Improving Global Health Security through Field Epidemiology Training, Surveillance, and Outbreak Response

FETP INTERNATIONAL NIGHT

TUESDAY // APRIL 25, 2017 // 6:00pm–8:30pm
WEDNESDAY // APRIL 26, 2017 // 6:30pm–9:00pm

ATLANTA CONVENTION CENTER AT AMERICASMART // BUILDING 2 // ATLANTA // GEORGIA // USA
Welcome

Message from the Director 1
Message from FETP Branch Chief 2
Message from TEPHINET 3

Tuesday Agenda 4

Wednesday Agenda 5

Poster Abstract Listing 6
Oral Abstract Listing 8

Award Listing 9

Poster Abstracts 10
Oral Abstracts 31
Dear Colleagues,

The Field Epidemiology Training Program (FETP) is heralded as a powerful and essential engine for protecting the world. The FETP’s 3,800 graduates and trainees in now more than 70 countries demonstrate how the training program builds country capacity to find diseases, identify threats to the community and its population, and respond in a strong and focused manner.

We all know that diseases know no borders. From Ebola in West Africa to Zika in South America and the US to MERS-CoV in the Middle East, outbreaks can spread rapidly across the globe and have devastating consequences. Public health emergencies affect more than people’s health – they can impact economies, destabilize geopolitical environments, and impact a country’s national security.

FETP graduates are tested, frontline defenders working to prevent these devastating consequences. The FETP aims to build domestic capacity to prevent the next epidemic from taking root and spreading by establishing a cadre of capable, well trained “disease detectives” who are an essential part of any nation’s early warning system.

FETP trainees and graduates have responded to hundreds of potential outbreaks including more recently Ebola in West Africa; MERS-CoV in the Middle East, South Korea and the Philippines; polio in Pakistan and Nigeria; Nipah virus in Bangladesh; acute encephalitis in India; and earthquake recovery in Haiti. To expand workforce capabilities, more than 1200 trainees graduated in 19 countries from the new FETP-Frontline program in 2016; these frontline workers are extending disease detection down to the lowest level.

In Mali, the FETP Surveillance Training for Ebola Preparedness (STEP) program was key in thwarting a potential polio outbreak. When a 19-month-old child from Guinea crossed the border into Mali with vaccine-derived polio virus, a graduate from FETP STEP drew on his training and led the investigation in the affected district. The Ministry of Health launched an emergency vaccination campaign in Bamako and surrounding areas, and effectively stopped the spread of the virus before it had a devastating impact paralyzing children.

FETP, modeled after CDC’s vaunted Epidemiologic Intelligence Service, ensures trainees work in the national public health system, providing important service and learning by doing, adding important depth to a country’s ability to find and stop diseases. This model, based on hands-on training in the classroom and the field, allows ministries of health to immediately assure health protection to all citizens while working at the same time on broader initiatives to reinforce and sustain the required public health infrastructure.

With FETP graduates in over 70 countries, the world is better at detecting, preventing and responding to public health threats. In 2016, FETP Frontline provided critical support in Zika-affected countries in Latin American and the Caribbean, while graduates responded to cross-border outbreaks of cholera, measles, and yellow fever, to name a few.

While we do not know when or where the next outbreak will emerge, we do know there will be one and we know that FETP trainees and graduates will be prepared to respond and stop it. I am proud of the field epidemiology program and its graduates serving in critical public health leadership positions around the world. This is an important component of a global health safety net. I want to personally thank all of you on the front lines of public health. Your contributions to global health security are saving lives around the globe.

Rebecca Martin, PhD
Director, Center for Global Health
Centers for Disease Control and Prevention
Dear Colleagues,

Greetings and welcome to the 66th Annual Epidemic Intelligence Service (EIS) Conference and Field Epidemiology Training Program (FETP) International Night.

International Night celebrates the remarkable work of FETPs around the world, and for the second year we actually have two International Nights, one night dedicated to poster presentations and one for oral presentations. While this format brings more attention to the great work of FETPs, we can still only feature a fraction of the programs and their public health successes. This year, we could only accept 27 of 307 abstracts submitted. So as we congratulate this year’s featured presenters, we also recognize the hundreds of projects and many programs that continue to advance public health and save lives around the globe but do not necessarily appear in your International Night program. Some of this impactful work can be visualized through the amazing photographs on display as part of the 2017 FETP photo contest, so please take time to explore these images.

FETP remains the cornerstone of public health workforce development globally and critical to strengthening International Health Regulations core capacities. Accordingly, a strong public health workforce through programs like FETP is fundamental to countries’ reaching the milestones of WHO’s Joint External Evaluation and the Global Health Security Agenda. CDC remains committed to supporting FETPs and has made great progress since last year’s International Night. CDC, alongside ministries of health and other partners, have helped train more than 3800 Advanced FETP graduates from over 70 countries, many of whom now hold leadership positions in their host countries. In the past year we also saw rapid growth of the Frontline training, now with 32 programs and >1800 graduates. This expansion includes the launching of 7 of the 9 Frontline programs planned in Zika-affected countries in Latin American and the Caribbean.

As we honor the collective work and accomplishments of FETP trainees tonight, public health threats persist and FETPs remain on the front lines of the response. Recent yellow fever outbreaks and the continued threat of Zika virus highlight the critical contributions of FETP trainees and graduates, not just to individual responses but to an ever-strengthening surveillance and response infrastructure around the world. Core capacities built by FETP remain central to our collective success in ensuring global health security.

Thank you for supporting our presenters and please enjoy International Night!

Kip Baggett, MD, MPH
Chief, Workforce and Institute Development Branch,
Division of Global Health Protection, Center for Global Health Centers for Disease Control and Prevention
Dear Colleagues,

On behalf of the Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET), it is my pleasure to welcome you to FETP International Night 2017. This event continues the tradition of TEPHINET and the U.S. Centers for Disease Control and Prevention (CDC) collaborating to recognize and support the critical work of FETPs in detecting and responding to disease threats worldwide.

This year is an important one for TEPHINET as we celebrate our founding 20 years ago as a network of Field Epidemiology Training Programs. Each of our member programs is experiencing intense activity as demonstrated by their participation in International Night. This year, we received 307 abstracts from 37 countries encompassing the broad range of field investigations of FETP residents and graduates. This is the highest number of submissions in the history of TEPHINET’s participation in this conference. Congratulations to the selected authors, and thank you to all who submitted your work for consideration. I am deeply grateful to all FETP residents, graduates, supervisors and advisors who work tirelessly for public health and safety. Your work is critical in evidence-based decision making for rapid and effective disease outbreak response to advance global health security.

By working together, TEPHINET, CDC, and our network of 67 FETPs in more than 100 countries have achieved improvements in disease detection and response of which I am extremely proud. Your presence here this week indicates that our collaborative efforts are being rewarded by the emergence of a new generation of well-trained, committed public health leaders.

On behalf of the TEPHINET Advisory Board of Directors and the Secretariat, I congratulate all the participants for their commitment to public health and saving lives. Thank you for joining us and supporting FETP International Night.

Prof. Dionisio José Herrera Guibert, MD, FMS, MAE, PhD
Director of TEPHINET
2017 FETP International Night
Poster Presentation Session

Tuesday, April 25, 2017

5:15 pm - 6:00 pm  Photo contest entries available for viewing

6:00 pm - 8:30 pm  Poster Presentations

6:00 pm  Welcome and Introduction of the Poster Presentations
Dr. David Sugerman
(Acting) Program Lead, Field Epidemiology Training Program (FETP)
Workforce and Institute Development Branch
Division of Global Health Protection, Center for Global Health
U.S. Centers for Disease Control and Prevention

6:05 pm – 7:55 pm  Oral Poster Presentations
see listing (pg. 6)

7:55 pm – 8:05 pm  Wrap Up
Dr. Robert Fontaine
Senior Advisor, Field Epidemiology Training Program (FETP)
Workforce and Institute Development Branch
Division of Global Health Protection, Center for Global Health
U.S. Centers for Disease Control and Prevention

8:05 pm – 8:15 pm  Certificate Ceremony
Dr. Kip Baggett
Chief, Workforce and Institute Development Branch
Division of Global Health Protection, Center for Global Health
U.S. Centers for Disease Control and Prevention

Dr. Dionisio Herrera
Director, Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET)

8:15 pm  Closing Remarks
Dr. Kip Baggett

*The Jeff Koplan Award for Best Poster will be given on Wednesday, April 26 during the award ceremony of International Night.

**Presenters please remain for the photo session immediately following the closing remarks.
2017 FETP INTERNATIONAL NIGHT

ORAL PRESENTATION SESSION

WEDNESDAY, APRIL 26, 2017

5:30 pm  Refreshments served

6:30 pm - 9:00 pm  Oral Presentations

6:30 pm  Message from the CDC Foundation
Dr. Judy Monroe
President, CDC Foundation

6:35 pm  Welcome
Dr. Anne Schuchat
(Acting) Director, U.S. Centers for Disease Control and Prevention

6:40 pm  Introduction of Moderators
Dr. Dionisio Herrera
Director, Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET)

Moderators
Dr. Rebecca Martin
Director, Center for Global Health, U.S. Centers for Disease Control and Prevention

Dr. David Ross
President and CEO, Task Force for Global Health

6:45 pm – 8:45 pm  Oral Presentations
see listing (full listing pg.8)

8:50 pm  Presentation of the 2017 FETP International Night Awards
Dr. Kip Baggett
Chief, Workforce and Institute Development Branch
Division of Global Health Protection, Center for Global Health
U.S. Centers for Disease Control and Prevention

Dr. Dionisio Herrera
Director, Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET)

9:00 pm  Closing Remarks
Dr. Kashef Ijaz
(Acting) Director, Division of Global Health Protection, Center for Global Health
U.S. Centers for Disease Control and Prevention
Poster Abstract Listing

Full abstracts are found on the designated page numbers.


Aku, Fortress – Ghana. Antibiotic Susceptibility Pattern of Blood Culture Isolates of Neonates with Sepsis, Volta Regional Hospital, 2016 (page 11)


Balagurusamy, Viduthalai Virumbi – India. Media Surveillance Helps District Infectious Disease Surveillance System by Generating Useful Early Warning Signals for Prompt Action, Tiruvallur District, Tamil Nadu, India, 2016 (page 13)

Billah, Mallick Masum – Bangladesh. Improving Weekly Reporting of Adverse Events Following Immunization in Bangladeshi Cities, 2015 (page 14)


Camara, Neema – Tanzania. Prevalence of Tobacco Use and Secondhand Smoke Exposure and Associated Risk Factors among Adults in Ilala Municipal Council, Dar Es Salaam, Tanzania, 2016 (page 16)

Housen, Tambri – Australia. Estimating the Prevalence of Anxiety, Depression and Posttraumatic Stress Disorder in the Kashmir Valley (page 17)

Kanu, Njideka – Nigeria. Social Support and Adherence to Anti-Retroviral Therapy among HIV patients in University of Port Harcourt Teaching Hospital, Port Harcourt, Nigeria, 2016 (page 18)

Kartskhia, Natia – Georgia. Rabies Case-Control Study among Cattle, Guria Region, Republic of Georgia, 2016 (page 19)

Li, Dengfeng – China. An Outbreak of Typhoid Fever Caused by Contaminated Delicatessen and Vegetables in Jiangsu Province, China, 2016 (page 20)


Mugari, Hamufare – Zimbabwe. Hospital-Acquired Neonatal Sepsis Outbreak in an Intensive Care Unit, Parirenyatwa Group of Hospitals, Zimbabwe, 2016 (page 22)

Öezarslan, Fatma – Turkey. Food-borne Outbreak Associated with Staphylococcus aureus enterotoxin and Bacillus Cereus in 25 schools—Aksaray, Nevsehir, Nigde Provinces, Turkey, May 2015 (page 24)


Shamim Khan, Muhammad – Pakistan. Investigation of Foodborne Outbreak in a Wedding Reception in a village in District Chitral, Pakistan in October 2016 (page 26)

Sheel, Meru – Australia. Eliminating Lymphatic Filariasis: Comparing School-based Transmission Assessment Survey and a Community-based Survey, American Samoa, 2016 (page 27)


Tapesana, Stanely – Zimbabwe. Clinical Care Given to Victims of Sexual Abuse at Kadoma General Hospital, Zimbabwe: a Secondary Data Analysis, 2016 (page 29)

Wei, Qin – China. An Epidemiologic Investigation of Haff Disease Outbreak in China, 2016 (page 30)
**Oral Abstract Listing**

Full abstracts are found on the designated page numbers.

6:40 pm  **Abdi, Abdikadir – Kenya.** Measles Vaccination Coverage and Risk Factors for the Lack of Vaccination among Children Aged 12-23 Months in Settled and Nomadic Populations of Wajir County, Kenya, 2016 (page 31)

7:00  **Gardiner, Daniel – United Kingdom.** Use of an Ingredient-based Analysis to Investigate a National Outbreak of Shiga Toxin-producing Escherichia coli serotype O157 PT34, United Kingdom, July 2016 (page 32)

7:20  **Hamed, Mahnaz – Afghanistan.** The Prevalence of Major External Birth Defects at a Hospital in Kabul, Afghanistan, 2016 (page 33)

7:45  **Nakiire, Lydia – Uganda.** A Measles Outbreak Propagated by Children Congregating at Water Collection Points: Mayuge District, Eastern Uganda, October 2016 (page 34)

8:05  **Sahu, Rajesh – India.** Outbreak Investigation of Acute Diarrheal Disease during a Religious Festival Associated with Drinking Contaminated Pipeline Water, Radhakund, Uttar Pradesh, India – November 2016 (page 35)

8:25  **Seogo, Hamadou Pedwinde – Burkina Faso.** Etiology and Risk Factors for Meningitis during an Outbreak in Batié Health District, Burkina Faso, January-March 2016 (page 36)
Awards

Director’s Award for Excellence in Epidemiology and Public Health Response

This award is presented in recognition of significant contributions toward successful responses to public health emergencies (natural and manmade disasters, disease outbreaks, etc.). Nominees can include FETPs or FELTPs who have provided successful leadership in important public health responses while overcoming challenging circumstances. The award is also to recognize excellence in epidemiologic practice or research and contributions that address a public health issue of major importance by applying epidemiologic principles and methods. Nominations can recognize accomplishments that improved human health; made a substantial reduction in burden of disease; or represented innovations to public health practice based on epidemiologic foundations or implementation of epidemiologic approaches. Recognized contributions should be practical, explicit, and applied rather than theoretical or implicit.

Jeffrey P. Koplan Award for Excellence in Scientific Presentation

The Jeffrey P. Koplan Award for Excellence in Scientific Presentation was established in 2014 in honor of Dr. Jeffrey P. Koplan, former Director and 26 year veteran of the U.S. Centers for Disease Control and Prevention for his outstanding contributions to improving public health globally and his commitment to excellence in scientific research, analysis, and presentation. The Jeffrey P. Koplan Award is presented to the winner of the scientific poster presentation that most effectively emphasizes the results of an investigation and its impact on public health.

Dr. Koplan is a Past-President of the International Association of National Public Health Institutes. He currently serves as Vice President for Global Health at Emory University and is the former Director of the Emory Global Health Institute, an organization created to advance Emory University’s efforts to improve health around the world. Before assuming this position, Dr. Koplan was Vice President, Academic Health Affairs for Emory University’s Woodruff Health Sciences Center, and Director and 26 year veteran of CDC.

Dr. Koplan has served on many advisory groups and consultancies in the U.S. and overseas, and has written more than 200 scientific papers. He served as a trustee of Yale University, and is currently on the boards of the Marcus Family Foundation, Michael C. Carlos Museum, Kaiser Foundation Health Plan of Georgia, Inc., and HealthMPowers.

William H. Foege Award

The William H. Foege Award was established in honor of Dr. William H. Foege, the renowned epidemiologist, Presidential Medal of Freedom recipient and former CDC Director credited with devising the global strategy that led to the eradication of smallpox in the late 1970s. The award is the highest FETP International Night honor and is presented to the best oral presentation.

Dr. Bill Foege, is an Emeritus Presidential Distinguished Professor of International Health at Emory University and former CDC Director from 1977 to 1983. Dr. Foege founded The Task Force for Child Survival (later renamed The Task Force of Global Health) and served as its executive director from 1984-2000. Under Dr. Foege’s leadership, The Task Force developed and applied a model of collaboration that resulted in childhood immunization rates in the developing world increasing from 20 to 80 percent in just six years. He has also previously served as a Senior Fellow at the Bill and Melinda Gates Foundation and a Director at The Carter Center.
ABSTRACT

Author: Isamidin Abduraupov

Background: In 2014, infant mortality in Batken Province was 21/1000 live births, this is at least four times the rate in a developed country (2-5/1000). Batken is a remote and economically underdeveloped region in Kyrgyzstan with a population of 500,000. In 2016, we conducted a population-based, case-control study with the aim to improve infant survival by identifying modifiable risk factors for infant deaths in the region.

Methods: The study population was live births delivered in 2015 and identified from civil registration data. Cases were all deaths that occurred in the first year of life between Jan 2015–July 2016 (n=212). Controls were selected randomly from the sampling frame of children who survived the first year of life (n=284). Through interviews and medical records reviews, we ascertained the children’s health status, the families' environmental and sociodemographic conditions, breastfeeding, and other relevant factors. We used logistic regression to assess the risk factor-infant mortality associations.

Results: Of the 212 cases, 95% were born to mothers with anemia at delivery (controls-80%), 38% had low birthweight <2500 gm (controls-1%), 21% were not fully vaccinated according to age (controls-14%), and 44% had breastfeeding (controls-99%). Sixty-five percent (n=138) of infant deaths occurred within 28 days after birth. Independent risk factors for infant deaths were: low birthweight (OR=5.9, 95% CI 1.2-30.3), inadequate vaccination (OR=5.9, 95% CI 2.9-12.1), and the mothers’ school education (vs. high education). Breastfeeding was protective (OR=0.001, 95% CI 0.0001-0.02).

Conclusion: Factors operating during early life (birthweight, possibly mothers’ anemia) are predictors of infant deaths. Vaccinated infants and those breastfed have better chance of surviving the first year of life. To improve infant survival, we recommend health education to promote breastfeeding and vaccination; and that adequate health care is provided to women during pregnancy and to infants, especially in early life.
Aku, Fortress

Country: Ghana

Abstract Title: Antibiotic Susceptibility Pattern of Blood Culture Isolates of Neonates with Sepsis, Volta Regional Hospital-2016

Short Biography: Fortress Yayra Aku is a Laboratory Scientist with The Ghana Health Service since 2011. She entered into the Ghana Field Epidemiology and Laboratory Training Programme (GFELTP) in 2014.

While there, she has undertaken several field works with fellow epidemiologists including outbreak investigations and surveillance data analysis. Notable among them is working with the team from CDC and Ghana who investigated the Meningitis outbreak in the three Northern regions in Ghana in 2016. She is an alumnus of the GFELTP and currently works at the Volta Regional Hospital Laboratory.

Fortress is a team player, dedicated and a committed person who welcomes innovations and is a goal getter.

ABSTRACT

Authors: Fortress Aku, Patricia Akweongo, Donne Ameme, Kofi Nyarko, Ernest Kenu, Edwin Afari, Samuel Sackey, Frederick Wurapa

Background: Antibiotic resistance is rapidly emerging as a major public health threat in Neonatal Intensive Care Units particularly in developing countries. Changes in microorganisms have been reported to vary across regions, and even within the same facility. Continuous surveillance is therefore required to inform antibiotic choice for sepsis management. Using a health facility-based surveillance, we identified the causative organisms of neonatal sepsis and their antibiotic susceptibility patterns in a Ghanaian referral hospital.

Methods: We conducted cross-sectional study in the Volta Regional Hospital (VRH) from January to May 2016. A semi-structured questionnaire was used to collect socio-demographic and clinical data from mothers of all neonates admitted with clinical suspicion of sepsis. Blood samples were taken from neonates for culture and antibiotic susceptibility testing using the Kirby-Bauer disc diffusion method. Data was analyzed descriptively and presented as frequencies and relative frequencies for categorical data as well as median and interquartile range (IQR) for continuous data.

Results: Of 150 neonates with clinically suspected sepsis, 91(60.7%) were males and 115 (76.7%) were aged less than seven days. Median birth weight was 3.0kg (IQR: 2.5-3.4 kg). The prevalence of culture positive sepsis was 26 (17.3%) of which 18 (69.2%) grew gram-positive organisms. Staphylococcus epidermidis was the most common organism; isolated from 14 (53.8%) neonates with sepsis and 50% sensitive to Gentamycin. Two (7.7%) culture positive samples each grew Proteus mirabilis and Escherichia coli, both resistant to Ampicillin, and sensitive to Cefotaxime. Escherichia coli was sensitive to Gentamycin. No mixed pathogen growth was observed. All isolates were resistance to Ampicillin.

Conclusion: Gram-positive organisms were the commonest blood culture isolates from neonates with sepsis admitted at VRH. Staphylococcus epidermidis was the predominant isolate. There was high antibiotic resistance with universal Ampicillin resistance. We recommended a review of Ampicillin as first line drug for empirical treatment of neonatal sepsis.
Alrawahnih, Mohammad

Country: Jordan

**Abstract Title:** Epidemiology of Animal Bite and Animal Rabies in Jordan, 2015-2016

**Short Biography:** FETP Resident

Ministry of Health – Jordan

He holds a Bachelor of Medicine and General Surgery from Ivan Frankivsk National Medical University, Ukraine.

**ABSTRACT**

**Authors:** Mohammad Alrawahnih, Ahmad Abu Slaih, Ibrahim Iblan, Nansi Abdelrahim, Fatima Zerriouh, Ahmed Obaidat, Abdallah Matouq, Ayman Bani Mousa, Yousef Khader

**Background:** Rabies continues to be a major public health problem worldwide. Multiple factors contribute to high mortality and morbidity due to animal bites. An effective strategy for control of rabies should take into account the epidemiology of animal bites and rabies. This study aimed to describe the epidemiology of animal bites in Jordan over the period 2015-2016.

**Methods:** A descriptive surveillance-based study was conducted. The study included all data about animal bites and rabies from the national surveillance system for the period 2015-2016. The characteristics of the reported animal bites were described according to gender, age, geographic area, year, and type of the animal bites. The incidence rate of animal bites was calculated per 100,000 population.

**Results:** A total of 10,336 animal bites were reported in 2015 and 5,068 animal bites were reported in 2016. In both years, the number of cases peaked in the period from June to September. The incidence rates of animal bites per 100,000 population were 53.2 in 2015 and 55.6 in 2016. About 59% of cases were in the central region, 37% in the north, and 4% in the south. About 75% of animal bite victims were males and 46% were older than 20 years. Of the 31 suspected animal rabies, 23 animals tested positive (9 in 2015 and 14 in 2016). Cow and dogs represented the largest proportion (44% and 36%, respectively) followed by horse (8.0%), camel (8.0%), and cat (4%). Of all victims, one patient was diagnosed with rabies and this is the only case since 2007.

**Conclusion:** Animal bites continue to be a problem in Jordan. Efforts to protect people against animal bites are essential for preventing rabies. There is a need to create awareness regarding epidemiology and management of animal bites among the service providers and general community.
Balagurusamy, Viduthalai Virumbi

Country: India

Abstract Title: Media Surveillance Helps District Infectious Disease Surveillance System by Generating Useful Early Warning Signals for Prompt Action, Tiruvallur District, Tamil Nadu, India, 2016

Short Biography: Dr. Viduthalai Virumbi Balagurusamy is Scientist D & Program Coordinator in National Institute of Epidemiology (NIE-ICMR) under ‘Model district Project for Public Health Preparedness, Surveillance and Response’ at Chennai, India. He has been contributing to key areas of public health visualization, maternal and child health, disaster preparedness and response, emergency surveillance systems and mass gathering management. He is involved in designing, development and implementation of mobile and web based real-time information technology solutions for public health preparedness, surveillance and response.

ABSTRACT

Authors: Viduthalai Virumbi Balagurusamy, Ganeshkumar Parasuraman, Jeromie Thangaraj, Manoj Murhekar

Background: Health-related events such as clusters of fever and diarrhea are reported in informal sources, such as press, television and social media. These information sources can complement the existing surveillance system for generating early warning signals. We established surveillance of such informal sources as a component of the district infectious disease surveillance system at Tiruvallur district, Tamil Nadu, India.

Methodology: We identified 49 informal sources including newspapers, news channels, online news websites, mobile news applications, social media, web-based forecasting, search engines and government portals. We screened these sources for health-related signals. All events were entered in open-source Android application and synchronized to a cloud server. We categorized the reported events into 11 alerts and 3 response groups. We assigned unique identifiers and wrote brief descriptions. We shared these reports along with relevant images/clippings in a mobile-based messaging platform moderated by the district health officer and epidemiologist. The group members who could post relevant events included health workers at various levels. District officials verified these events and initiated action. Action taken reports and daily summaries by place were shared.

Results: Total of 145 alerts were posted and 52 (36%) of them were public health-related events. Thirteen events (9%) were reported during holidays. Among the public health-related events, 20 (39%) were disease related signals. District surveillance authorities initiated response for seven such events. All the action taken reports was received at district surveillance unit and reported through through the mobile platform and emails.

Conclusion: Media surveillance established at district surveillance unit enabled the system to generate early warning signals, initiate response, receive action taken report, even during holidays. Media surveillance can be made functional on all days and mainstreamed into the district public health system.
ABSTRACT

Authors: Mallick Masum Billah, Shua J Chai, Emily S Gurley, Erin D Kennedy, Syed Md. Baqui Billah, Tajul Islam A Bari, Meerjady Sabrina Flora, Mahmudur Rahman

Background: In Bangladesh, adverse events following immunization (AEFI) are reported weekly to the national immunization program from seven cities using paper-based forms submitted via mail. We found late reporting, incomplete reporting, and underreporting during an AEFI surveillance evaluation in 2014. We piloted exclusive AEFI training and electronic reporting to determine whether they improved timeliness and completeness of reports and decreased underreporting.

Methods: We conducted a quasi-experimental study among the reporting cities from January–August 2015. We implemented interventions in four cities chosen to ensure a range of baseline timeliness and reported rate; we compared results against the three remaining cities. We trained vaccinators on AEFI management and reporting and implemented electronic reporting. We compared the percentage of reports submitted by the weekly deadline, percentage of complete reports, and reported AEFI rate per 100,000 vaccinations before and after interventions both in intervention and nonintervention cities, using the z-test for two proportions. We compared report delays by the Mann–Whitney U test.

Results: In intervention cities, percentage of timely reports increased from 11% to 46% (p<0.001); nonintervention cities showed no change (13% to 14%, p=0.8). Median delay of submission decreased in intervention cities from 9 to 1 day (p<0.001) but did not change in nonintervention cities (12 to 11 days, p=0.8). Percentage of fully completed reports increased in more in intervention cities from 42% to 75% (p<0.001) than in nonintervention cities (68% to 81%, p=0.03). Reported AEFI rates remained much lower than comparable regional rates and did not change significantly in any city.

Conclusions: Exclusive AEFI training and electronic reporting substantially improved the timeliness of weekly reports and percentage of completed AEFI reports. Further qualitative studies can help clarify whether the reported low rate of AEFIs are accurate or whether barriers exist to reporting.
Bosa, Henry Kyobe

Country: Uganda

Abstract Title: Outbreak of Pneumonia and Meningitis among Military trainees – Uganda, October 2016 – January 2017

Short Biography: I am an epidemiology fellow in the Uganda Public Health Fellowship Program based at Uganda Virus Research Institute, Entebbe. I began my carrier as a medical doctor before I drifted to emerging infectious diseases epidemiology and clinical care, which are my areas of interest. Before joining the fellowship program, I had worked on: dengue in Somalia, Marburg and Ebola is Sierra Leone and Uganda as a clinician. In my one year of the fellowship I have worked on Rift Valley fever outbreak response, Yellow Fever outbreak and enhanced surveillance and a complex Neisseria Meningitides serotype W outbreak response among military recruits.

ABSTRACT

Authors: Henry Kyobe Bosa, Daniel Bulwadda, Ambrose K Musinguzi, Bernard Lubwama, Daniel Kadobera, Alex Riolexus Ario, Rhoda Wanyenze, Bao-ping Zhu

Background: On 23 November 2016, a trainee at Military Training Camp A died of a febrile disease. Autopsy showed purulent meninges, lung consolidation, unilateral pleural effusion, and gram-negative diplococci on a meningeal swab. Multiple additional trainees presented with pneumonia, meningitis, and conjunctivitis. We investigated to ascertain the disease’s nature and recommend control measures.

Methods: We defined a probable case as sudden onset of fever in a Camp A trainee from 1 November onward with ≥2 of the following: severe headache, neck stiffness, acute chest pain, restlessness, or altered mental state. We reviewed medical-records and conducted active case-search. We conducted descriptive epidemiology, environmental assessment, and bacteria culture of conjunctivae pus swabs.

Results: Training at Camp A started on 18 October 2016. Between 1 November 2016 and 5 January 2017, 186 cases (two deaths) had occurred among 3,147 trainees (attack rate=5.3%; case-fatality rate=1.1%). Of case-patients, 80% (148/186) presented with clinical lobar pneumonia (5 with radiological evidence; 1 with postmortem evidence); 18% (34/186) presented with acute meningococcal meningitis; 2.2% (4/186) presented with both. All five Camp A regiments were affected (attack rate: 3.4%–7.7%). No administrators or instructors (n=890) were affected. Women had a higher attack rate (13%) than men (5.7%). Of 18 conjunctivae pus swabs from case-patients with acute severe purulent conjunctivitis, 16 yielded Neisseria meningitidis serogroup W135 (MenW135) by culture. Blood culture has not been performed. No trainees had received MenW135 vaccination. On average, each trainee had 0.59m2 of sitting space and 0.77m2 of standing space during training. Few hand-washing facilities were available. Mixing of trainees from different regiments occurred constantly.

Conclusion: An outbreak of MenW135 infections, with suspected involvement of additional organisms (e.g., pneumococci), occurred in Camp A. Crowding, inadequate hand-washing, and trainee mixing might have facilitated the outbreak. We recommended hand-hygiene and administration of MenW135-containing vaccine.
Camara, Neema

Country: United Republic of Tanzania

Abstract Title: Prevalence of Tobacco Use and Secondhand Smoke Exposure and Associated Risk Factors among Adults in Ilala Municipal Council, Dar Es Salaam, Tanzania, 2016

Short Biography: Miss Neema Camara is a public health officer and an epidemiologist currently working with the World Health Organization- Tanzania country office in responding to the cholera outbreak in Tanzania. Her interest lies in the prevention and control of non-communicable diseases.

ABSTRACT

Authors: Neema Camara, Germana H. Leyna, Rogath Saika Kishimba, Ahmed Abade

Background: Tobacco use and secondhand smoking exposure are leading risk factors for non-communicable diseases globally. In Tanzania, current tobacco use estimates are outdated and little is known about SHS exposure. We evaluated prevalence and determinants of tobacco use among adult and secondhand smoke (SHS) exposure among nonsmoking adults in Ilala, a dense, economically and ethnically diverse district of Dar es Salaam and its socio-economic hub.

Methodology: A multistage cross-sectional survey was conducted in April 2016 among individuals aged >15 years residing in Ilala and yielded 758 participants (overall response rate 99.0%). Trained community members conducted structured interviews to collect information on socio-demographic characteristics, tobacco use, and SHS exposure. Prevalence of tobacco use among all adults and SHS exposure among nonsmoking adults were calculated, and logistic regression models were fitted to identify determinants of both.

Results: Exploratory unweighted results showed overall prevalence of tobacco use and SHS exposure were 13.1% (95%CI:10.9–15.9) and 34.5% (95%CI:30.9–38.3), respectively. Prevalence of tobacco smoking was higher (12.8%, 95%CI:10.5-15.4) than smokeless tobacco use (1.7%, 95%CI:1.0-3.0). Among men, 31.5% (95%CI:26.0-37.4) used tobacco products; tobacco use in women was negligible. Among nonsmokers, 47.3% of men and 29.6% of women were exposed to SHS. Age >25 years was positively associated with tobacco use, compared with age 15-24 years (aOR=5.2; 95%CI: 2.0–13.2). Compared with being unemployed, being a housewife/retired/student was negatively associated with tobacco use (aOR=0.2; 95%CI: 0.1-0.6) while being a nongovernment employee was positively associated with SHS exposure (aOR=2.8; 95%CI: 1.2-6.7).

Conclusion: The results suggest concerning rates of tobacco use and SHS exposure in Ilala, although weighted analyses are crucial to confirm. As Ilala is the fast growing and most populous area of the national capital, it is important to reinforce evidence-based tobacco control measures in order to effectively reduce tobacco use and SHS exposure among its residents.
ABSTRACT

Authors: Tambri Housen, Annick Lenglet, Con Ariti, Showkat Shah, Helal Shah, Shabnum Ara, Kerri Viney, Simon Janes, Giovanni Pintaldi

Background: Studies on the prevalence of psychological distress in conflict affected contexts are rarely representative. We conducted a representative cross-sectional population-based survey of adults to estimate the prevalence of anxiety, depression and posttraumatic stress disorder (PTSD) in the ten districts of the Kashmir Valley.

Methods: Between September and December 2015, we interviewed 5,519 out of 5,600 invited participants, ≥18 years of age, who were randomly sampled using a probability proportional to size cluster sampling design. We estimated the prevalence of a probable psychological disorder using the Hopkins Symptom Checklist (HSCL-25) for depression and anxiety and the Harvard Trauma Questionnaire (HTQ-16) for PTSD. Data was weighted to account for the sampling design and prevalence estimates were calculated. Multivariate logistic regression analysis was used to identify risk factors for developing symptoms of psychological distress.

Results: The estimated prevalence of mental distress in adults in the Kashmir Valley was 45% (95% confidence interval [CI] 42.6-47.0). We identified 41% (95% CI 39.2-43.4) of adults with probable depression, 26% (95% CI 23.8-27.5) with probable anxiety and 19% (95% CI 17.5-21.2) with probable PTSD. The three disorders were associated with the following characteristics: being female, older age, having had no formal education, living in a rural area, and being widowed/divorced or separated. A dose-response association was found between the number of traumatic events experienced or witnessed over a lifetime and mental distress [3-5 traumatic events, OR 1.54, 1.16-2.04; 6-10 traumatic events OR 3.14, 2.39-4.12 and >10 traumatic events OR 5.50, 4.02-7.52].

Conclusion: We found a high prevalence of mental distress in adults living in all 10 districts of the Kashmir Valley. The implementation of mental health awareness programs, interventions aimed at improving mental health in high risk groups, and specific interventions which address trauma related symptoms are needed in the Kashmir Valley.
Kanu, Njideka

Country: Nigeria

Abstract Title: Social Support and Adherence to Anti-Retroviral Therapy among HIV Patients in University of Port Harcourt Teaching Hospital, Port Harcourt - Nigeria, 2016

Short Biography: Dr Njideka Esther Kanu is a FELTP-trained Epidemiologist and a Fellow of the West African College of Physicians. Her interests lie in Infectious Disease Epidemiology, epidemiological and operational research for health decision making. As an FELTP graduate, she provides technical expertise in Disease Control Program Management including immunization programs, Polio Eradication Initiatives, HIV/AIDS control program, disease outbreak investigation, disease surveillance and response systems at all levels. She is an instructor and mentor in the Frontline FETP in Nigeria.

Dr Kanu is currently teaching Epidemiology to medical students in the University of Medical Sciences, Ondo, Nigeria.

ABSTRACT

Authors: Njideka Kanu, Babatunde Adedokun, Onoja Akpa, Muhammad Balogun

Background: Non-adherence to Anti-Retroviral Therapy (ART) is a major cause of HIV drug resistance and subsequent immunological and clinical failure. Stigma and discrimination are major barriers to HIV prevention and care globally, leading to isolation, loneliness and lack of interest in containing HIV/AIDS. Approximately 50% of Nigerians have HIV stigma. We investigated the association between social support and adherence to ART among HIV patients in Port Harcourt City.

Methods: We conducted an unmatched 1:1 case-control study with 192 cases and 192 controls, selected consecutively among HIV patients attending the anti-retroviral clinic of the University Teaching Hospital. A case was a patient who had taken <95% of prescribed dose, while a control was a patient who has taken ≥95% of prescribed dose in the 2 weeks prior to the study. Social support was measured with Medical Outcomes Study Social Support Survey. We collected data on socio-demographic characteristics and factors influencing adherence using a structured interviewer-administered questionnaire. We analyzed data with frequencies, chi-square and logistic regression.

Results: The mean age of cases and controls were 36.7±9.0 years and 37.5±8.6 years respectively. Females constituted 78.6% of cases and 75% of controls. The cases and controls differed significantly in socio-economic class (χ²=240, p<0.001). Non-adherence to ART was associated with poor social support, among patients in lower socio-economic classes IV-V (OR=3.34, 95%CI=1.43–7.81). Non-adherence was also associated with poor informational/emotional support (AOR=4.46; 95%CI=1.98–10.05) and poor affectionate support (AOR=1.82; 95%CI=1.03–3.22). Feeling depressed (p=0.001), unacceptable clinic waiting time (p=0.022) and dissatisfaction with support received from partner (p<0.001) were independent risk factors associated with non-adherence.

Conclusion: Poor social support is a risk factor for non-adherence among HIV patients in lower social class. People who are satisfied with support from partners are more likely to be adherent. Couple-based adherence counseling was introduced into adherence counseling sessions in the center.
Kartskhia, Natia

Country: Georgia

Abstract Title: Rabies Case-control Study among Cattle, Guria Region, Republic of Georgia, 2016

Short Biography: Ms. Natia Kartskhia is currently a veterinary epidemiologist and South Caucasus Field Epidemiology and Laboratory Training Program Fellow working in the National Food Agency of Ministry of Agriculture of Georgia. Her main responsibilities are to detect the introduction and spread of especially dangerous infectious diseases in animals and to carry out prevention/eradication and control measures. She is the lead coordinator of Rabies and Crimean-Congo Hemorrhagic Fever in Georgia (Country).

ABSTRACT

Authors: Natia Kartshia, Emily Pieracci, Giorgi Maghlakedize, Marika Geleishvili, Ryan Wallace, Jon E. Tongren

Background: In 2015-2016, 21 cases of rabies were confirmed in cattle in Guria, Georgia which is a 500% increase from 2012–2013. The rabies reservoir is unknown, but presumed to be sylvatic or canine. Georgia conducts ring-vaccination (2km) of livestock when a rabies case is identified to prevent transmission of rabies to livestock. In 2015-2016, 20 ring campaigns vaccinated approximately 4,000 animals. A laboratory and case-control study were conducted to identify a potential reservoir and risks for cattle rabies.

Methods: Confirmed cases were rabid cattle with symptoms confirmed by Indirect Fluorescence Assay, rabid cattle without laboratory confirmation were suspect cases. Controls were randomly selected from surrounding villages and area farms (10-20km radius). A questionnaire was administered to the owner. Sequencing was performed on rabies virus from cattle, dog, and wildlife samples.

Results: Twenty-one confirmed cases and an additional 23 suspected cases (n=44) were identified. The control group was divided into area (88) and village controls (87) (total=175). Bites from wildlife (jackals, wolves) was positively associated [14 (32%) cases, 9 (3%) controls] [OR=11, CI 95% 4.2-27] with cases. Two dog bites (4.5%) were reported. A history of cattle rabies vaccination was protective [10 (22%) cases, 94 (55%) controls] [OR=0.3, CI 95% 0.1-0.6]. Sequencing confirmed canine variants in dog samples and a jackal. Cattle results are pending.

Conclusion: Increases in cattle rabies is an economic and public health issue in Georgia. Wildlife exposures appear to be related to cattle rabies, however further phylogenetic analysis is needed. Vaccination of cattle was protective, and increasing coverage may reduce cases. Given the presence of canine rabies, stray dog enumeration and increased canine vaccination should be conducted.
Li, Dengfeng

Country: China

Abstract Title: An Outbreak of Typhoid Fever Caused by Contaminated Delicatessen and Vegetables in Jiangsu Province, China, 2016

Short Biography: After my studies in preventive medicine at Sun Yat-Sen University, I worked at Chaozhou center for disease control and prevention, China. As a trainee of China FETP, my technical interests lie in infectious disease epidemiology, surveillance and emergency response.

ABSTRACT

Authors: Dengfeng Li, Tao Shen, Rongqiang Zu, Changjun Bao

Background: On August 23, 2016, 10 typhoid fever (TF) cases from the same town were reported to the local CDC by a county hospital. We conducted an investigation to identify the cause, transmission mode, risk factors and to recommend measures for control and prevention.

Methods: We defined a suspect case as resident with onset of fever ($\geq 37.5^\circ C$) for more than 3 days in this county between May and November, a confirmed case was defined as a suspected case with isolation of Salmonella typhi from blood or stool. We reviewed medical records in county hospital for active case finding. We conducted a case-control study to compare consumption of food, water, and other potential risk exposures of 107 confirmed patients to 107 controls selected from the same village. We collected delicatessen (prepared store foods), vegetable and water for testing.

Results: We identified 164 cases with attack rate of 9.8/105, including 128 confirmed from June 2 to October 22, 2016, indicating continuous exposure. Seventy-four cases (69%) ate delicatessen foods compared to 33% of controls (odds ratio) [OR]=4.6, 95% confidence interval [CI]:2.6-8.2); 43% of cases also ate raw vegetables compared to controls (21%) (OR=2.9, 95%CI: 1.6-5.4); Logistic regressive analysis indicated that eating delicatessen (OR=4.0, 95%CI=2.2-7.3) and raw vegetables (OR=2.2, 95%CI=1.2-4.8) associated with onset. Salmonella typhi was isolated from the well water of the delicatessen store, which was 100% homology to 13 confirmed cases by pulsed-field gel electrophoresis (PFGE). We also found a septic tank which was 1 meter from the well, overflowing during a heavy rainy season in early July.

Conclusions: This outbreak was attributable to eating contaminated homemade delicatessen and raw vegetables. We recommended that the county shut down any unhygienic delicatessen stores and disinfect well water of the village.
Masumbuko, Elias

Country: United Republic of Tanzania

Abstract Title: Vertical Transmission of HIV infection and Associated Determinants in the Era of Option B+ Use in Mbeya Region, Tanzania, 2016

Short Biography: Elias serves as District Pharmacist/Epidemiologist with Busokelo District Council in Tanzania ensuring medical commodities are available in the council. He also serves as a surveillance officer dealing with data analysis and interpretation of collected data through different health systems available in the country. He has been used as one of the mentors of Frontline course for epidemiology to strengthen surveillance system in the Country. He is a member of NSTOP (National stop transmission of Polio) toward polio end game and sustain elimination stage of measles. Masumbuko is passionate to have more connections to different Public health specialists for sharing different public health interventions.

ABSTRACT

Authors: Elias Masumbuko, Elia Mmbaga, Ahmed Abade, Rogath Saika Kishimba

Background: Mother-to-child transmission (MTCT) accounts for over 90% of new HIV infections among children. Without treatment, there is likelihood of 20%-45% of infected mothers transmitting their infection to their children. Tanzania Ministry of Health, started implementing Option B+ (Tenofovir/Lamivudine/Efavirenz (TLE) combined) as one of the strategies to eliminate mother to child HIV transmission (eMTCT). We determined rate of vertical transmission and associated determinants in the era of TLE use in Prevention of MTCT.

Methods: Nested-Case Control study was used to determine rate of vertical transmission and determinants of MTCT among pregnant/breastfeeding women on TLE from October 2013 to December 2015. Data was collected using a structured questionnaire and record review. Odds ratio (OR) was used as a measure of association and all variables with p<0.05 at multivariate level was considered independently associated with the outcome.

Results: The median age of 292 (247 pregnant and 45 breastfeeding) mothers enrolled in the study was 30 years (range 18-47 years). Sixty percent (177) were married while 86.3%(252) had primary education. The HIV vertical transmission rate during TLE use was found to be 10.6% (95%CI 7.3%-14.7%). Significant determinants for vertical transmission of HIV during TLE use were: Home delivery Adjusted Odds Ratio (AOR)=28.5,95% Confidence Interval (CI) (1.61-506.43), short duration (<6 months) on TLE AOR=219.0, 95%CI (11.03-4346.62) and practice of mixed feeding AOR=69.7 95%CI (2.68-1815.16).

Conclusion: The rate of MTCT of HIV infection is unacceptably high in Mbeya region in this era of TLE use compared to the recommended rate. Mixed feeding during the first six months of child’s life, home delivery and short duration of being on TLE were significant determinants for vertical transmission of HIV. PMTCT programming should be tailored to promote facility delivery, early diagnosis, initiation to TLE and adherence to exclusive breastfeeding in the first six months of life of an exposed child.
Mugauri, Hamufare

Country: Zimbabwe

Abstract Title: Hospital-acquired Neonatal Sepsis Outbreak in an Intensive Care Unit, Parirenyatwa Group of Hospitals, Zimbabwe, 2016

Short Biography: Mr Hamufare D. Mugauri is a public health officer at the AIDS and TB unit of the Ministry of Health and Child Care head office, Zimbabwe and a resident in the Zimbabwe Field Epidemiology Training Program (FETP) from January 2016 to December 2017 with University of Zimbabwe. He holds a Bachelor of Science (Honours) in Nursing Science Degree from Zimbabwe Open University, an International Postgraduate Pediatric Certificate (IPPC) from the University of Sydney, Australia and a Diploma in General Nursing fromMpilo Central Hospital, Zimbabwe. His technical interests lie in infectious and noncommunicable disease epidemiology, disease surveillance and operational research.

ABSTRACT

Authors: Hamufare Mugauri, Sithabiso Dube, Notion Gombe, Owen Mugurungi, Tapuwa Magure, Tsitsi Patience Juru, Gerald Shambira, Mufuta Tshimanga

Background: Neonatal sepsis is among leading causes of morbidity and mortality among term and preterm infants particularly in Neonatal Intensive Care Units (NICU). Pathogens implicated are mostly hospital-acquired. Parirenyatwa NICU experienced surge in neonatal sepsis incidences, recording 108 patients and 41 deaths in 5 months. We determined factors associated with neonatal sepsis morbidity and mortality.

Methods: A retrospective cohort study of neonates (<28 days-old) admitted from 1 June to 31 October 2016 and key informant interviews were conducted. Environmental and hand swabs were collected for laboratory analyses. Blood culture results were reviewed and checklists utilized to evaluate infection control adherence. Neonatal sepsis was identified as a clinical syndrome resulting from systemic infection. Epi-Info™ was used to compute proportions, relative risks, attributable risks and corresponding 95% confidence intervals.

Results: The entire cohort of 641 clinical records of admitted neonates were reviewed. One hundred and two (94%) of neonatal sepsis patients were hospital-acquired, whilst 6% had neonatal sepsis on admission. Suctioning (RR=9.6; 95%CI, 5.4-17.1) increased the risk for neonatal sepsis and 80.6% of neonatal sepsis patients were attributable to mechanical ventilation (95%CI, 71.5-89.6). Klebsiella and pseudomonas species were isolated from ward equipment and sinks. Water testing yielded sphingomonas paucimobilis. Hand swabs yielded pseudomonas and staphylococci species. Among neonatal sepsis patients, 78.2% (n=101) yielded positive klebsiella cultures [RR 2.0; (95%CI 1.5-2.8), AR% 48.4; (95%CI 33.4-63.4) Neonatal sepsis increased risk of death by 10.11 times, excess risk of death from neonatal sepsis was 34.2 per 100. Health workers had high-knowledge-low-compliance to infection control standards.

Conclusion: Outbreak was driven by mainly klebsiella induced, hospital-acquired sepsis, from a point source and spread through cross infection. Suspending mechanical ventilation and thorough disinfection (during temporal closure) controlled the outbreak. Compliance to key infection control protocol and continuous surveillance of neonatal infections were considered for prevention of similar outbreaks.
Ochieng, Beatrice  

Country: Kenya  

Abstract Title: Assessing Consumption of Folic Acid Fortified Staples and Associated Factors for Consumption among Women of Reproductive Age in Kisumu East District, Kenya, 2016

Short Biography: My name is Beatrice A. Ochieng. I hold a Bachelor of Science degree in Nursing and a Master's degree in Field Epidemiology. I am currently working at The Neonatal, Child and Adolescent Heath unit, Ministry of Health Kenya as a Monitoring and Evaluation officer. My technical interests are non-communicable disease epidemiology, monitoring and evaluation and operational research. I am currently coordinating the birth defects surveillance program in Kenya.

ABSTRACT

Authors: Beatrice Ochieng, Jane Githuku, Lucy Gathigi, Zeinab Gura, Sara Lowther, Jennifer Williams, Grace Ettyang, Diana Valencia

Background: Inadequate preconception intake of the micronutrient folic acid (FA) can lead to anemia in pregnancy and neural tube defects (NTDs). Kenya has fortified staple foods with FA since 2012, but extent of consumption of these is unknown.

Methods: We conducted a population-based, cross-sectional study among reproductive-age women in Kisumu. Using multistage sampling, interviewers administered semi-structured questionnaires to gather information on demographics, knowledge of FA/food fortification and benefits, and FA-fortified staple consumption. Using Epi-Info, logistic regression modeling was conducted to examine factors associated with FA consumption.

Results: We enrolled 743 women (median age 27 years; range 15–49). Although 86% knew about FA, only 6% knew FA's benefits for NTD prevention. Overall knowledge on food fortification was 45%, 31% knew staples were fortified with FA in Kenya, and 19% identified Kenya's food fortification logo. The main information source about FA was healthcare providers (77%). Majority of the respondents (73%) reported consuming FA-fortified staples ≥2–3 times a week. The most commonly consumed FA-fortified staple was wheat flour at 68% and 43% consumed fortified maize flour. FA-fortified staple consumption was associated with counselling on importance of consuming FA-fortified staples (adjusted odds ratio (aOR) 4.4, 1.8–10.5); receiving information about FA preconceptionally (aOR 3.3, 1.3–8.7); knowledge of FA-fortified staples in Kenya (aOR 2.8, 1.6–5.1); and knowledge of the preconception benefits of FA (aOR 2.5, 1.5–4.2).

Conclusion: Consumption of FA-fortified staples was high despite low appreciation of NTD prevention, thus underscoring the importance of a national fortification strategy. We strongly recommend inclusion of other commonly used staples in the national fortification plan and further educating the population about the benefits of FA to improve coverage of at-risk groups and help prevent severe Neural Tube Defects.
Özarslan, Fatma

Country: Turkey

Abstract Title: Food-borne Outbreak Associated with Staphylococcus aureus enterotoxin and Bacillus cereus in 25 schools—Aksaray, Nevsehir, Nigde Provinces, Turkey, May 2015

Short Biography: Dr. Fatma Ozarslan graduated from Medical School of Akdeniz University in 2008. After completing her specialist education in 2013, she worked as a family physician specialist for 2 years. She is a PHD student in public health. Dr. Ozarslan is currently a trainee in Turkey FETP and has conducted several outbreak investigations, including Food-borne outbreak in 25 schools—Aksaray, Nevsehir, Nigde Provinces, Turkey, May 2015. She worked on influenza related deaths, measles research project and surveillance of national enteric pathogens.

ABSTRACT

Authors: Fatma Özarslan, Pinar Duman, Serap Cetin Coban, Fehminaz Temel

Background: On 25 May 2015, 47% (406/872) of students who had lunch prepared in the same food factory from 25 schools in seven districts, in three provinces applied to hospitals suffering from nausea, vomiting and dizziness. This investigation was conducted to identify the cause and mode of transmission and to implement control measures.

Methods: Hospital and school records were reviewed. We conducted face-to-face interviews of 2,872 people to find out who had lunch that day. In this retrospective cohort investigation, a probable case was onset of nausea and vomiting and abdominal pain. We took 24 food and 44 stool samples to identify the agent. We also took nasal swabs of 18 food-handlers at the food factory. We obtained ORadj through logistic regression model including minced meat with peas, pasta with tomato sauce, and buttermilk.

Results: The attack rate among people who ate lunch was 52% (457/872). Number of cases peaked on 25 May 2015 and epidemic curve revealed a point source outbreak. The mean incubation period was 3.3±1.5 hours. Main symptoms were abdominal pain (84%), nausea (83%), vomiting (61%), fever (30%) and diarrhea (29%). We identified 232 probable case-patients. After controlling for minced meat with peas and buttermilk, students who ate pasta with sauce developed illness 7.9 times more than non-exposed (95% CI:4.3-15). Students who ate half serve of pasta developed illness 7.2 times more (95%CI: 3.7-14); and who ate full serve or more developed illness 13 times more (95%CI: 6.7-23). Pasta samples from schools were tested positive for Staphylococcus aureus enterotoxin and Bacillus cereus, and from food factory were tested positive for Staphylococcus aureus enterotoxin.

Conclusion: This outbreak was likely due to contaminated pasta with sauce. Investigations couldn’t reveal the contamination source. We recommended the food factory to implement control and prevention measures and good hygiene practices.
Sadarang, Rimawati Aulia Insani

Country: Indonesia

Abstract Title: Surprise Poison from a Piece of Birthday Cake in an Elementary School, Kulon Progo, Indonesia, 2016 – A Food Poisoning Outbreak Investigation

Short Biography: Rimawati Aulia Insani Sadarang holds a Bachelor of Public Health in Epidemiology from Hasanuddin University (2015). She is a trainee of Indonesia Field Epidemiology Training Program in Universitas Gadjah Mada. She presented two papers at The 6th National Scientific Conference on Epidemiology in Solo, Indonesia (2016), the title were: Synergy Coordination to Improve NCD Control Programs in Kulon Progo, Indonesia, 2016 and Evaluation of Cardiovascular Diseases Risk Factor Screening Program in Kulon Progo, Indonesia, 2016. She was co-principal investigator on malaria outbreak investigation in Kulon Progo (2016) and principal investigator on cutaneous anthrax outbreak investigation in Kulon Progo (2017).

ABSTRACT

Authors: Rimawati Aulia Insani Sadarang, Husni Husni, Sugiarto Sugiarto, Hari Kusnanto

Background: On August 13, 2016, students of an elementary school in Pengasih sub-district were admitted to public health center for acute vomit. Investigation was done to describe the outbreak, to identify source and risk factors, and to prevent future outbreak.

Methods: A retrospective cohort study was conducted. Active case finding was done by defining a case as person who had at least one symptom (nausea, stomachache, dizzy, diarrhea, and vomit) after attending birthday party in school on August 13. Laboratory test of consumed cake, the similar cake with consumed cake from same store, and vomit of students, observation in cake store, and interview with students and teachers using structured questionnaire were done. Data were analyzed with log-binomial regression.

Results: Among 90 people attended the party, we identified 38 cases (attack rate= 42%); 86.84% had nausea and 26.32% vomited. The most case was male (52.63%) and in 4th grade (52.63%). The median incubation time was 80 minutes. People who ate birthday cake were likely to develop food-borne illness at statistically significant levels (RR=50.63, 95%CI=7.26-352.94). Microbiology test identified mold in both of cake sample and Bacillus cereus in consumed cake sample. Cake was bought on the afternoon of August 12 and stored at ambient (room) temperature. Cake was served and consumed by students on the morning of August 13 with unhygienic condition, without hand washing (RR=2.27, 95%CI=1.18-4.38).

Conclusions: This outbreak was associated with consumption of birthday cake contaminated with Bacillus cereus (emetic toxin). Contamination was most probably during storage at home and preparation at school. We recommend to all people at school to active hand washing, especially before and after contact with food, and store bread product in temperature under 10°C, in refrigerator, to prevent growth of mold and pathogenic bacteria.
ABSTRACT

Authors: Muhammad Shamim Khan, Muhammad Saleem

Background: On 2 October 2016, residents of village Jinjiratekoh, Chitral reported illness of about 250 people after taking food in wedding party and were taken to hospital in Darosh. In response, FELTP Fellow visited the village on 3rd October for outbreak investigation to identify the cause and recommend control measures.

Methods: A case was defined as, ‘any person who attended wedding party in village Jinjiratekoh, Darosh, Chitral on 2 October 2016 and developed any of these sign and symptoms, i.e., nausea, vomiting, abdominal pain, dizziness or loose motions during last 24 hours’. Descriptive analysis followed by retrospective cohort study was carried out. Food and water samples were taken and sent to laboratory for analysis.

Results: Among 403 participants of the reception, three hundred and seventy one (92%) developed symptoms. Age range among cases was 3-87 years with mean age of 30 years. One hundred and eighty nine (51%) cases were females. Most cases had nausea (n=361, 97%), followed by vomiting (n=312, 84%), abdominal pain (n=202, 54%) and watery diarrhea (n=111, 30%). Analysis of risk factors suggested that consumption of curry made of meat (RR: 11.02 & 95% CI: 4.58-26.5) and dried meat had strongest association with illness RR: 3.82 & 95% CI: 2.46-5.93). Laboratory results also confirmed growth of gram positive anaerobic spore forming pathogenic bacterium in meat and curry samples.

Conclusions: Contamination of dried, frozen, dried meat during handling was the most probable cause of the outbreak. Health and hygiene awareness sessions were conducted regarding freezing, drying and preserving meat for future use. Guidelines for hygienic preservation of meat were issues by the local authorities.
Sheel, Meru

Country: Australia

Abstract Title: Eliminating Lymphatic Filariasis: Comparing School-based Transmission Assessment Survey and a Community-based Survey, American Samoa, 2016

Short Biography: Dr. Meru Sheel is a Masters of Philosophy in Applied Epidemiology (MAE) Scholar at the Australian National University and the National Centre for Immunisation Research and Surveillance (NCIRS). Prior to starting the field epidemiology training, Meru completed a PhD in immunology and microbiology with a focus on vaccines for group A streptococcal infections and rheumatic heart disease from the Queensland University of Technology and Queensland Institute of Medical Research. Following her PhD, Meru completed post-doctoral training in parasite immunology investigating immune responses during visceral leishmaniasis and malaria. As a current FETP trainee, Meru was deployed with the World Health Organization Division of Pacific Technical Support, Fiji to conduct communicable disease surveillance after Tropical Cyclone Winston in 2016, where she evaluated the early warning and alert response system (EWARS in a Box). In 2016, Meru also conducted a school-based and community-based survey for post-MDA surveillance for lymphatic filariasis in American Samoa. At NCIRS, Meru has been reviewing the epidemiology of varicella zoster virus infections in Australia from 1998-2015.

ABSTRACT

Authors: Meru Sheel, Sarah Sheridan, Katherine Gass, Kimberly Won, Saipale Fuimaono, Martyn Kirk, Patricia Graves, Colleen Lau

Background: Under the Global Programme for Elimination of Lymphatic Filariasis (LF), American Samoa conducted seven rounds of mass drug administration (MDA) from 2000-2006. The World Health Organization recommends systematic post-MDA surveillance using Transmission Assessment Surveys (TAS) for epidemiological assessment of recent LF transmission. We compared the effectiveness of two survey designs for post-MDA surveillance: TAS targeting children aged 6-7 years, and a community-based survey targeting individuals aged ≥8 years.

Methods: In 2016, we conducted a school-based TAS in all elementary schools (n=29) in parallel with a community-based survey in 32 villages on the two main islands of American Samoa. We collected information on household locations, demographics, and risk factors using electronic questionnaires; and blood samples to test for circulating filarial antigen (CFA) using the AlereTM Filariasis Test Strip. We estimated 95% CI around CFA prevalence using exact binomial methods.

Results: The school-based TAS (n=1144) found an overall prevalence of 0.8% (95% CI: 0.4–1.5). The community-based survey (n=2728, 742 households) found an overall prevalence of 5.4% (95% CI: 4.5–6.3). Village-level prevalence ranged from 0–39.4% (mean 7%). CFA prevalence increased with age. CFA prevalence in community members aged ≤9 years (n=156), who were born after MDA had stopped, was 4.5% (95% CI: 1.8–9.0). We observed significant clustering of CFA-positive individuals in schools, households and villages.

Conclusions: Both survey designs identified CFA-positive children, suggesting low-level ongoing transmission. School-based TAS was logistically simpler and allowed sampling of a larger proportion of the target population, but results did not reflect the overall CFA prevalence in the population. The community-based survey, although operationally more challenging, identified CFA-positive individuals of all ages, and potential hotspots of ongoing transmission. Analyses incorporating data on antifilarial antibodies and infected mosquitoes are planned to better understand the risk posed by CFA-positive individuals, and to confirm whether local transmission is ongoing.
Shuping, Liliwe

Country: South Africa


Short Biography: Liliwe is a field epidemiologist whose work focuses on healthcare-associated infections, antimicrobial resistance and mycoses. In 2013, she obtained her MSc degree in Molecular and Cell Biology at the University of Cape Town. Her dissertation focused on the structure-function of the HIV gp120 protein. She worked as a medical scientist in a public health laboratory for enteric diseases before joining the South African Field Epidemiology Training Programme in 2015. During her residency, she conducted public health research in the epidemiology of opportunistic, tropical and hospital infections, particularly Staphylococcus aureus, helminth infections and schistosomiasis, and malaria infections. She will graduate with a Master in Public Health (Field Epidemiology) from the University of Pretoria during May 2017.

ABSTRACT


Background: Extended spectrum beta-lactamase–producing (ESBL) Klebsiella pneumoniae (KP) are among the most common multidrug-resistant pathogens causing hospital-associated infections. An unusual number of infants with ESBL–KP infections was observed at a hospital in Mpumalanga Province during April-May 2016. We aimed to characterize this cluster of illness.

Method: We obtained data on all blood cultures performed from January 2015 to May 2016 from the hospital laboratory information system, and observations on the infants were extracted from medical records. We conducted environmental surface sampling of the neonatal ward for bacterial culturing, obtained patient isolates from the hospital laboratory, and assessed isolate relatedness using Pulse-Field Gel Electrophoresis (PFGE). An observational infection control (IC) audit of the neonatal ward was conducted using a standard checklist.

Results: Six infants with ESBL–KP infections were identified, with one death. Five infants were <2 weeks old, and one 6 months. ESBL–KP infections were first diagnosed among two new-borns who shared a bed in the labour ward before transfer to the neonatal ward, where subsequent infections occurred. The oldest infant was diagnosed 3 days after sharing a separate room with the initially infected new-born. The proportion of KP among positive cultures increased between March and May (from 8.7% to 20.0%). Only one infant had an isolate available for PFGE analysis, which was unrelated to two KP isolates obtained from the environmental sampling. IC practices observed at the facility were inconsistently followed, with shortages of water and hand-washing consumables, overcrowding, and understaffing.

Conclusion: Our results suggest a possible outbreak of ESBL–KP due to nosocomial transmission, facilitated by sub-optimal adherence to IC practices, and structural health system challenges. We recommended training of staff on correct IC procedures, including regular surface decontamination, and ensuring continuous supply of water and hand-washing facilities.
Tapesana, Stanely

Country: Zimbabwe

Abstract Title: Clinical Care Given to Victims of Sexual Abuse at Kadoma General Hospital, Zimbabwe: a Secondary Data Analysis, 2016

Short Biography: Dr. Stanely Tapesana is a District Medical Officer for Centenary District in Mashonaland Central, Zimbabwe. He is currently a full time FETP student with the University of Zimbabwe. As a Public Health Officer attached to Kadoma City for his field attachment, he has a responsibility to investigate and implement control measures for health related events that are of public health interest.

ABSTRACT

Authors: Stanely Tapesana, Daniel Chirundu, Gerald Shambira, Tsitsi Patience Juru, Notion Gombe, Mufuta Tshimanga

Background: Despite the availability of guidelines for management of the victims of sexual abuse, victims attended to at Kadoma General Hospital consistently raised complaints related to the quality of care offered. Medicolegal data for victims of sexual abuse has been collected at the hospital since 2012. However, no analysis had been done, hence we analyzed the data in order to determine the quality of clinical care offered to sexual abuse victims.

Methods: A retrospective descriptive cross sectional study based on secondary data was conducted. The sample size was 357 medical affidavits. Epi Info software was used to analyse data and generate frequencies, measures of central tendency and proportions.

Results: We analyzed all 474 medical affidavits between January 2014 and July 2016. Thirty percent of the victims sought care within 72 hours of sexual abuse. Among 104 victims offered HIV screening, baseline HIV testing was done in 23 (22%) and follow up HIV testing done in 2 (2%) of the victims. Prophylactic antibiotics were given to 156 (33%) instead of all victims. There were no documented counselling sessions done for all victims whilst follow up care was given to 47 (10%) victims.

Conclusion: Suboptimal clinical care was given to victims of sexual abuse. These findings suggest possible delayed presentation by victims of sexual abuse as well as suboptimal administration of prophylaxis by health care workers. We recommend adherence to guidelines in managing sexual abuse victims. Further research to determine factors for delayed presentation among sexual abuse victims and quality of care provided to them is recommended.
Wei, Qin

Country: China

Abstract Title: An Epidemiologic Investigation of Haff Disease Outbreak in China, 2016

Short Biography: Qin Wei is the chief director of immunization department at Luan prefecture CDC where he mainly engages in policies of Expanded Program on Immunization, and vaccine preventable disease prevention and control. He started his FETP experience since last year. During this period, he have conducted many outbreak investigations, such as haff disease, mumps, norovirus, avian influenza A (H7N9) and measles, etc. Dr. Wei is passionate about public health and field epidemiology.

ABSTRACT

Authors: Qin Wei, Huilai Ma, Chao Lin, Dan Li, Shicong Li, Ticao Zhou, Qun Li

Background: Haff disease is unexplained rhabdomyolysis that occurs after eating cooked seafood. The etiology has not yet been determined. In July, 2016, the National Foodborne Disease Surveillance System (NFDSS) detected a >20-fold increase in Haff disease. We investigated to describe the epidemiology and clinical characteristics, trace back of implicated seafood vectors.

Methods: A case was defined as illness in a person with unexplained rhabdomyolysis after eating seafood in the 24 hours before onset of symptom from June to August 2016. We interviewed all patients and reviewed their medical records for demographic and clinical information, food exposures and personal risk factors. We interviewed patients, crayfish sellers and fishermen to trace the implicated crayfish lots.

Results: Total 1,347 cases were reported in 9 provinces from June 27 to August 24, 2016. 72.9% (982) of cases occurred in 3 nearby cities, which are located in the middle and lower reach of the Yangtze River. The Epi-curve reached its peak from July 16-31 after heavy rainfall. 86.3% (847) of 982 cases were interviewed completely. The most common clinical features were myalgia (100%), myasthenia (52%) and markedly elevated (5-fold levels) of creative kinase (79%). All 982 cases ingested cooked crayfish. The median incubation period was 6 hours (range: 0.5-23 hours). 70% of implicated crayfish were caught on the shores of the Yangtze River. The quantity of catching crayfish was 5-folded increased compare with the previous years.

Conclusions: The largest Haff disease outbreak was caused by consumption of cooked crayfish, caught on the shores of the Yangtze River. A public health announcement was made based on our finding. We recommend enhancing NFDSS and continue the ongoing investigation to elucidate the cause of Haff disease.
**Oral Abstracts**

Abdi, Abdikadir  
**Country:** Kenya  
**Abstract Title:** Measles Vaccination Coverage and Risk Factors for the Lack of Vaccination among Children Aged 12-23 Months in Settled and Nomadic Populations of Wajir County, Kenya, 2016

**Short Biography:** Mr. Abdikadir Isaack holds a Bachelor of Science in environmental health from Mount Kenya University. He was admitted as a resident in the Kenya Field Epidemiology Training Program (FETP) in the cohort 11 class from October 2014 to December 2016. He is working with the Kenyan Ministry of Health within the Disease Surveillance and Outbreak Response Unit and involved in actively monitoring disease outbreaks. Mr. Abdikaidr is currently with the National vaccine and immunization programme (NVIP) for the field placement. My interest is in the field of research which includes public health and epidemiological surveillance.

**Abstract**

**Authors:** Abdikadir Abdi, Sara Lowther, Tura Galgalo, Fabian Esamai, Zeinab Gura, Collins Tabu  
**Background:** In 2014, Kenya’s vaccination coverage among children was below the coverage required (95%) for sustained measles control; coverage in Wajir County, North-Eastern Kenya, was only 50%. We investigated measles vaccination coverage and reasons for lack of vaccination among children 12-23 months of age in Wajir County, 2016.

**Method:** A cross-sectional study was conducted using multistage cluster sampling to measure proportions vaccinated with doses of measles containing vaccine (MCV) among children from settled and nomadic households. Adjusted odds ratios (aOR) and 95% confidence intervals (CI) were calculated using logistic regression adjusted for cluster design.

**Result:** Among 700 children enrolled, 400 (57%) were from nomadic households and 301 (43%) were eligible for MCV-2 (aged ≥18 months). Overall MCV-1 coverage was 70% (CI 72–85%) while MCV-2 coverage was 21% (CI 15–27%). In settled households, MCV-1 coverage was 84% (CI 75–92%), MCV-2 coverage was 40% (CI 27–52%). In nomadic households, MCV-1 was 60% (CI 50–69%) and MCV-2 coverage was 4% (CI 0.6–7%). Factors related to not receiving MCV-1 included living in a nomadic household (aOR=2.2, CI 1.14–5.0) and residence >5km from a health facility compared to residence ≤5km from a health facility (aOR=2.7, CI 1.6–4.8). Factors related to not receiving MCV-2 included living in a nomadic household (aOR=16, CI 3.6–78.0), having a single parent compared to those having married parents (aOR=7, CI 1.3–78.0) and not having vaccination card (aOR=4.1, CI 1.6–10.6).

**Conclusions:** Lower first and second dose of measles vaccination coverage was associated with living in a nomadic household, living >5km from health facilities and living in a single parent household. Strengthening of mobile outreach services and efforts to reach children living in single-parent households are needed to prevent measles outbreaks.
ABSTRACT

Authors: Daniel Gardiner, Maya Gobin, Jeremy Hawker

Background: Public Health England was alerted to a national outbreak of Shiga toxin-producing Escherichia coli (STEC) O157 PT34 in July 2016. Early investigations suggested that the likely source was either bagged rocket or baby mixed-leaf salad. A number of cases reported consuming meals at a staff canteen (Venue A) and a garden café (Venue B). Both venues shared a common salad supplier. An investigation was undertaken to measure associations between salad items and illness using an ‘ingredient-based analysis’ to pool together both venues.

Methods: A retrospective case-control study was conducted using an online questionnaire to collect information on menu items consumed at Venues A and B. Questionnaires were sent to the entire Venue A cohort and known Venue B cases, who forwarded to those they ate with. Chefs at both venues were interviewed to identify ingredients contained within each menu item. Ingredient exposures were assigned to respondents dependent on menu items consumed. Multivariable analysis was used to measure associations at the ingredient level for Venues A and B separately, followed by a pooled analysis for both venues.

Results: Of 203 valid responses, 13 confirmed, 2 probable and 9 possible cases were identified. Diarrhoea was reported by 23 (96%) cases and blood in stools by 13 (54%). Multivariable analysis performed on Venue A and Venue B separately showed no ingredient exposures were significantly associated with illness. Combining Venues A and B data revealed a significant association between baby mixed-leaf salad from the common supplier and illness (aOR=13.1, 95%CI 1.6–106.5). No other ingredients were significantly associated with illness.

Conclusions: There was strong epidemiological evidence that only baby mixed-leaf salad from the common supplier was a vehicle of infection. This was only made possible by using an ingredient-based analysis when combining data from both venues. We recommend the increased use of ingredient-based analysis.
**Hamed, Mahnaz**

**Country:** Afghanistan

**Abstract Title:** The Prevalence of Major External Birth Defects at a Hospital in Kabul, Afghanistan, 2016

**Short Biography:** Dr. Mahnaz Hamed is a graduate from Kabul Medical University, with a specialty in obstetrics and gynecology. She is now working as a post-graduate medical education supervisor helping trainees to work on epidemiological studies. As a FETP Fellow, she assists the ministry of public health in the Unit of Outbreak Surveillance.

**ABSTRACT**

**Authors:** Mahnaz Hamed, Jennifer Williams, Jorge Rosenthal

**Background:** Globally, 7.9 million infants annually are born with a serious birth defect (BD). Prevalence data on BDs are scarce in Afghanistan; modeled estimates suggest one of highest rates in the world. Neural tube defects (NTDs) are the most common serious external BD. In Afghanistan, 20/10,000 births are estimated to be NTD-affected. To determine actual rates of external birth defects and specifically NTDs, we piloted a BD surveillance program at the largest maternity hospital in Kabul, Afghanistan.

**Methods:** We collected data for all major external BDs in infants born in Malalai Maternity Hospital 01/March/2016 to 31/August/2016. Case infants were defined as any live birth or stillbirth with a major external structural BD identified at point of delivery through the 7th day after birth with a gestation >28 weeks or a birth weight >1000g. Denominator data were all hospital live births and stillbirths. Data were collected by delivering providers at time of delivery, abstracted daily using surveillance forms developed by WHO, and entered into Epi Info. We report on the overall external BD prevalence and the 4 most common defects observed.

**Results:** Among 14,961 deliveries, 98 (66/10,000) had a major external BD; Prevalence for the most common defects were: NTDs (23/10,000), limb defects (17/10,000), orofacial clefts (10/10,000) and abdominal wall defects (5/10,000). Among case infants, 53% were male, (39.8%) were either stillborn (n=28), or died in the first week of life (n=11).

**Conclusion:** We observed a high prevalence of major external BDs in Kabul. NTD rates were almost 50% higher than current modeled estimates. Mortality was high among affected infants. To address this urgent situation, studies to determine causes and implement interventions are planned.
Nakiire, Lydia

Country: Uganda

Abstract Title: A Measles Outbreak Propagated by Children Congregating at Water Collection Points: Mayuge District, Eastern Uganda, October 2016

Short Biography: Lydia is a field epidemiology fellow in the Uganda Public Health Fellowship Program based in the Ministry of Health Public Health Emergency Operation Centre. Lydia started her career as a Laboratory Technologist and then attained a master’s degree in Public Health. Before joining the fellowship program, she worked as a Laboratory Technologist at the Joint Clinical Research Centre. In the Public Health Programme, she responded to two measles outbreaks in Eastern Uganda, provided enhanced Yellow Fever surveillance, participated in an investigation of a crippling disease in Western Uganda and a Coxsackie viral conjunctivitis outbreak in Northern Uganda. She is part of the antimicrobial resistance technical working group, which is in the process of establishing a national antimicrobial resistance surveillance system as an area of interest. Her current work is on a measles outbreak propagated by children congregating at water collection points in the Mayuge District Uganda, 2016.

ABSTRACT

Authors: Robert Kaos Majwala, Lydia Nakiire, Daniel Kadobra, Alex Riolexus Ario

Background: On 12 October, 2016 a measles outbreak was reported in Mayuge district. We investigated the outbreak to identify risk factors, evaluate vaccination coverage and vaccine effectiveness, and recommend evidence-based control measures.

Methods: We defined a probable case as onset of fever (≥3 days) and generalized rash, plus ≥1 of the following: conjunctivitis, cough, runny nose in a resident of Mayuge (population: 480,079). A confirmed case was a probable case with measles-specific IgM(+) not explained by vaccination. We reviewed medical records and conducted active community case-finding. In a case-control investigation involving probable cases and age- and village-matched controls, we evaluated risk factors for transmission during the case-person’s likely exposure period (7–21 days prior to rash onset). We estimated vaccine effectiveness (VE) using the formula: $VE=100\times(1-OR_{protective})$. We calculated vaccination coverage using the percent of controls vaccinated.

Results: We identified 62 probable cases (attack rate[AR]=4.0/10,000), including 3 confirmed. Males and females had similar ARs. Children <5 years (AR=14/10,000) were the most affected of all age groups. The epidemic curve indicated a propagated outbreak. 32% (13/41) of case-persons and 13% (21/161) of control-persons went to one of the four water-collection sites (by themselves or with parents) during the case-patients’ likely exposure period (ORM-H=5.0; 95% CI=1.5–17). The effectiveness of the single-dose measles vaccine was 75% (95% CI=24-92); vaccination coverage was 68% (95% CI=61-76).

Conclusion: Exposures at water-collection sites might have contributed to propagation of this outbreak. Low vaccine effectiveness and vaccination coverage facilitated measles transmission. We recommended intensifying measles vaccination for young children, advising residents with fever and rash to avoid going public gatherings including water-collection sites, and introducing a two-dose measles vaccine in routine vaccination schedule. We implemented supplemental vaccination through outreaches for children aged 6-59 months, and advised residents with fever or rash to avoid public gatherings.
Sahu, Rajesh

Country: India

Abstract Title: Outbreak Investigation of Acute Diarrheal Disease during a Religious Festival Associated with Drinking Contaminated Pipeline Water, Radhakund, Uttar Pradesh, India – November 2016

Short Biography: Dr. Rajesh Sahu is a postgraduate community medicine and public health specialist with a wide range of expertise ranging from public health program planning, implementing and monitoring to surveillance and control of communicable and non-communicable diseases, including provision of curative services as a doctor. He has served for a long term across a vast range of geographical areas from deserts to high altitude areas to plains.

ABSTRACT

Authors: Rajesh Sahu, Sushma Choudhary, Tanzin Dikid, Samir V Sodha, C S Aggarwal, Rajesh Yadav, Ekta Saroha, Srinivas Venkatesh, Preadeep Khasnobis

Background: In 2015, there were >12 million acute diarrheal disease (ADD) cases with 1,216 deaths reported in India with 75,347 cases and 320 deaths from Uttar Pradesh state. A suspected ADD outbreak was reported from Radhakund, Uttar-Pradesh (population = 7511) on November 11, 2016 during a religious festival with >10,000 tourists. We investigated to describe the epidemiology, identify risk factors, and recommend preventive measures.

Methods: We defined a suspect case as ≥3 loose stools within 24 hours in a resident of Radhakund between October 31 and November 11, 2016. We identified cases by reviewing hospital records and by house-to-house survey. We conducted a 1:2 unmatched case-control study using a structured questionnaire to identify risk factors. Stool for cultures were not collected by hospitals and no active cases were present during the investigation for testing. We assessed water-supply and sanitation of the town and tested water samples for faecal contamination.

Results: We identified 339 cases (69% female); 285 (84%) were tourists. Median age was 60 years (range 1-80 years). There were 117 (35%) hospitalizations and two deaths. Symptoms reported included diarrhea (100%), vomiting (94%), abdominal pain (23%), and fever (3%). Among 44 cases and 81 controls, only drinking water from pipeline-A (aOR=12.7 [95% CI = 4.9 – 33.0]) and illiteracy (aOR=4.1 [95% CI = 1.5 – 11.3]) were associated with illness in multivariate analysis. We observed sewage overflow from community toilets near tube-wells supplying pipeline-A. Pipeline-A is >40 years old with frequent cracks and leaks. Among four water samples from pipeline-A, two were positive for Vibrio cholerae.

Conclusion: This was an ADD outbreak during a mass gathering in Radhakund associated with drinking water from a contaminated pipeline. We recommended chlorination of water, relocation of public toilets away from tube-wells, repair of pipeline-A, routine water surveillance and enhanced sanitation facilities for tourists.
Seogo, Hamadou Pedwinde

Country: Burkina Faso

Abstract Title: Etiology and Risk Factors for Meningitis during an Outbreak in Batié Health District, Burkina Faso, January-March 2016

Short Biography: Dr. Seogo Hamadou is a medical doctor and currently a second year resident of the West Africa Field Epidemiology Training Program (WAFETP) based in Ouagadougou-Burkina Faso. He’s currently assigned at the Directorate of Disease Control.

From 2012-2015, he was the chief medical officer of Ouahigouya Health District in northern Burkina Faso where he was responsible for organizing, coordinating and monitoring the implementation of all programs and projects. From 2008-2012, he was the deputy chief medical officer and was responsible for clinical activities, supervision and research.

Dr. Seogo is interested in infectious and non-communicable disease epidemiology, disease surveillance and operational research.

ABSTRACT

Authors: Hamadou Pedwinde Seogo, Brice Bicaba, Issaka Yameogo, Denis Yelbeogo, Yacouba Savadogo, Hyacinthe Euvrard Sow, Antoine Sana, Abdoul Aziz Traoré, Isale Medah, Bernard Sawadogo, Simon Antara, Andre Mckenzie, Mamadou Sawadogo

Background: On March 16, 2016, the national surveillance officer informed health authorities in Batié Health District that the district had surpassed the threshold for expected meningitis cases. Fifty suspected cases had been reported to the National Surveillance Unit since January 2016. We investigated to identify the pathogen involved, risk factors for the disease and to recommend prevention and control measures.

Methods: We conducted a case-control study from March 23 to April 2, 2016. A suspected case was any person living in Batié with fever (temp ≥ 38.5°C) and any of the following: neck stiffness, neurological disorder, bulging fontanelle, convulsion during January to March 2016. A confirmed case was any suspected case with cerebrospinal fluid (CF) positive to PCR. Controls were neighbors without meningitis. We included all confirmed cases and two neighborhood controls per case. We matched controls and cases by sex and age. We used a standard questionnaire to collect data. We analyzed data and calculated odds ratio (ORs) and 95% confidence interval.

Results: We included all 31 confirmed cases and 62 controls. The median age was 8 years (2 months-55 years) for cases and 6.5 years (5 months-51 years) for controls. Male to female sex ratio was 1.38:1 for cases and 1.14:1 for controls. Main symptoms were fever 30 (97%), neck stiffness 24 (77%) and headache 19 (61%). Majority of cases, 21 (68%) and controls 47 (76%) were unvaccinated against Neisseria meningitidis. CFs PCR tests were positive for Streptococcus pneumoniae (SP) 16 (52%), Neisseria meningitidis W (NMW) 14 (45%) and Haemophilus influenza 1 (3%). Independent risk factors were travel to meningitis affected areas (OR=12[2.3-60]); >5 persons sharing a bedroom (OR=5.7[1.5-22]) and rhino-pharyngitis (OR=26[1.8-380]).

Conclusion: SP and NMW caused the outbreak. The risk factors were overcrowding, travel to affected areas, and rhino-pharyngitis. We recommended vaccination against NMW and limited travel to affected areas.
Thank you

The FETP International Night committee would like to thank the oral and poster presenters and photo contest participants for their scientific research and efforts to make this evening a success. We also thank the resident advisors, mentors, abstract reviewers, and volunteers for their time, expertise and commitment to supporting this event and FETPs around the world.

We especially thank the CDC Foundation for their generous contributions and ongoing support of our global health activities.

FETP International Night Committee

Kip Baggett, MD, MPH
Diane Brodalski, BS
Cindy Brown, BA
Khurram Butt, BBA, MBA

Mahamadou Dao, MPA
Robert Fontaine, MD, MSc
Dionisio Jose Herrera Guibert, MD,
MAE, PhD

Tina Rezvani, MA, MS
Clare Sigelko, BA

Volunteers

Sara Blanks (DGHP)
Kimberly Butler (WIDB)
Amber Ellithorpe (TEPHINET)
Ruth Cooke Gibbs (DGHP)
Jessie Genoway (DGHP)
Adam Johnson (TEPHINET)

Jennifer Keltz (NCDB)
Eunice Mafundikwa (DGHP)
Diana Miles (WIDB)
KaeAnn Parris (DGHT)
Asad Patwary (NCIPC)
Samantha Perkins (WIDB)

Carl Reddy (TEPHINET)
George Schmid (WIDB)
Julia Smith (EERB)
Chai-Ping Su (DSHEFS)
Alice Wang (NCEH)
Bao-Ping Zhu (WIDB)

International Night is hosted by the Centers for Disease Control and Prevention, Field Epidemiology Training Program Branch within the Division of Global Health Protection (DGHP) and the Training Programs in Epidemiology and Public Health Interventions Network (TEPHINET).

For more information about our programs, please contact:

Division of Global Health Protection
Centers for Disease Control and Prevention
1600 Clifton Road, NE, Mailstop E-93
Atlanta, Georgia 30333, USA
Phone: (404) 639-3210
https://www.cdc.gov/globalhealth/healthprotection/

TEPHINET Program
The Task Force for Global Health, Inc.
325 Swanton Way, Decatur, Georgia 30030, USA
Phone: (404) 687-5609
http://www.tephinet.org
U.S. Department of Health and Human Services
Centers for Disease Control and Prevention
Center of Global Health
Division of Global Health Protection