences, INES-Ruhengeri, Musanze, Rwanda. [10]Department of Human, Biological & Translational Medical Sciences, School of Medicine, Faculty of Health Sciences and Veterinary Medicine, University of Namibia, Windhoek, Namibia. [11]Center for Human Genetics, College of Medicine and Health Sciences, University of Rwanda, KN 75 St, Kigali, Rwanda

Background: Long-term storage of biological specimens is essential for research and clinical monitoring, yet specimen stability data from low-resource settings are scarce. This study assessed the stability of archived cervical brush specimens for high-risk human papillomavirus (hrHPV) testing and plasma specimens for HIV viral load (HIV VL) testing to validate the RD Rwanda laboratory biobank.
Methods: An analytical cross-sectional paired reproducibility study was conducted in the RD laboratory, Rwanda Military Hospital, using archived cervical brush and plasma specimens from people living with HIV. The study included 269 cervical specimens from a cervical cancer screening program (2016-2019) and 256 plasma specimens from the IeDEA-Sentinel Research Network cohort (March-June 2023). Cervical specimens stored at -20°C for 72 months were retested for hrHPV using the AmpFire assay, while plasma specimens stored at -80◦C for 24 months (up to May 2025) were retested for HIV VL using the Abbott m2000. Both detected and not detected specimens were retested. Agreement was assessed using Cohen's and weighted kappa, McNemar, and concordance measures.
Results: Cervical brush specimens demonstrate excellent overall agreement between initial and repeated hrHPV testing (κ=0.76, 95% CI 0.64-0.88, McNemar p = 0.860), with strong genotype stability for HPV18 and HPV16 but lower agreement for HPV51. Plasma showed excellent HIV VL stability (98.8% agreement; κ = 0.97, p < 0.001), perfect McNemar agreement (p = 1.000), and high VL category stability, with 88.3% of specimens remaining in the same category (weighted κ=0.95, 95% CI 0.91–0.98).

Conclusions: Cervical brush and plasma specimens stored long-term in the Research for Development (RD Rwanda) biobank demonstrated excellent stability for hrHPV and HIV viral load testing. These findings support the feasibility of biobanking for clinical and research use in resource-limited settings and highlight the importance of robust biobank governance to ensure standardized storage, quality assurance, and specimen integrity.

Keywords

Human papillomavirus (HPV); HIV viral load; Specimen stability; Long-term storage; Biobanking

436: Malaria Risk Perception And Adoption Of Preventive Measures Among Mothers And Caregivers Following The RTS, S/AS01 Vaccine Rollout, Hohoe Municipality, Volta Region, Ghana

FRANKLIN DUNCAN SYLVESTER ADJATO[1,2], Evelyn Korkor Ansah[3], Anthony Zunuo Dongdem[1], Albert Abaka-Yawson[4], Gideon Kye-Duodu[1], Sadat Ibrahim[1]

[1]Department of Epidemiology and Biostatistics, Fred N. Binka School of Public Health, University of Health and Allied Sciences, Ho, Ghana. [2]Hohoe Public Health Laboratory, Hohoe, Ghana. [3]Centre for Malaria Research, Institute for Health Research, University of Health and Allied Sciences, Ho, Ghana. [4]Department of Medical Laboratory Science, University of Health and Allied Sciences, Ho, Ghana

Background: Malaria remains a significant public health challenge, particularly in sub-Saharan Africa, which accounts for 94% of global malaria cases and 95% of malaria deaths. The RTS, S/AS01 malaria vaccine offers a promising new tool against malaria, yet prevalence remains high in Hohoe Municipality, Ghana, despite existing interventions. This study assessed malaria risk perception, adoption of preventive measures, and malaria parasitaemia among mothers and caregivers during the RTS, S/AS01 vaccine rollout in Hohoe Municipality.

Methods: A cross-sectional study using multistage sampling recruited 377 mothers and caregivers. A semi-structured questionnaire collected quantitative data, while an interview guide was used for two focus group discussions (six participants each) and four in-depth interviews with mothers, caregivers, and healthcare workers. Quantitative data were cleaned and analyzed using SPSS version 22.0; qualitative data were thematically analyzed using NVivo version 13.0.

Results: Overall, 55.56% of participants reported adopting malaria preventive measures, while 98.67% indicated their children had completed the RTS, S/AS01 schedule. Malaria parasitaemia prevalence among vaccinated children was 11.14% (95% CI: 8.15–14.76). Tertiary education (AOR=1.94; 95% CI: 1.14–3.26), moderate risk perception (AOR=5.01; 95% CI: 2.80–9.00), and high risk perception (AOR=1.78; 95% CI: 1.01–3.14) were associated with increased adoption of preventive measures. Health education, counselling, and outreach by healthcare workers promoted uptake, though intermittent vaccine shortages constrained implementation.

Conclusion and Public Health Implications: Caregivers demonstrated moderate-to-high malaria risk perception, and vaccine uptake was high; however, adoption of complementary preventive measures remained suboptimal. Strengthening malaria risk communication, caregiver education, and vaccine supply chains is recommended to improve integrated malaria prevention strategies in Hohoe Municipality and similar settings.

Keywords

Malaria vaccine RTS, S/AS01; risk perception; preventive measures; caregivers; Hohoe

437: Prevalence And Rifampicin-Resistance Patterns Of Mycobacterium Tuberculosis Among Presumptive Tb Patients In A Resource-Constrained District: Evidence From Genexpert Surveillance Data (2017-2026)

BENJAMIN TETTEH HANSEN[1], Dr. Gregory Kofi Amenuvegbe[1], Dr. Anthony Dongdem[1], Dr. Gideon Kye-Duodu[1], RICHARD OTU AGBLOM[2], Dr. JOYCE BERKUMWIN DER[1]

[1]Fred N. Binka School of Public Health, University of Health and Allied Sciences, Hohoe, Ghana, Hohoe, Ghana. [2]University of Ghana Medical Centre, Legon, Accra, Ghana, Accra, Ghana

Background: Mycobacterium tuberculosis (MTB) remains a major public health challenge in rural communities, with delayed diagnosis and the emergence of rifampicin-resistant TB (RR-TB) threatening progress toward the WHO End TB Strategy. This study determined the prevalence of MTB and RR-TB among presumptive TB patients in North Tongu District over a nine-and-a-half-year period

Methods: A retrospective cross-sectional study was conducted at the Catholic Hospital Battor, analyzing archived GeneXpert results from January 2017 to June 2026. STATA version 17 was used for statistical analysis; Poisson regression with robust variance identified sociodemographic predictors of MTB and associations with RR-TB ($p < 0.05$).

Results: Of 1,784 patients, 345 (19.3%) were MTB-positive, including 4 (0.2%) RR-TB and 1.1% indeterminate cases. MTB prevalence was highest among patients aged 30-44 years (6.6%) and significantly lower among patients aged < 15 years (0.4%) (aPR = 0.27; 95% CI [0.17-0.63], p = 0.001). Males had a 42% higher prevalence than females (aPR = 1.42, 95% CI [1.17-1.72]; p = 0.001). MTB prevalence peaked at 77.1% in 2020, declined to 9.7% in 2025, and rose to 12.1% in 2026, the first half. Compared to 2025, MTB prevalence was significantly higher from 2017 to 2023 (p = 0.001) but showed no significant difference in 2024 (p = 0.128). No significant geographical differences in prevalence were observed. There was a significant association between the year of the diagnosis and RR-TB (Fisher's exact p = 0.018). Mepe (21.5%) and Battor (16.8%) recorded the highest number of MTB-detected cases.

Conclusions: North Tongu District bears a substantial burden of MTB among presumptive patients. While RR-TB is rare, it varied significantly by year. Infection was independently more prevalent among males and less prevalent among children. These findings highlight the need for targeted TB control strategies for males and the continued expansion of the hub-and-spoke diagnostic model.

Keywords

Mycobacterium tuberculosis (MTB), Rifampicin-resistant TB (RR-TB), Presumptive TB patients,

438: Determinants of Healthcare Professionals' Adoption of Mobile Health Interventions for Non-Communicable Disease Management: An Extended UTAUT Model

STEPHEN BANDOMA

KNUST, Kumasi, Ghana

Background and Objective: Non-communicable diseases (NCDs) continue to place increasing demands on Ghana's health system, requiring sustained access to medicines, long-term patient follow-up, and coordinated primary healthcare services. Mobile health (mHealth) technologies offer opportunities to strengthen continuity of care, improve treatment adherence, support remote patient monitoring, and enhance communication between healthcare professionals and patients. Evidence explaining healthcare professionals' readiness to adopt these technologies within Ghana remains limited. This study examined the determinants of mHealth adoption among healthcare professionals involved in NCD management using an extended Unified Theory of Acceptance and Use of Technology (UTAUT) framework, with the aim of informing health systems strengthening.

Methods: A facility-based cross-sectional survey was conducted among 430 healthcare professionals working in public primary healthcare facilities in the Kumasi Metropolis. Data were collected using a validated structured questionnaire and analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The analysis evaluated measurement quality, structural relationships, mediation, and moderation effects among behavioural, technological, and organizational factors influencing mHealth adoption.

Results: Performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, and technology self-efficacy significantly improved healthcare professionals' attitudes towards mHealth adoption, while technology anxiety reduced positive attitudes. Attitude, habit, and personal innovativeness significantly enhanced behavioural intention, which emerged as the strongest predictor of mHealth adoption. Digital literacy strengthened key relationships between technology adoption determinants and behavioural intention, demonstrating that digital competencies improve healthcare professionals' readiness to integrate mHealth into routine NCD care.

Conclusion: The findings demonstrate that successful digital transformation requires investments beyond technological infrastructure. Strengthening digital competencies, workforce capacity, organizational support, and enabling implementation environments can accelerate mHealth adoption, improve continuity of chronic disease management, and enhance primary healthcare performance. These findings provide practical evidence to support health systems strengthening initiatives that advance equitable, resilient, and digitally enabled healthcare towards Universal Health Coverage.

Keywords

Mobile health (mHealth); Non-communicable diseases; Healthcare professionals; Extended UTAUT.

441: Moving Beyond Data Collection: Determinants Of Routine Health Information System Utilization For Decision-Making Among Healthcare Professionals In Kwadaso Municipality, Ghana

ERIC YIADOM BOAKYE, Peter Agyei-Baffour

Kwame Nkrumah University of Science and Technology, Kumasi, Ghana

Background: Health Information Systems (HIS) play a central role in generating the data needed for evidence-based decision-making and efficient resource management across all levels of the health sector. Yet healthcare professionals often fall short in translating routinely collected data into meaningful action, weakening health system performance. Despite substantial investment in platforms such as DHIMS2, this gap persists at the facility level, with limited evidence on the determinants of RHI underutilization among healthcare professionals at the municipal level. This study examined the technical, organizational, and behavioral determinants of routine health information (RHI) utilization for decision-making among healthcare professionals in Kwadaso Municipality, Ghana.

Methods: A facility-based cross-sectional study was conducted among 603 healthcare professionals across public, private, and CHAG facilities in Kwadaso Municipality, selected through multi-stage stratified sampling. Data were collected using a PRISM-adapted questionnaire assessing technical, organizational, and behavioral determinants of RHIS utilization. Data were entered and cleaned in Excel and analyzed using Stata version 17.0, with descriptive statistics and multiple linear regression to determine predictors of utilization ($p < 0.05$).

Results: Most participants were female (69.2%) and nurses (39.8%), with a median age of 34 years (IQR: 28–40). Overall RHI utilization was moderate at 61.1% (95% CI: 60.13–62.12%). Higher utilization was significantly associated with stronger data quality checks before submission (β=0.049, 95% CI: 0.009–0.088), adequate written feedback (β=0.058, 95% CI: 0.019–0.098), availability of physical registers and tally sheets (β=0.059, 95% CI: 0.018–0.099), integration of reporting forms into DHIMS2 (β=0.043, 95% CI: 0.003–0.083), competence in calculating indicators (β=0.055, 95% CI: 0.015–0.094), development of data-based solutions (β=0.045, 95% CI: 0.008–0.088), and motivation for accurate reporting (β=0.042, 95% CI: 0.001–0.082). Department Heads had higher utilization than facility managers (β=0.349, 95% CI: 0.141–0.557).

Conclusion: RHI utilization is moderate, indicating clear opportunities for improvement. Strengthening data-driven decision-making relies heavily on organizational and technical investments specifically data infrastructure, resource availability, and targeted capacity building to align facility practices with Ghana's Health Information Systems Strategic Plan.

Keywords

Routine Health Information System (RHIS), Health information utilization, Decision-making, DHIMS2. Ghana

Exhibitor Biographies

1. Ensign Global University

Exhibitor package: Bronze

Organisation biography

Ensign Global University is an accredited, private, not-for-profit higher education institution in Kpong, Ghana, preparing public health leaders for meaningful local and global impact.

Exhibition at the conference

Educational/program flyers and brochures

2. Revna Biosciences

Exhibitor package: Bronze

Organisation biography

Revna Biosciences is Ghana's first precision medicine company, founded in 2017 and headquartered in Accra, with its parent entity domiciled in Delaware, United States. RevnaBio provides molecular diagnostics, genomic testing, biobanking infrastructure, integrated pathology services, AI-assisted diagnostics, and clinical research support across Africa. The company partners with hospitals, research institutions, and global pharmaceutical and biotechnology companies to deliver diagnostic services and generate high-quality genomic and clinical datasets that reflect Africa's genetic diversity.

RevnaBio is the only laboratory in Africa to hold triple ISO accreditation from A2LA (the American Association for Laboratory Accreditation) for Medical Laboratories, Biobanking and Proficiency Testing. Revna Biosciences additionally holds an active Federalwide Assurance from the US Office for Human Research Protections.

Exhibition at the conference

We will distribute Company souvenirs and interact with participants

3. Margees Collections

Exhibitor package: Bronze

Organisation biography

Margees Collections is a women-led fashion and textile enterprise in Tamale, Northern Ghana, specializing in authentic handwoven Fugu, contemporary African fashion, and handcrafted accessories. We empower women and youth through skills training, apprenticeship, and employment while preserving Ghana's indigenous weaving heritage. Our products serve local and international customers through retail, wholesale, customised orders, exhibitions, and digital platforms.

Exhibition at the conference

We will showcase authentic handwoven Fugu and smock fabrics, contemporary smock fashion, dresses, shirts, bags, footwear, and other handcrafted accessories, highlighting Ghanaian craftsmanship, cultural heritage, and modern African fashion.

4 . The School of Public Health, University of Ghana

Exhibitor package: Bronze

Organisation biography

The School of Public Health is one of the constituent schools under the College of Health Sciences. It was established in 1994 to train public health practitioners. It is also open to non-health professionals whose work impact on environment and health.

The School operates under the philosophy of a "Public Health School Without Walls", with a mission to training public health practitioners who will be leaders and change agents for health development in Ghana in particular and in the wider African context.

Organization of the school

The School is organized into 6 departments Biological, Environmental and Occupational Health Sciences, Biostatistics, Epidemiology & Disease Control , Health Policy, Planning and Management, Population, Family and Reproductive Health, Social and Behavioural Sciences.

Degree programmes offered

- Bachelor of Public Health (BPH)
- Master of Public Health (MPH) - (Regular, Weekend & Sandwich)
- Masters in Health Informatics (MHI)
- Master of Science in Clinical Trials (MCT)
- Master of Science in Applied Health Social Science (AHSS)
- Master of Philosophy (M.Phil) in Applied Epidemiology and Disease Control
- MSc. Occupational Hygiene
- MSc. Occupational Medicine
- MSc. Public Health Monitoring and Evaluation (Regular/Weekend))
- Doctoral degrees (PhD) in Public Health

Short courses

- Surveillance , Monitoring and Evaluation of Malaria Programmes
- Monitoring and Evaluation of Malaria/HIV and AIDS

Exhibition at the conference

The School of Public Health, will showcase its academic programmes, publications and community health initiatives, highlighting its contributions to public health training.

5. NK Pharma Limited

Exhibitor package: Bronze

Organisation biography

NK Pharma Ltd– Organization Bio

NK Pharma is a Ghanaian pharmaceutical company committed to improving access to quality, affordable, and reliable healthcare products across Ghana and the wider West African market. Guided by our motto, "Better Health, Better Life," we focus on delivering pharmaceutical solutions that meet the evolving needs of healthcare professionals, institutions, pharmacies, wholesalers, and patients.

Our portfolio includes a growing range of pharmaceutical products across key therapeutic areas, including cardiovascular health, diabetes management, pain and fever management, malaria treatment, vitamins and nutritional support, and other essential healthcare needs.

NK Pharma combines quality products, customer-focused service, strong distribution capabilities, and market-driven sales and marketing strategies to ensure that healthcare products are available where they are needed most. We work closely with

healthcare professionals and business partners to build sustainable relationships and support better health outcomes.

Our team brings together expertise in pharmaceutical sales, marketing, business development, distribution, institutional business, and market development, enabling us to respond effectively to opportunities within Ghana's dynamic healthcare sector.

As we grow, NK Pharma is focused on expanding its product portfolio, strengthening its distribution network, developing strategic partnerships, and increasing access to quality medicines and healthcare products throughout Ghana and the broader West African region.

NK Pharma — Better Health, Better Life.

Exhibition at the conference

NK Pharma will showcase its portfolio of quality and affordable pharmaceutical products, highlighting key solutions in diabetes management, cardiovascular health, pain and fever management, malaria treatment, vitamins, and nutritional support. The exhibition will also provide an opportunity to introduce our products to healthcare professionals, institutions, pharmacies, distributors, and other industry stakeholders while building strategic partnerships and expanding market access. Visitors will learn about NK Pharma's commitment to quality, affordability, reliable supply, and improved healthcare outcomes under our motto, "Better Health, Better Life."

6. African Field Epidemiology Network

Exhibitor package: Gold

Organisation biography

The African Field Epidemiology Network (AFENET) is a not-for-profit networking and service alliance of FE(L)TPs, and other applied epidemiology training programs in Africa. Established in 2005, we are dedicated to improving the health outcomes of communities through collaboration with ministries of health, national, regional and international partners. We strive to build strong, effective, sustainable programs and capacity to improve public health systems on the African continent and beyond, to ensure that they meet the requirements of the Integrated Disease Surveillance and Response (IDSR) strategy and the International Health Regulations (IHR).

Over the years, AFENET has recorded a growing partnership base with various international and regional multilateral agencies, philanthropies, government agencies, academic institutions and non-governmental organizations (NGOs). Currently, our membership consists of 40 FE(L)TPs from spread across Africa. We are committed to expanding our coverage in Africa and beyond in advancement of global health security.

Exhibition at the conference

Branded souvenirs and information on AFENET's operations across Africa.

7. Inqaba Biotec

Exhibitor package: Gold

Organisation biography

Inqaba Biotec is a leading Africa's Genomics company which was created in the south of Africa since the year 2002. We currently have branches in East Africa, West, and Central Africa. Our core services are DNA synthesis (primers & probes), Sanger Sequencing, Next-Generation sequencing, qPCR, Bioinformatics solution, Instruments maintenance and repairs, Animal genetics, SNP Genotyping and methylation analysis. In addition, we distribute life sciences products & instruments as well as support clinical diagnostics portfolio.

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BOOK OF ABSTRACTS

