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of the study was to present human clinical cases of *Coxiella burnetii* infection debuting as FUO.

**Methods & Materials:** The following methods were conducted in the study: literature search, laboratory, imaging, and statistical methods. Criteria of David T. Durack and Alan C. Street were applied for FUO definition. For the etiological diagnosis indirect immunoenzyme assay (ELISA) for antibodies detection against *Coxiella burnetii* were used. *Coxiella burnetii* phase 1 IgA/IgG and *Coxiella burnetii* phase 2 IgG/IgM antibodies were detected in serum by indirect immunoenzyme assay (SERION ELISA classic, Virion/Serion, Würzburg, Germany).

**Results:** For the period of January 2008 to March 2015 nine patients with FUO caused by *Coxiella burnetii* were hospitalized at the Department of Infectious Diseases, Military Medical Academy, Sofia (Bulgaria). Male gender were predominant (male/female – 77.8%/22.2%), mean age was 48.78 ± 14.52 years (range: 26–67), hospital stay was 9.78 ± 2.95 days (range: 5–15), fever duration was 54.33 ± 56.23 days (range: 21–180), Laboratory investigations estimated elevation of ESR 49.11 ± 31.74 mm/h (95% CI: 13.09–111.31), CRP 37.68 ± 37.62 mg/L (95% CI: 36.07–111.42) and Fibrinogen 5.69 ± 1.59 g/L (95% CI: 2.57–8.81). Mean values of liver enzymes were in reference range. Abdominal ultrasound and X-ray demonstrated 33.3% each of them Contribution to the final diagnosis. Transthoracic echocardiography found 22.2% Contribution. Serological methods presented 100% Contribution.

**Conclusion:** *Coxiella burnetii* infection was accepted as a final diagnosis based on the integrated information from the applied methods. Active search and establishment of this pathogen in case of FUO should avoid potential complications and consequences in case of untreated *Coxiella burnetii* infection.

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### 20.073

**Seroprevalence of hepatitis E virus infection in pigs from Southern Bulgaria: a preliminary report**

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**Purpose:** Hepatitis E virus infection (HEV infection) is an emerging zoonosis. It becomes increasingly important in developed countries and occurs as current health and veterinary problem. In pigs, HEV infection is subclinical, but swine are main reservoir of HEV.

The aim of the study was to analyze the seroprevalence of HEV in industrial pig farms from Southern Bulgaria.

**Methods & Materials:** The study was conducted in two different Bulgarian districts (Yambol district and Sofia district). One hundred and eighty serum samples were tested, they belonged to three different age and technological swine groups: piglets (age: 1–3 months), fattening pigs (4–6 months) and sows (over 12 months). Serological test PrioCHECK HEV Ab porcine (MIKROGEN GmbH, Neuried, Germany) was used. The PrioCHECK HEV Ab porcine is a diagnostic test for detection of antibodies directed against hepatitis E virus in porcine serum based on ELISA technology.

**Results:** The serological test found positive results in both analyzed districts. The overall seroprevalence (in both farms) among piglets was 43.3% (95% CI: 8.9–95.6), in fattening group was 61.7 ± 54.2% and among sows was 93.3% (95% CI: 86.8–99.9). The highest prevalence was found in Sofia district (80/90; 88.9%), and the lowest was detected in Yambol district (39/90; 43.3%). Doubtful results were estimated in 6.1% of all investigated serum samples.

**Conclusion:** The present study established that HEV is widespread in pigs from Southern Bulgaria. The seroprevalence in Southwestern Bulgaria is twice higher than in Southeastern Bulgaria. Sows are most affected by HEV, while piglets are at least. The obtained results determine preventive measures and further investigations.

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### 20.074

**Knowledge, attitudes, beliefs, and practices pertaining to camel-to-human disease risks among persons at camel farms, abattoirs, and meat markets in Jordan**

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**Purpose:** Camels are the suspected source of primary human infections with MERS-CoV in the Middle East, but little is known about the pathway’s mechanisms and the human behavioral practices that promote it. Understanding knowledge, attitudes, beliefs, and practices regarding camel-to-human disease risk among camel-exposed persons will highlight potential intervention areas to interrupt camel-to-human MERS-CoV transmission.

**Methods & Materials:** Standardized questionnaires were administered to individuals in close proximity to camel abattoirs, camel meat markets, and camel farms across Northern and Middle Jordan from February to August 2018. Knowledge, attitudes, beliefs, and practices surrounding camel-to-human disease risks were assessed to generate prevalence ratios (PRs) and 95% confidence intervals (CIs) modeling high-risk practices using knowledge, attitudes, and beliefs about camel-to-human disease risks as independent variables. PRs were adjusted for potential confounders (age, gender, education, occupation, and site type). A subset of participants who reported working directly with camels or camel products completed an additional questionnaire to assess current biosecurity practices and attitudes on various proposed biosecurity interventions.

**Results:** A total of 800 individuals will complete the main questionnaire by August 2018 (409 completed to date). Hypotheses to be tested include: individuals who do not believe camels may transmit diseases to people are (1) more likely to report consumption of un-boiled camel milk; (2) more likely to report consumption of uncooked camel meat; (3) less likely to report proper cleaning of wounds resulting from an animal bite or scratch; and (4) individuals who work directly with camels or camel products who do not believe camels may transmit diseases to people are less likely to report regular use of gloves, aprons, and masks during their work.

**Conclusion:** Identified knowledge gaps surrounding camel-to-human disease risks will be characterized to better inform educational interventions that may be implemented at camel abattoirs, farms, and meat markets if they are strongly correlated with high-risk behaviors and practices with camels or camel products.
Assessment of current usage of personal protective equipment and attitudes surrounding various biosecurity interventions among those working with camels or camel products will be used to describe the feasibility and potential sustainability of the different proposed biosecurity interventions.

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20.074

Assessment of the impact on paediatric rabies at Queen Elizabeth Central Hospital, Blantyre, Malawi, following a mass canine rabies vaccination programme

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Purpose: Background: Rabies is a common infection in the domestic and wild animal population of Malawi. Significant numbers of children die a terrible death each year as a consequence. Many more individuals are bitten by potentially infected dogs each month and require post exposure vaccination. However, rabies is a preventable infection against which there is a good vaccine for both animals and humans. Previous work suggests that if canine vaccine coverage can reach 70%, there will be consequent fall in human incidence.

Objectives: To determine the impact of a comprehensive canine vaccine campaign on paediatric rabies cases.

Methods & Materials: Retrospective case note analysis. All historic paediatric rabies cases presenting to Queen Elizabeth Central Hospital (QECH), Blantyre, Malawi, between May 2012 and May 2017, have been identified and analysed. Data analysis compared paediatric rabies case numbers pre and post a comprehensive canine vaccine campaign which commenced in May 2015, in the Blantyre District.

Results: In total 14 paediatric rabies cases were found during the study period. More males than females were affected (males: 10 (71%); females: 4 (29%)). The average age was seven years (range 3–11). The average length of stay in hospital was three days until death (range 1–7). Geographical locations of dog bites since data collection (May 2012) included Limbe, Lundu, Bangwe, Chilika, Mulanje, Muwalo, Nkhatambora, Thyolo, Zomba, Mpamba and Mangochi region (four were unknown). Since May 2015 only two patients were admitted to QECH, but none of them came from Blantyre city nor district.

Conclusion: This study underlines the importance of eliminating human rabies through canine rabies vaccination. Further funding of these campaigns will prevent unnecessary child deaths.

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20.076

A qualitative inquiry to understand the drivers affecting uptake of health promotion intervention to reduce zoonotic infections and non-prescribed veterinary antibiotics use in peri-urban smallholder dairy farms in select sites of India

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Purpose: India is one of the largest producers of milk and peri-urban areas are the main contributor to the meeting demand of the cities. Lack of stringent policy and legislative provisions have contributed to adoption of questionable farming practices that not only adversely affect the outputs and profits, but also place farmers, their animals, and consumers at risk of health hazard. In light of limited evidence on the burden of the zoonotic infection and non-prudent use of veterinary antibiotics in India, a study was conducted across three sites to understand the potential risky practices and factors contributing to the burden. To address the same, an intervention package was developed and implemented for one year. The study aims to understand the drivers affecting uptake of health promotion intervention package.

Methods & Materials: All the intervention farms were considered as the sampling universe. Thematic guides were developed using the intervention package. Barriers and facilitators to the uptake of practices related to infection control as well as prudent use of antimicrobials were documented across each theme. Data was analyzed using Atlast ti.v7.

Results: A total of 19 interviews were conducted across the three sites. These included 6 farms each at Guwahati and Ludhiana site and 7 at Bangalore site. Financial stress was found to be a major barrier to the intervention related to infection control as well as prudent use of antimicrobials. Perceived risk of disease, unavailability of a trained veterinarian and lack of infrastructure in the peri-urban settings were other reasons for the non-compliance, majority in Guwahati and Ludhiana site. However, Bangalore study site emerged as positive deviance model. Subsidized feed, concentrate and easy availability of veterinarian, and incentivized system were found to facilitators of the intervention uptake.

Conclusion: Increased level of knowledge and improved attitude towards the prescribed practices could only translate behavioral change through support from health system and policy level efforts. Strengthening extension services through the better penetration in the community like cooperative movement etc. and the establishment of new veterinary colleges and other institutions to bridge the human resources gap can contribute to the relatively more prudent use of antibiotics.

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