MediPIET Report
Summary of work activities

Dragana Plavša
Serbia

Cohort 2
2015-2017

Training site: Institute of Public Health of Serbia "Dr Milan Jovanović Batut"/ Centre for prevention and control/ Department for Epidemiological Surveillance

National Supervisors:

1. Mitra B. Drakulovic, MD, MSc, PhD, National Institute of public health, Republic of Serbia
2. Anita Grgurevic, , MD, PhD, Associate professor at the Institute of the epidemiology, Faculty of Medicine, University of Belgrade

Scientific Coordinator:

Nikoletta Mavroeidi MD, MPH, PhD (March 2016)

Pre-fellowship short biography

Prior MediPIET, after I finished Faculty of Medicine on the University of Belgrade in 2008 I gained an experience in public health and epidemiology through work in the National HIV/AIDS office (2009-2014) and on the Department for epidemiological surveillance at the National institute of public health (2014-present).

At the beginning my duties were associated with project HIV/AIDS activities such as: monitoring and evaluation of educations and communication activities. However, in the HIV/AIDS office I have been acquired first and basic knowledge about monitoring and evaluation and researches in vulnerable populations as well as the writing strategies and finally about national health system.

When I first joined the team on the Department for epidemiological surveillance, my work mainly refers managing and analysing the data, and issuing the national weekly, monthly and annual reports on the communicable diseases. Beside these activities, mainly my work has been focused on preparing guidelines for surveillance, reviewing of weekly ECDC treats reports on communicable disease and coordination activities on epidemiological surveillance for West Nile fever and Haemorrhagic Fever with Renal Syndrome

In 2015, I had the chance to participate in preparing guideline for surveillance on defined syndromes in refugees' population.

Currently, I am on first year of Residency in Epidemiology on the Faculty of Medicine, University of Belgrade.

Fellowship projects

Surveillance project

Evaluation of the surveillance system for West Nile virus infection, Serbia, 2016 - 2017

Background: West Nile virus (WNV) is RNA virus belonging to the genus Flavivirus, Flaviviridae family. Primarily WNV is transmitting by the bite of the Culex spp.and Aedes spp. Mosquitoes. Most people with WNV infection have no symptoms, or mild symptoms. It is circa 20% of infected people who do develop symptoms. Of them, approximately 2% develop neurological syndromes. In 2012, active seasonal surveillance system and outside the season passive surveillance system on West Nile virus infection has been established in human population on the territory of Republic of Serbia. The National institute of public health (IPH) is collecting and analysing the data received from district IPHs and the National arboviruses reference laboratory and feeds back relevant information.

Objectives: Identify strengths and weaknesses of the surveillance system in order to make recommendations for improvement.

Methods: The West Nile virus surveillance system was evaluated using the guidelines described in the CDC's 2001 Updated Guidelines for Evaluating Public Health Surveillance Systems.

The evaluation was processed by description of the current surveillance system and evaluation of the following attributes: Simplicity, Data quality, Timeliness, Representativeness.

Results: Data (numerical and categorical variables) for West Nile virus infection for each case are collected through three types of report forms: the mandatory notification report form and the Laboratory results form. This two types of forms contains minimal set of data and are used for initial notification of cases with providing basic information that are needed. Case investigation form consist a comprehensive set of data (demographic characteristics, clinical manifestations, exposure information, laboratory analysis, outcome, management of diseases) needed for classification of cases and for determination of possible exposure, risk factors and clinical progression after infection and assessment of distribution of disease.

Organizations involved in sharing information of case account three institutions (district IPH, national IPH and National laboratory for viral hemorrhagic fevers and ARBO viruses).

During whole WNV activity season, under the integrated surveillance, information was shared between health and agriculture sector.

The participation of district IPHs was 100%. Case investigations form and laboratory result form are easily filled in. The variables included in both forms provide sufficient information for describing the WNV infection by person, place and time. Case investigation forms and laboratory result form were available for the totality of reported cases. Completeness was 100% for 72 of the 91 existing variables in case investigations form. Missing values were mainly related to exposures. Completeness of data was 100% for all variables in the laboratory result form. The median time between the date of onset and of sampling was 6,5 days (0-26) and 5,5 days (0-21) between the date of sampling and of notification. After receiving needed data for case classification according to EU case definition takes 1 - 2 days for verification and analyses.

Conclusions: This is the first evaluation of WNV infection surveillance system which was conducted for transmission season 2016. The system is complex with regard to the flow of information and number of reporting forms. National IPH as national coordinating center for WNV already has developed collaboration with Serbian network of 24 districts IPH that makes surveillance feasible and sustainable on the whole territory of country. Timeliness with regard to sampling after hospitalisation

could not be m,easured due to lack of data. Mandatory reporting is very low , probably related tot he complexity oft he system and multiple information sources. From other side, laboratory result form and case investigation form are available 100%. If is taken into consideration fact that the case investigation form is almost fully filled in 100% of cases might be concluded that surveillance system is very well accepted by the epidemiologist from the district IPH.

Recommendations: Electronic reporting and raising awareness of health professionals with regard to the importance of early reporting for the control of the disease could contribute in better timeliness and completeness. With regard to the complexity of epidemiology and transmission of WNV in the Republic of Serbia , we would recommend the establishment of sustainable integrative surveillance system. Trained personnel, application of standard operating procedures and availability of funds ensure the sustainability and stability of the system.

Status: COMPLETED, Oral presentation accepted at the Third Annual MediPIET Scientific Conference 28th to 30th of November 2017, Brussels, Belgium

Syndromic surveillance among migrant population in Republic of Serbia, 2015-2016

Background: Sudden increasing in number of migrants crossing the Serbian border has been reported since May 2015. Acoording to data provided by Comesariat of reefuges in 2015 migrants mainly come from Syria participated with 52,1% and from Afganistan participated with 27,8 %. Male was predominant gender participated even with 70% and from total migrant population 70% were aged more than 18 years. Serbia was found on the Eastern Mediterranean and Western Balkans migrants' transit route as increased number of migrant population were crossing from Greece to the former Yugoslav Republic of Macedonia and adittional through Serbia towards the central European countries. On the way of passage they were hosted in conditions of limited sanitation and poor hygienic facilities. Such situation raised concern of the potential public health impact. Medical procedures for migrants in the asylum centers was already in place but the majority of the people "in transit" were not resident in these centers. In order to undertake control among migrant population on the Serbian border were established reception centers. In September 2015, natiowide Syndromic Surveillance System (SSS) was set up by the National Institute of Public Health.
Objectives: The objective of SSS was to monitor occurrence of syndromes in migrant population in order to monitor diseases trends and early detection of outbreaks.

Methods: The Syndromic Surveillance System (SSS) included syndromes such as acute watery diarrhoea, Non-bloody gastroenteritis, meningitis/encephalitis, acute lower respiratory tract infections, respiratory infections, rash and fever, fever and bleeding, unexplained fever and acute jaundice syndrome. Cases were reported following their arrival and registration at the reception centres from weeks 37 2015-3 2017. Cumulative monthly (4 weeks) incidence of syndromes (number of cases /1,000 migrant populationswho passed border with Former Yugoslav Republic of Macedonia and registered on the reception centers) was calculated.

Results: A total of 547,338 migrants reached the Reception Centres, with mean influx values of 30,408 and 18,333 registered syndromes' cases with monthly mean of 1,018. Respiratory infections accounted for 77.5% and Acute Watery Diarrhoea for 12.45% of the total. The cumulative incidence for all syndromes was ranged from 15.1 to 488.1 per 1000 migrant population. Respiratory infections presented with the highest cumulative incidence 25.95/1,000. The highest cumulative incidence for all syndromes, respiratory infections and acute watery diarrhoea occurred during weeks 16–19 2016. meningitis/encephalitis, rash and fever and fever and bleeding syndromes were not recorded. No outbreaks were reported.

Conclusions: Respiratory infections and acute watery diarhoea are the most common registered

syndroms. Occurence of syndromes was essentially stable up to week 8th to week 11th, 2016, with sharp increase, thereafter.   The simillar pattern between respiratory infections and acute watery diarrhea has been observed although that the respiratory infections are three times more frequent. During this period outbreaks were not registered.

Recommendations: Periodically evaluation of SSS might be very useful. This SSS could improve in terms of new variables and determining the thresholds for signals and alerts by week.   New risk assessment should be done with the aim to update surveillance protocol.   But primary focus with regard to infecious disease prevention in transiting migrant population should be on providing good sanitation and hygienic conditions, regular health assessment, access health care nationwide and on health education and health promotion.

Status: COMPLETED, Oral presentation at the Second Annual MediPIET Scientific Conference 5th to 9th of December 2017, Marakesh, Morocco

Outbreak Investigations:

Risk factors of developing Tuberculosis among students in a High School in Novi Pazar: retrospective cohort study, Republic of Serbia, 2016

Background: From February to May 2016, 4 TB cases were reported among high school students (40 classes, 1194 students and 99 employees) of high school in the Novi Pazar in the Republic of Serbia. Incidence of tuberculosis in Serbia decreased in last 10 years, from 37/100 000 in 2003 to 14/100 000 in 2015. There are big differences in TB burden among districts (the lowest incidence have been recorded in north while the highest in south-west parts of the country). City of Novi Pazar is located in the south-west part of the country. TB incidence in Novi Pazar does not follow declining trend of the country. In the last ten years this is the city with the highest TB incidence in Serbia, 2-3 times higher than average for the whole country. In 2015, registered TB incidence in the Novi Pazar was 34/100 000 while in the Republic of Serbia was 13/100 000. Health authorities carried out a comprehensive contact investigation. In the period June to September 2016 contact investigation was performed in 1003 out of 1194 students (84%) and 99 employees (100%) where additional 10 TB cases were identified by chest X ray examination and radiofluorography. During October 2016, second round of contact investigation was performed among the 292 pupils (100%), and one TB case was identified. Moreover, by the end of December 2016, 2 TB cases were identified, making a total of 17.

Objectives: Identifying the risks of developing tuberculosis among students.

Methods: The outbreak was described by person, time and place. Algorithm for case finding included interview on TB symptoms and physical investigation. TB suspected cases were screened by chest radiography and referred to sputum analysis (microscopy and culture). If the chest radiograph was inconclusive, a computed tomography (CT) scan was performed. In cases of suspected extra-pulmonary TB, microbiological examination of other appropriate sample were performed as well as surgical biopsy.Drug resistance analysis was performed by National Reference Laboratory for mycobacteria and MIRU genotyping was performed by Supranational Reference Laboratory (SRL) in Borstel, Germany, for all culture-positive TB cases in order to determine the genetic pattern of the strain of *M. tuberculosis* that caused disease in students. A Retrospective cohort study among all third grade of the high school students carried out. The structured questionaire were used for collection information on disease onset and exposure history. The questionnaire included questions regarding demographic and socio-economic data, health behavior, TB exposure in and outside school, risk factors and co-morbidities, disease specific factors (clinical characteristics of the disease and microbiological diagnostics). The anonymous survey, facilitated by local health staff in face to face interviews, who were trained on survey administration prior to study initiation were performed.

Results: A total of 16 cases developed TB during this outbreak with attack rate was 5.5% within third grade.The majority of the patients are diagnosed with pulmonary TB (68.7%) the rest as extra pulmonary TB (31.3%). Out of total 11 were confirmed (68.7%), 1 was probable (6.2%) and 4 were possible TB cases (23.5%). The retrospective cohort study was carried out among third grade students (263) with response rate of 76,8%. Mean age was 18.21±0.47 among TB cases while 18.19±0.40 among TB negative students. Among case females presented with 62.5% and among TB negative students with 54.3%. The attack rate among males was 6,6% and among females 9%. More than half of cases (68.7%) and TB negative students (58.6%) lived in rural setting. The attack rate among cases who lived in rural settings was 9,1% Analysis shown that sex, age, body mass index (BMI), residence, family size and monthly income of the family were not risk factor for developing TB in this outbreak. Number of days until first four cases were reported was 34.7 ± 25.2. The time lag period between the date of onset and the date of diagnosis is 13.7 days. The median time between the date of diagnosis and date of reporting was 2 days (0-60). Number of days until first four cases were reported was 34.7 ± 25.2.

Students exposed to secondhand smoke were more likely to develop TB compared to students who were not exposed to secondhand smoke. Smoking, alcohol consumption, using hookah, sharing hookah, nutrition behaviour, daily sleeping, experience of stressful situations and co-morbidities were not predictors for deleloping TB among students in this outbreak. Students who spent time in school during classes at least 5 hours per day had 1.9 times the risk of TB than those who spent less than 5 hours (RR=1.92; CI=1.04-3.52). Spending time in school during school breaks was a risk factors for the occurrence of TB (RR=3.52; CI=1.13-10.90). In addition, there was significant difference between the examined groups in spending time out of school during school breaks (RR=0.24; CI=0.08-0.76) and spending time with TB friend in school (RR=6.19; CI=1.73-22.20), meaning that students who spent school break out of school had 76% less risk of a having TB compared to those who spending break time in school and students who spent time with TB friend at least eight hours per week were 6 times as likely to develop TB compared to students who did not spend time with TB friends.

Reporting previous TB disease in family (RR=9.28; CI=2.99-28.79) and TB disease among friends (RR=9.24; CI=1.22-69.90) were significant predictors of the occurrence of TB.

Conclusions: Delayed diagnostic and recording of case students likely started this outbreak in this high incidence town. Late initiation of contact investigation and lack of prophylactic TB treatment likely contributed to TB spread. Public health authorities should re-evaluate existing guidelines and procedures and if necessary revise procedures across institutions and departments as a response to TB outbreak.

Recomendations: This study showed the importance of timely notification, particulary the first cases, appropriate diagnosig and possibility for comprehesive and rapid case finding is essential for interrupting the transmission of TB. Health education and health promotion activities how among health workers so too among general population could significantly influence in increasing awerness about the importance of prevention, early diagnosing and timely notification of TB, particulary among population with high incidence of TB.

Status: Completed. Manuscript is under preparation

Research

Malaria knowledge, attitudes and practices among migrant population from malaria-endemic countries, Republic of Serbia, 2017

Background: Since 2015, Serbia has been faced with the increased influx of migrants coming from Middle East countries that are endemic for malaria. Following the risk of reintroduction malaria in 2016 Serbian IPH implemented enhanced epidemiological surveillance in the migrant population. So far in 2017, 20 imported malaria cases were registered compared with 17 cases registered in 2016. In all cases the cousative agent has been Plasmodium vivax. Imported cases of Plasmodium vivax are seen in patients from Afganistan (72%) and Pakistan (38%). Continuous importation of malaria from endemic countries might be a risk of reintroduction of malaria in the previous malaria free countries.

Objectives: Objective of the study is to assess knowledge and attitudes of the migrant population, residents of the Asylum center Krnjača in order to develop and implement targeted additional public health measures for preventing malaria local transmission.

Methods: The sudy population is defined as a migrant residents aged more than 18 years. Participants have been selected using simple random sampling from the registry of migrants in the Asylum center Krnjača. We selected participants using simple random sampling from the registry of migrants in the Asylum center Krnjača. Calculated sample size (OpenEpi software 3.1) was 137 participants.All participants were interviewed participants face to face by using a structted questionnaire which was available on English, Farsi and Arabic. The survey questionnaire collected information on socio-demographic characteristics (gender, age and leght of education), knowledge about malaria transmission, prevention and clinical signs and symptoms, health-care seeking behaviour and attitudes about harmfulness mosquito repelents and about provided malaria informations.

Results: The median age was 29 ranged from 18 to 55. Males participated with 66,4% (84) and females with 33,6% (43). More than half of the participants are from Afganistan (61%) than from Iraq (12%) and Pakistan (9%). Almost half of the participants (46%) have been educated between 7 and 12 years. Of 128 participants, 83 (65%) know at least one mode of transsmision, 76 (59%) know that the fever is the symptom of malaria and 49 (38%) know at least one method of prevention. Of the total 16 (13%) (95%CI: 7–20%) do not know anything about transsmision, prevention and clinical symptoms of malaria.

Conclusions: Level of malaria knowledge among migrants in our study is suboptimal particularly knowledge about preventive measures. Although Serbia implemened enhanced surveillance and public health interventions within asylum center, following the risk of re-emergence of malaria some public health measures should be implemented with focus on improving generale knowledge and awerness among migrant population. Access to the healthcare facility was satisfactory and the basic housing conditions existing. However among most of them should raise awareness on availability of health care in the ambulance whithin asylum center and about harmlessness of the mosquito repellents.

Recommendations: Effective measures for the prevention of malaria re-emergence in Serbia should focus to improve the knowledge and awerness oft he refugees as per the malaria transmission, clinical symptoms and protection , besides the applied indoor and outdoor mosquito protection measures in the asylum center . General recommendations for health promotional and health educational activities among migrant population should be developed in every health care facility on the territory of Serbia . In addition , the availability of the ambulance in the asylum center and primary helath care provided through this center should be made known to refugees in then asylum centers.

Status: Completed.

International Assignments:

Epidemic Intelligence in ECDC – Jun 2015, Stockholm, Sweden

Background: Epidemic intelligence (EI) is defined as the process to detect, validate, analyze, assess and investigate signals that may represent a threat to public health. EI encompasses all activities related to the early identification of potential health hazards that may represent a risk to health including any threat posed by infectious diseases, chemical agents, natural hazards, radioactive materials or by contaminated food.The objective of EI is public health risk/threats detection, monitoring and assessment regard to produce timely and verified intelligence on events of public health interest to be acted upon by public health authorities or medical professionals.The process of EI implies, among structured information, the screening of unstructured information (including web, official authorities and media reports. Filtering the relevant events and validating among these unverified information, is the part of the process.
Once an incident has been verified as being of potential public health concern, a rapid risk assessment is undertaken (usually within 24 to 48 hours) to evaluate the risk to human health.The aim of the rapid risk assessment is to ensure a timely response, based on an adequate risk assessment with recommendations on appropriate public health measures.
Based on ECDC recommendations in the National institute of public health has been established Communication center the aim to early threats detection and risk assessment. So far, Communication center was strengten with teleconferencing equipment, National strategy and with one skilled person in Epidemic intelligence.

Objectives: The Principal objective was to develop / strengthen the fellow`s capacities with regard to epidemic intelligence. Specific objectives were to develop / strengthen the fellow's capacities with regard to event based surveillance and web based surveillance sources, use of informal sources in association with the formal ones and performing a rapid risk assessment according to the output of EI activities.

Methods: Acquiring knowledge and skills through integration in a daily activities during fellowship on the areas linked to Epidemic intelligence. Actively participation in the daily activities of the Emergency operation center how to perceive functions, dynamics and deliverables. Participation in daily meetings as well as weekly round table meetings to discuss the aspects linked to operationalization and steps of early detection and response to public health emergencies.

Results: This felloship enabled understanding of different steps of the Epidemic intelligence and risk assessment. I acquainted with EI proccedures on the supranational level were EOC/ECDC presents institution responbile for detection of threats and risk assessment and Europenean Commision for risk menagement. I learned that beside indicator based surveillance, event based surveillance present the essential component in threat detection. Through daily activities I was involved in screening of defined unofficial sources of information such as web sites, press, social networks etc. I learnd what information could have public health importance for the European population and how to validate that informations by using the official sources. I realized importance and purpose of round table meetings, how often are oganised and which professionals should participated in regard to events that should be disscused.

Conclusions and recommendation: A draft proposal on developing Epidemic intelligence and event based surveillance as well as rapid risk assessment standard operation procedures will be developed as a joint output of Inernational assigments in the ECDC and in the Operations Centre of the DGS (MoH, Lisbon).

Status: Completed draft proposal.

Epidemic Intelligence, risk assessment, risk communication and preparedness at the national level-September 4-15, 2017, Lisbon, Portugal

Background: International assigment (IA) in the Operations Centre of the DGS (MoH, Lisbon) was the continuation of the IA which was done in the European Centre for Disease Prevention and Control with aim to develope capacities on epidemic intelligence with focus on international level.This time, scope of the IA was to strengh capacities and capabilities in conducting ealrly threat detection through EI, risk assesement and risk communicaton on national level.

Objectives: The main objective of assignment is developing and/or strengthening the capacities with regard to epidemic intelligence, risk assesement, risk communicaton and preparedness. The specific objective of assignment is strengthening capacities with regard to epidemic intelligence, risk assessment and risk communication, functioning of the Emergency Operations Centre and Generic preparedness building. The secondary objectives of assignment to get introduced to the existing disease and topic specific preparedness as developed within the Portuguese MoH Priority Programs (infection control, antibiotic resistance, vaccination etc.)

Methods: Acquiring knowledge and skills through integration in a daily EOC/CESP activities during fellowship on the areas linked to Epidemic intelligence. Actively participation in daily meetings as well as weekly round table meetings (RONDA) to perceive aspects linked to operationalization and steps of early detection and response to public health emergencies. Participation in a field visits in order to comprehend different levels in public health structure,

Results: During two weeks period I got familiar with organizational structure of the EOC/CESP and additional of the DGS and with overview of the public health system in the Portugal. I strengthened my knowledge about Epidemic intelligence, basic principles of risk communication and got familiar with aspects of capacity, capability and simulation exercises under the Preparedness. Also, I got opportunity to how Surveillance system in Portugal (SINAVE, SICO) functioning particularly for vector borne diseases in Portugal with focus on malaria and matching of national system with international systems (Tessy).
Two field visits were organized. First field visit were organised with regard to better understanding local public health structures. Second field visit was organised and coordinated with National Reference Laboratory (NRL) when has been presented the role of NRL in the National public health.
Practical work was focused on preparing Round table reports (RONDA) when the sources of information were reweaving, collection of relevant data and writing summaries. The unique opportunity for presenting prepared summaries during weekly RONDA meeting has been given.

Conclusions and recommendation: A draft proposal on developing Epidemic intelligence and event based surveillance as well as rapid risk assessment standard operation procedures will be developed as a joint output of Inernational assigments in the ECDC and in the Operations Centre of the DGS (MoH, Lisbon).

Status: Completed draft proposal.

Scientific communication

Oral presentation   Syndromic surveillance among migrant population in Republic of Serbia, 2015-2016, 2 st MediPIET Annual Scientific Conference, December 6th- 8th, 2016, Marrakesh, Morocco

Oral presentation   Evaluation of the surveillance system for West Nile virus infection, Serbia, 2016 – 2017, 3st MediPIET Annual Scientific Conference, November 28th- 30th, 2017,Brussels, Belgium

Manuscript under praparation to be subbmitted in the peer-reviewed scientific journal (Eurosurveillance): Risk factors of developing Tuberculosis among students in a High School in Novi Pazar: retrospective cohort study, Republic of Serbia, 2016

Manuscript under praparation to be subbmitted in national journal (Vojnosanitetski pregled): Evaluation of the surveillance system for West Nile virus infection, Serbia, 2016 – 2017

Teaching experience

1. Facilitator in the "Migrant and Refugee Health" workshop "Sydromic surveillance among migrant population in Republic of Serbia" for the purposes of presenting Serbian experience on the Summer School, ECDC, 2017.
2. Facilitator during Workshop on Refugees and Migrant Health with topic titled as "Sydromic surveillance among migrant population in Republic of Serbia", 14th – 16th October 2017, Athens, Greece
3. Preparing and lecturing presentation „Current epidemiology situation of Zika virus infection worldwide and WNV infections in Republic of Serbia"(as a speaker within the additional classes for medical students of High Medical School of Professional Studies, University of Belgarde, March 3, 2016).

Miscellaneous (additional activities)

If you have more activities that is not mentioned under previous sections, please write it here.

Next steps

- ✓ Participation in the reform of the National surveillance system for communicable diseases
- ✓ Participation in the improvement of the syndromic surveillance system in migrant population
- ✓ Continuation with KAP study in migrant health
- ✓ Developing of a health promotional and malaria prevention activities
- ✓ Participation into integration of Core competences (Vector-borne diseases and CBRN Threats) into Serbian PH curriculum of epidemiologists, Program for Cascade training for Serbian (170) and neighboring countries' epidemiologists and representatives of agricultural and veterinarian sectors
- ✓ Analyse available national data of specific zoonosis
- ✓ Continuation the daily activities

Supervisor's conclusion

MediPIET fellow Dragana Plavša was actively involved in adopting 2012 EU Case definitions for reporting communicable diseases, in Serbia, as well as, to the community network. In Serbian MediPIET training site, her project contributed in improving West Nile fever surveillance systems, by evaluating ones, for 2016-17. Her participation in International assignments provided introduction of best practices epidemic intelligence at national and international level. She achieved skillfulness in project preparing, conducting surveys, data analysis and its presentation, that further enabled their communication of results on 2016 and 2017 Annual Scientific Conferences and 2017 Summer School and Refugee and Migrant Health Trainings of trainers. She participated in application evidence-based epidemiological practices by applying analytical methodology in outbreak investigation for the first time in Serbia, 2015-17. Dragana will participate into integration of Core competences (Vector-borne diseases and CBRN Threats) into Serbian PH curriculum of epidemiologists, Program for Cascade training for Serbian (170) and neighboring countries' epidemiologists and representatives of agricultural and veterinarian sectors, May 2018. She are translating available lectures and case studies of MediPIET training material that will be in use in Serbian Cascade training, May 2018. Under the Migrant Health Trainings she started collaboration with representatives of International Organization for Migration.

Scientific Coordinator's conclusion

Dragana has developed new knowledge and skills during her fellowship with regard to analytical epidemiology , outbreak investigation, design and implementation of a research protocol, epidemic intelligence and preparedness. Further , Dragana has developed professional and scientific maturity with increasing degrees of scientific autonomy and initiatives. Dragana is already considering the design and implementation of new projects for the benefit of the Dpt of Infectious Diseases Epidemiology and of the Inst of PH .

References

1. D Plavsa, M. Drakulovic, D. Ilic, P. Simonovic, I. Ivanovic, B. Srdic, M. Milinkovic; Syndromic surveillance among migrant population in Republic of Serbia, 2015-2016 Oral communication at the 2st MediPIET Annual Scientific Conference, 5-9 December 2016, Marrakesh-Morocco

2. D Plavsa, M. Drakulovic, A. Grgurevic; Evaluation of the surveillance system for West Nile virus infection, Serbia, 2016 − 2017; Oral communication at the 2st MediPIET Annual Scientific Conference, 28-30 November 2016, Brussels-Belgium