



International  
Conference  
on Emerging  
Infectious Diseases

AUGUST  
7 - 10  
2022

1998  
2022

## Program and Abstracts Book

The Hyatt Regency | Atlanta, GA



U.S. Department of  
Health and Human Services  
Centers for Disease  
Control and Prevention

THE TASK FORCE FOR  
GLOBAL HEALTH

# Poster 383

Location: L - 83

## Understanding Parent and Pediatrician Perceptions of Anthrax Vaccination Use in Children during a Bioterror Emergency

V.M. Carter<sup>1</sup>, E.M. Allen<sup>1</sup>, R. Devchand<sup>2</sup>, L. Koehler<sup>2</sup>

<sup>1</sup>Centers for Disease Control and Prevention, Atlanta, GA, USA,

<sup>2</sup>Hager Sharp, Washington, DC, USA

**Background:** During an anthrax emergency, public health officials will recommend a post-exposure prophylaxis (PEP) regimen of antibiotics and multidose anthrax vaccine, adsorbed (AVA). Currently there are no data on AVA use in children, making it available to children <18 years old only under an Investigational New Drug (IND) protocol. Parents will have to make decisions quickly, weighing the benefits of unlicensed AVA use in their children against the high risk for illness and death from anthrax. **Methods:** The Centers for Disease Control and Prevention conducted 12 in-person focus groups with parents and 25 telephone in-depth interviews (IDIs) with pediatricians to understand attitudes and knowledge gaps related to pediatric AVA use. Parent focus groups took place in Washington, DC and Dallas, TX and followed a human-centered design approach to immerse parents in a scenario that detailed a hypothetical anthrax bioterror attack. Focus group findings informed IDIs with pediatricians to understand their knowledge about anthrax PEP in children and barriers to discussing AVA use with parents. Pediatricians represented a range of U.S. regions and a mix of practice settings. Findings supported material development and testing with parents. **Results:** 91 parents and 25 pediatricians participated. Parents had questions about the vaccine's safety and efficacy, its use as PEP, and the antibiotic regimen. Pediatricians anticipated challenges related to AVA use in children, including limited parental understanding of how PEP works, adherence challenges—especially for the vaccine/antibiotic combination—and hesitations about the IND protocol. Both groups indicated that they would seek guidance from trusted, evidence-based sources. **Conclusions:** Both parents and pediatricians will need information about AVA use in children following an anthrax bioterror attack. This project underscores that (1) effective communication from trusted experts during a public health emergency is essential for disease prevention and anthrax vaccine uptake, and (2) pediatricians are well-positioned to address knowledge barriers and improve PEP uptake in a bioterror emergency but need resources to support their efforts. Lessons learned could inform actions to improve uptake of other investigational vaccines among children.

# Poster 384

Location: V - 85

## Brucellosis in Cattle, a One Health Perspective: Assessing the Associated Risk Factors in District Kasur, Pakistan, 2021

T. Munir<sup>1,2</sup>, M.U.Z. Khan<sup>3</sup>, S. Khalid<sup>2</sup>, A. Chaudhry

<sup>1</sup>Field Epidemiology & Laboratory Training Program Pakistan, Islamabad, Pakistan, <sup>2</sup>Livestock & Dairy Development Department, Punjab, Pakistan, <sup>3</sup>Faculty of Veterinary Sciences, Superior University, Lahore, Punjab, Pakistan

**Background:** Brucellosis is the most important zoonotic disease spread via aerosol or pathogen infection, or direct contacts of skin abrasions. Brucellosis has been reported in 86 countries comprising

of developing countries in majority. In Pakistan, prevalence of bovine brucellosis is around 8.7%. This study was designed to assess the risk factors associated with brucellosis in cattle and to assess the level of engagement of farmers with these risk factors. **Methods:** A case-control study was conducted in District Kasur from March 2021 to May 2021 to determine the risk factors and knowledge, attitude, practices of cattle handlers associated with the development of bovine brucellosis. Seropositive sample were considered, as cases while negative were controls. A sample of 56 with a case-control ratio of 1:3 was calculated using EpiInfo7TM. A pre-tested semi-structured questionnaire was used for face-to-face interviews. **Results:** The mean age of the cattle and livestock handlers was 4.73 years (SD  $\pm$  1.35) and 32 years (SD  $\pm$  8.4) respectively. Around 71% (n=40) of the respondents lived in farm premises, 46% (n=26) reported handling abortions themselves. Around 68% (n=38) knew about brucellosis but only 27% (n=15) knew its zoonotic potential. Multivariate analysis of risk factors indicated that handling of abortion at the farm (OR=10.36, CI=1.5-68.6, P-value=0.015), breeding practices (OR=27.7, CI=1.3 – 596.2, P=0.03) and history of abortion in the farm (OR=6.3, CI=1.2 – 32.5, P=0.02) were mainly associated with brucellosis. Multivariate analysis of knowledge of farmers specified that only mode of transmission of brucellosis from animals to humans (OR=2.89, CI=1.05-7.9, P-value=0.04) was statistically significant. **Conclusion:** This study helped to understand the potential risk factors associated with brucellosis in cattle and knowledge of farmers towards brucellosis and mal-practices in management of dairy farming, which will lead to improved herd management practices resulting in the reduction of brucellosis infection. It also revealed that farmers have limited knowledge and awareness about brucellosis.

# Poster 385

Location: V - 87

## Identification of Risk Zones for Leptospirosis in Lviv Oblast

O.O. Zubach<sup>1</sup>, I.I. Ben<sup>1</sup>, O.B. Semenyshyn<sup>2</sup>

<sup>1</sup>Danylo Halytsky Lviv National Medical University, Lviv, Ukraine,

<sup>2</sup>State Institution Lviv Oblast Center for Disease Control and Prevention of the Ministry of Health of Ukraine, Lviv, Ukraine

**Background:** In Ukraine, the incidence rate of leptospirosis varies between 0.64 – 2.03 per 100,000 population. In some areas of Lviv Oblast, the incidence exceeds 10 per 100,000 population. Therefore, the determination of risk zones for leptospirosis in Lviv Oblast is relevant due to the need for disease prevention. **Methods:** A retrospective analysis of medical records of patients hospitalized with leptospirosis at the Lviv Oblast Clinical Hospital of Infectious Diseases in 2008-2019 was conducted. At the same time, reports on Leptospira infection in rodents (rats, mice) of the Laboratory of Especially Dangerous Infections of the Lviv Oblast Center for Disease Control and Prevention were analyzed. Leptospirosis detection in humans and in rodents was carried out using microagglutination test with 13 Serovars of Leptospira. An electronic database of leptospirosis cases in humans and infected mouse-like rodents was created using Microsoft Excel. The QGIS 2.0.1 was used to analyze the obtained data, the map of the 259 human and 3524 rodent cases of Leptospirosis in Lviv Oblast was created. Data processing was performed using Statistica software. **Results:** Layered plotting of the data on Lviv Oblast map demonstrated the diversity and distribution of leptospirosis cases in humans and rodents. Further comparisons took into account the geographical landscape of the Lviv Oblast (Ukrainian Carpathians, Forest-steppe and

Forest zones). The greatest number rodents that tested positive was observed in the forest-steppe zone (13.16%), 10.66% of all positive animals came from the forest zone, and 10.26% of test-positive animals came from the zone of the Ukrainian Carpathians ( $p < 0.05$ ). A similar pattern was found in humans: significantly more cases of the disease were recorded in forest-steppe zone - 62.94%, compared with the forest zone (24.32%) and the zone of the Ukrainian Carpathians (12.74%),  $p < 0.001$ . **Conclusions:** The GIS technologies allowed to obtain a spatial understanding of the *Leptospira* geographical distribution in Lviv Oblast. These differences may allow us to identify specific risk factors associated with these differences. More detailed studies on the epidemiology of Leptospirosis in the Lviv Oblast are needed.

#### Poster 386

Location: L - 89

### Formative Evaluation of Two Ebola Survey Instruments in Three African Languages: A Cognitive Interview Study in the Democratic Republic of Congo

H. Bulambo<sup>1</sup>, G. Earle-Richardson<sup>1</sup>, J. Hemingway-Foday<sup>2</sup>, V. Anne-Lyne<sup>2</sup>, A. Leumbou<sup>3</sup>, P. Kimpanga<sup>3</sup>, J. Kahehero<sup>3</sup>, G. Kasereka<sup>3</sup>, D.B. Misati<sup>4</sup>, R.K. Mangamfu<sup>5</sup>, C.E. Prue<sup>1</sup>

<sup>1</sup>Centers for Disease Control and Prevention, Atlanta, GA, USA,

<sup>2</sup>Research Triangle Institute International (RTI), Durham, NC, USA,

<sup>3</sup>Research Triangle Institute International (RTI), Goma, Democratic Republic of Congo, <sup>4</sup>Division Provinciale de la Santé (DPS), Goma, Democratic Republic of Congo, <sup>5</sup>Ministère de la Santé Publique, Kinshasa, Democratic Republic of Congo

**Background:** Ebola outbreaks in Sub-Saharan Africa are becoming more frequent. Despite advances in prevention and treatment, affected communities' support for epidemic control measures is still challenging. Knowledge, Attitude and Practice (KAP) surveys are frequently used during outbreaks to understand community perceptions and concerns. However, a scan of published Ebola KAP surveys did not reveal any that reported performing cognitive testing in local languages. The objective of this assessment was to conduct cognitive interviews with two Ebola KAP surveys in French and three African languages with volunteers from a variety of backgrounds to ensure consistent, accurate interpretation of the questions and to identify areas of potential linguistic and cultural misunderstanding. **Methods:** Interviews were conducted in respondents' native language. Participants included males and females of varying social classes, educational levels, and ages from the cities of Goma and Kinshasa. The interviewers explored participants' understanding of survey questions and responses. Noted areas of confusion were shared among interviewers, and revisions tested until questions were understood. **Results:** Sixty-five interviews were conducted, 17 in French, 15 in Kiswahili, 17 in Kinande, and 16 in Lingala. For the African languages, there were three main findings: 1) languages did not have widely understood words for Ebola-specific terms (e.g., "contact tracing"), or for some diseases (e.g., typhoid). Preferred terms were in French or a blend of languages; 2) some terms related to daily life were unclear (e.g., "community") and were revised to follow the original intent of the question; 3) there were instances in which participants did not understand words in their own language, indicating that comprehension varied within languages. **Conclusions:** Cognitive interviewing revealed ways to improve the clarity of survey questions and response options, but also underscored the need for survey pre-testing in a specific language with a diverse sample of the intended respondent population before use.

#### Poster 387

Location: L - 91

### Knowledge and Practices by Community Members in Human African Trypanosomiasis Endemic Areas - Nyimba and Mambwe Districts of the Luangwa Valley, Zambia, 2020

J.E. Zulu<sup>1,2</sup>, J. Banda<sup>2</sup>, S. Ngalande<sup>3</sup>, C. Simukoko<sup>4</sup>, M. Mbewe<sup>4</sup>, L. Soko<sup>4</sup>, E. Bulaya<sup>4</sup>, J. Mulambya<sup>2</sup>, G. Zulu<sup>2</sup>, N. Sinyange<sup>5</sup>

<sup>1</sup>Zambia Field Epidemiology Training Program, Lusaka, Zambia,

<sup>2</sup>Eastern Provincial Health Office, Chipata, Eastern Province, Zambia, <sup>3</sup>Eastern Provincial Livestock and Fisheries Office, Chipata, Zambia, <sup>4</sup>Nyimba District Health Office, Nyimba, Eastern Province, Zambia, <sup>5</sup>Zambia National Public Health Institute, Lusaka, Zambia

**Background:** Human African Trypanosomiasis (HAT) caused by *Trypanosoma brucei Rhodesiense* is a neglected tropical disease (NTD) transmitted by the bite of an infected tsetse fly. This disease is still endemic at very low scale in North-Eastern and Southern Zambia. In 2019 seven cases of HAT were reported in the valley areas of Mambwe and Nyimba Districts, and four (57%) of them died. Early identification of this disease in the community improves patient outcomes. We sought to describe the knowledge and practices of the community members in the affected areas in order to institute control measures.

**Methods:** We conducted a cross sectional survey of community members from the 13<sup>th</sup> to the 22<sup>nd</sup> of March 2020. Catchment populations for health facilities (HFs) which reported cases of HAT and those in the tsetse fly-infested belt in Nyimba and Mambwe districts, were purposively selected. We assessed knowledge and practices of community members in these health centre catchment areas on HAT symptoms, health seeking behaviour as well as control of the disease. **Results:** We interviewed 228 respondents with a median age of 32 years (range= 17-95 years), 55.3% were males. Of the 180 that knew about HAT, 55.0% mentioned being sleepy/drowsy as one symptom while 27.8% mentioned malaise as one of the symptoms. On traditional beliefs, 21.6% said they knew of some traditional beliefs surrounding HAT. Of these, 70.7% talked about its linkage to witchcraft, while 7.3% said you get the disease when you either have sexual relations with a woman who is older than you, or while the woman is having her menses. Asked if HAT is preventable, 75.5% said it was preventable.

**Conclusions:** There is a knowledge gap among populations in the tsetse fly-infested areas on the identification, prevention and control of HAT. The known symptoms are those of late stage disease, leading to delayed presentation at HFs. Health education on identification and prevention of HAT should be conducted, and these should cover all communities in the tsetse fly-infested belt in Zambia.

#### Poster 388

Location: L - 93

### Estimating Dengue, Chikungunya, and Zika Transmission Intensity over a Decade in Ponce, Puerto Rico

S. Kada, L.A. Adams, M.A. Johansson

Centers for Disease Control and Prevention, Dengue Branch, San Juan, PR, USA

**Background:** Arboviruses are a significant health burden in the Americas. Puerto Rico has experienced decades of dengue epidemics with all four dengue viruses (DENV 1-4). In the last decade, the emergence

Author	Presentation
Whelan, M.	111, 186, 267
Whitaker, B.	.225
White, B.	LB-101, LB-48
White, J.	.330
White, Z.A.	.349
Whitehill, F.M.	.338
Whitesell, A.N.	.393, J3
Whitmer, S.	122, 201, 214, E2
Whitney, C.G.	155, 423, O1, O2
Whitson, C.	.62
Whyte, M.	E3
Widdowson, M.	.211
Widdowson, M.-A.	.368, J1
Wiersma, L.	E2
Wiesen, E.	.69
Wijesinghe, P.	.89, 225, 267, LB-55
Wijesundara, C.	LB-55
Wilde, N.	.372
Wiley, S.D.	.345
Wilhelm, E.	.66, LB-65
Wilkins, C.	.347
Wilkins, K.	.71, 338
Williams, A.	.137
Williams, B.	.89
Williams, G.	.40, 58, 260
Williams, M.	.198, 218, E1
Williams, R.	.411
Williams, R.Y.	.414
Williams, S.	.251
Williams, T.	.225, 226
Williams-Newkirk, A.J.	.34, 39, 148, 260
Wilmott, N.	.363
Wilson, A.	J1
Wilson, K.	O1
Wilson, M.S.	LB-6
Wilson, S.	.134
Wilson, T.M.	150, 155, 380
Winchell, J.M.	.424
Wineland, N.	.96
Wingate, H.	.248
Winn, A.	.291
Wirachwong, P.	.324
Wirth, S.	.35
Wiseman, A.C.	.71
Wittwer, S.	.114
Woldetsadik, M.A.	137, E1
Wolfe, M.	.415
Wolford, T.	.374
Wong, J.M.	.5
Wong, M.	J1
Woodall, T.	.381
Woodworth, K.	.101
Woody, S.	LB-103
Worrell, C.M.	.288
Woyessa, A.B.	.79
Wressnigg, N.	E4
Wright, C.	.84
Wright, L.	J4
Wroblewski, D.	.223, 306
Wu, K.	.251
Wu, S.-J.	.198
Wu, Y.	LB-25
Wuraola, C.O.	.69

Author	Presentation
<b>X</b>	
Xangsayarath, P.	.44
Xayadethb, S.	.44
Xhaferi, A.	.196
Xia, G.L.	J2
Xiao, S.	.417
Xie, D.	LB-17
Xie, P.	LB-82
Xu, L.	LB-17
Xu, X.	.52
Xu, Y.	LB-16

<b>Y</b>	
Yabsley, M.J.	.136
Yactayo, S.	.210
Yager, P.	.71
Yager, P.A.	.74
Yaglom, H.D.	J4, LB-80
Yaglom, H.Y.	LB-31
Yameogo, I.	.65, 236, 313
Yaméogo, I.	.222, 308
Yan, T.	.123, 186
Yanes Lane, M.	.123
Yanes-Lane, M.	.186
Yang, A.Y.	LB-33
Yang, C.	O4
Yang, E.	.424
Yang, G.	.44, 322
Yang, Y.	LB-22
Yanndoko, E.	.225, 226
Yao, C.	LB-17
Yao, K.	LB-25
Yapswale, S.	.298, 300
Yarborough, S.	.343
Yasmin, S.	.262
Yau, B.	LB-101, LB-48
Yazidi, R.	.49
Yazzie, D.	.202
Ye, B.	LB-25
Yeabab, T.	LB-66
Yeboah, E.	.102
Yee, D.	.254
Yee, N.G.	LB-38
Yenson, P.	.397
Yimer, G.	.79
Yin, X.	.61, 165
Yinda, C.K.	.334
Yinda, K.C.	LB-3
Yoder, J.S.	.408
Yoo, B.B.	.363
Yoshicedo, J.	J4
Young, E.	.96
Young, E.L.	.260
Young, S.	LB-5
Young, S.K.	.137
Youngblood, L.	.172
Young-Gunnell, A.	.152
Younus, M.	LB-36
Yourk, P.	.72
Yousey-Hinde, K.	LB-47
Yu, C.H.	LB-4, LB-44

Author	Presentation
Yu, J.	LB-49
Yun, H.S.	LB-4, LB-44
Yurochko, A.D.	E3

<b>Z</b>	
Zacer, A.	.21, 247
Zaghlout, A.	.51, 131
Zakalashvili, M.	LB-10
Zakhashvili, K.H.	.194
Zakhashvili, Kh.	LB-35
Zaki, S.	.200
Zaki, S.R.	.43, 150, 155, 333, 380
Zambon, M.	.225, 226
Zambrano, L.D.	.17
Zambrano-Acosta, I.L.	.279
Zanders, N.	.44
Zardiashvili, T.	.278
Zareen, S.	.247
Zazueta, O.E.	.335, LB-38
Zecca, I.	O3
Zeeshan Iqbal Baig, M.	.262
Zeng, H.	.126
Zervos, M.	.160
Zhang, R.	LB-54
Zhang, W.	.52, 195, 225, 226, 323, 327
Zhang, Y.	LB-25
Zhang, Z.	LB-25, LB-25
Zhao, H.	.71
Zhao, R.	E4
Zhao, S.	.159
Zheng, J.	LB-25
Zheng, Y.	LB-25
Zheng, Z.	LB-54
Zhgenti, E.	LB-10
Zhou, B.	.98
Zhou, W.	.125
Zhu, J.	LB-28
Zhumaliev, C.	LB-88
Ziaur Rahman, M.	J2
Zielinski Gutiérrez, E.	.54, 191, 203, 280, 299, 302, 354, LB-76
Zikalala, Z.	.90
Zinner, R.	.152
Zirnhelt, Z.	LB-46
Zlosnik, J.	.93
Zoihs, O.	E4
Zoma, R.	.313
Zoma, R.L.	.219, 308
Zoorob, R.	E3
Zou, X.	LB-25
Zubach, O.O.	.385
Zughaier, S.M.	LB-11
Zulu, G.	.133, 387
Zulu, J.E.	.133, 387
Zulu, P.	.185
Zulu, R.	.401
Zureick, K.	.52
Zviedrite, N.	.97
Zyambo, K.	.185