FELLOWSHIP REPORT

Summary of work activities

Claudia Siffczyk
Intervention Epidemiology path (EPIET)
Cohort 2015

Background

The ECDC Fellowship Training Programme includes two distinct curricular pathways: Intervention Epidemiology Training (EPIET) and Public Health Microbiology Training (EUPHEM). After the two-year training EPIET and EUPHEM graduates are considered experts in applying epidemiological or microbiological methods to provide evidence to guide public health interventions for communicable disease prevention and control.

Both curriculum paths are part of the ECDC fellowship programme that provides competency based training and practical experience using the 'learning by doing' approach in acknowledged training sites across the European Union (EU) and European Economic Area (EEA) Member States.

Intervention Epidemiology path (EPIET)

Field epidemiology aims to apply epidemiologic methods in day to day public health field conditions in order to generate new knowledge and scientific evidence for public health decision making. The context is often complex and difficult to control, which challenges study design and interpretation of study results. However, often in Public Health we lack the opportunity to perform controlled trials and we are faced with the need to design observational studies as best as we can. Field epidemiologists use epidemiology as a tool to design, evaluate or improve interventions to protect the health of a population.

The European Programme for Intervention Epidemiology Training (EPIET) was created in 1995. Its purpose is to create a network of highly trained field epidemiologists in the European Union, thereby strengthening the public health epidemiology workforce at Member State and EU/EEA level. Current EPIET alumni are providing expertise in response activities and strengthening capacity for communicable disease surveillance and control inside and beyond the EU. In 2006 EPIET was integrated into the core activities of ECDC.

The objectives of the ECDC Fellowship - EPIET path are:

- To strengthen the surveillance of infectious diseases and other public health issues in Member States and at EU level;
- To develop response capacity for effective field investigation and control at national and community level to meet public health threats;

The views expressed in this publication do not necessarily reflect the views of the European Centre for Disease Prevention and Control (ECDC).

This portfolio does not represent a diploma. Fellows receive a certificate acknowledging the 2-year training and listing the theoretical modules attended. Additionally, if all training objectives have been met, they receive a diploma.

Stockholm, July 2016

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- To develop a European network of public health epidemiologists who use standard methods and share common objectives;
- To contribute to the development of the community network for the surveillance and control of communicable diseases.

Fellows develop core competencies in field epidemiology mainly through project or activity work, but also partly through participation in training modules. Outputs are presented in accordance with the EPIET competency domains, as set out in the EPIET scientific guide[1].

Pre-fellowship short biography

Claudia Siffczyk is a biologist. She acquired her diploma at the university of Göttingen (Germany), with a focus on zoology and ecosystem ecology and studied at the university of Oulu (Finland) focussing on evolutionary ecology. An individual Marie Curie Fellowship enabled her to focus on population ecology, applying epidemiological analyses and population models. In addition, she acquired her master of public health in 2006 at the medical university of Hannover, Germany. Her master thesis was a case-control study investigating the first large hantavirus outbreak in Lower Saxony, Germany. She works as a scientific officer in the unit of infectious disease control and health reporting at the department of health in the State Office of Occupational Safety, Consumer Protection and Health of the federal state of Brandenburg, Germany. Her task is the surveillance of mandatory notifiable infectious diseases, with a focus on zoonoses and vaccine preventable diseases.

Fellowship assignment: Intervention Epidemiology path (EPIET)

On 15.09.2015, Claudia started her EPIET fellowship at the Health Department of the State Office of Occupational Safety, Consumer Protection and Health, Brandenburg Germany, under the supervision of Dr Gabriele Ellsäßer. Dr Alicia Barrasa was her front-line coordinator. This report summarizes the work performed during the fellowship.

Fellowship portfolio

This portfolio presents a summary of all work activities (unless restricted due to confidentiality regulations) conducted by the fellow during the ECDC Fellowship, EPIET path. These activities include various projects and theoretical training modules.

Projects included epidemiological contributions to public health event detection and investigation (surveillance and outbreaks); applied epidemiology field research; teaching epidemiology; summarising and communicating scientific evidence and activities with a specific epidemiology focus. The outcomes include publications, presentations, posters, reports and teaching materials prepared by the fellow.

This portfolio also includes a reflection from the fellow on the field epidemiology competencies developed during the 2-year training, a reflection from the supervisor on the added value of engaging in the training of the fellow, as well as a reflection by the programme coordinator on the development of the fellow's competencies.

Fellowship projects

1. Surveillance

Title: Mumps in federal state of Brandenburg, Germany, 2002-2015

In Germany, the introduction of mumps vaccination into the general vaccination scheme has reduced mumps incidence. Mandatory notification was implemented in the federal state of Brandenburg already in 1996, prior to the national implementation (2013). Mumps cases need at least a clinical confirmation to become notifiable.
In Brandenburg mumps has been a rare disease, with a mean of 13 cases per year and in total 176 cases between 2002 and 2015. Mumps occurred at any age (median age: 16 years (y), range 0-95 y). Incidence peaked in 5- to 10-year old children with a mean annual incidence rate of 3/100,000 children of this age group. Young children had the highest risk for hospital admission: more than half of the hospitalised cases were 5 years or younger. Female patients were recorded more frequently (92 vs 84). Amongst all, 37 cases (21%) were vaccinated, 15 patients twice. In 99%

[1] European Centre for Disease Prevention and Control. European public health training programme. Stockholm: ECDC; 2013. Available from: http://ecdc.europa.eu/en/epiet/Documents/Scientific%20guides/EPIET%20Scientific%20Guide_C2015.pdf

of all notifications, parotitis was the only documented symptom. In two cases additionally fever was documented, in one case also orchitis and hearing loss. Half of all notifications were only clinically confirmed; for 80 cases an additional laboratory confirmation was documented. The symptom parotitis is not specific only for mumps. Also, during the influenza season the risk for a clinical misclassification of cases has been shown to be increased.
The analysis revealed that further efforts are necessary, first, to increase mumps vaccine uptake. And second, to increase the proportion of laboratory confirmed clinical case notifications. Physicians should know about the free diagnostic services of the National Reference Laboratory for measles, mumps and rubella, Berlin, and use them in order to confirm cases, especially in vaccinated patients.

Role and outputs:

As the principal investigator Claudia cleaned and verified, analysed and interpreted long term surveillance data. She published a short article in the Brandenburg Physician's Association Journal (1).

Supervisor(s): Dr Gabriele Ellsäßer

Title: Detection of a Salmonella Stourbridge cluster, with high fatality rate, Brandenburg, November 2016

During two consecutive weeks two fatal cases of the rare serovar of Salmonella (S.) Stourbridge were notified in the same district in Brandenburg in November 2016. Both cases died due to a Salmonella sepsis. Patient A was a 56-year-old male labourer, who developed illness on 24.09.2016, became hospitalised 26.09. and died on 27.09. Patient B was an 82-year-old retired male (in a very weak underlying condition, several hospitalisations, last in the previous week), developed illness on 26.10., was hospitalised on the same day and died on 02.11. Both patients suffered of an underlying illness. Both had the same place of living, but further similarities were not detected. The isolate of patient A was fine typed at the National Reference Laboratory (NRL) for Salmonella and other enteric pathogens, Berlin (S. Stourbridge 6,8:b:1,6). The local food safety authority was informed.

The last S. Stourbridge case was notified in 2008 in Brandenburg. From January to 21 November 2016 no Salmonella isolates of group C2/C3 were notified in Brandenburg. Investigations on national level revealed an increase in S. Stourbridge cases since the 43. notification week also in other federal states. Cases showed a high hospitalization rate (9/13 cases).

Literature research revealed that S. Stourbridge was 2005 the trigger of an international outbreak with non pasteurised goat cheese as vehicle of infections. However, the pathogen had been isolated from a variety of sources (e.g. German breeding farms for pigs, British poultry farms, badgers, and fecal samples of slain boar in Switzerland).

Role and outputs:

During her routine surveillance activities on the mandatory reported communicable diseases, Claudia, as the principal investigator detected and verified the cluster. She analysed historical notification data of documented Salmonella serovars in Brandenburg of the past 10 years to confirm the outbreak. She conducted a literature and online research concerning this serovar. Further, she initiated further investigation of the cases through the local public health officer and prompted sending patient's samples to the NRL for fine typing. Claudia informed national and state epidemiologists during the weekly telephone conference (2). This lead to intensified microbiological investigation of S. Stourbridge cases on national level. On a close co-operational level with the national public health institute further investigations of a possible increase of S. Stourbridge cases on national and international level, and on possibly increased severity, respectively fatality rates, associated with this serovar had been initiated. The investigations resulted in an ECDC Rapid Risk Assessment (http://ecdc.europa.eu/en/publications/Publications/12-12-2016-RRA-Salmonella-Germanyfinal.pdf; 3). In the risk assessment update of January 2017, based on the gathered microbiological evidence, the ECDC did not consider a multi-country ongoing event anymore; so, the investigation of the event has been closed at the EU/EEA level and routine monitoring of S. Stourbridge strains occurrence in humans continued (4).

Supervisor(s): Dr Gabriele Ellsäßer

Title: Increase in Salmonella Typhimurium cases in infants, Brandenburg, June 2016

Salmonella (S.) Typhimurium has become the most frequent Salmonella serovar in Germany and also in Brandenburg. However, in surveillance data for children under one year, usually rarer and a higher variety of different serovars are documented. From January to June 2016 an unusual high proportion of clinically confirmed S. Typhimurium cases was

documented in this age group (11/16). Further investigation showed, that no spatial clustering occurred: the cases were scattered in 9/18 districts all over Brandenburg. The proportion of S. Typhimurium cases amongst all notified clinical confirmed salmonella cases in this age group exceeded the observed proportion of the last 6 years.

Intensified surveillance on district level for documented, suspected food items or possible vehicles of infection revealed that no indication for a common food item could be detected. A request on national level showed no nation-wide increase in this age group. After several weeks of further intensified surveillance, e.g. daily checks in the data base for S. Typhimurium cases in infants, no further indications for a continuous increase could be observed and the investigation of the event was closed. Routine monitoring of salmonella cases continued. However, notified cases of foodborne illnesses in under 1-year-olds are continued to be under special attention on the federal state level.

Role and outputs:

Claudia as the principal investigator detected the increase in S. Typhimurium cases in under 1-year-olds during her routine surveillance activity. She screened the new cases for rare serovars, and did regular checks of salmonella cases in young children, especially in under 1-year-olds. As the principal investigator, she conducted an intensified survey on the S. Typhimurium cases: she analysed historical surveillance data, did a request for information on national level, and investigated in close cooperation with the PHOs individual cases in Brandenburg (e.g. formalised email request to the affected PHOs to report possible risk factors and documented or suspected sources of infection, or "nil" reply (5)). No common suspected source could be detected, no increase on national level was observed. She closed the investigation after a period of further intensified surveillance, as no further indications for an outbreak could be detected and no further increase was observed. She addressed the topic of prioritising enhanced surveillance for foodborne infections in under 1-year-olds among colleagues.

Supervisor(s): Dr Gabriele Ellsäßer

Title: Intensified surveillance of Tickborne Encephalitis (TBE) cases in Brandenburg

TBE is a severe disease, yet vaccine preventable. National surveillance and survey data inform the nomination of official TBE risk areas - districts where the disease is regarded as endemic - and therefore public recommendation for vaccination exists. In Brandenburg TBE is a rare infectious disease (2001-2016: 24 cases) and districts in Brandenburg are not considered as TBE risk areas. However sporadic autochthonous cases had been documented. Therefore, each notification is individually quality controlled on federal state level for plausibility and completeness. Analyses of federal notification data seemed to suggest that the proportion of autochthonous cases has increased during the last years. Between 2001-2016 ten autochthonous cases had been notified in Brandenburg, five of them during the period 2013-2016. In addition, a comparison of national and federal surveillance data seemed to indicate increasing incidence in years with high national human TBE incidence. Unpublished data on local prevalence of TBE in risk populations (forest workers) in Brandenburg have suggested high antibody prevalence in some districts of Brandenburg. Further, data from years before 2001 as well as information on single TBE cases seem to suggest that local foci for TBE infection might exist in Brandenburg. Structured questionnaires for TBE cases have been developed recently in Brandenburg and are used to gain information on possible risk factors influencing disease occurrence.

Role and outputs:

On an event basis Claudia analysed and further investigated the notified TBE cases in Brandenburg. She conducted regular compilations of the number of TBE cases and places of infection of autochthonous TBE-cases. As part of the case verification, she contacted the PHOs for further information and asked for advanced laboratory confirmation. She adapted an existing questionnaire for intensified surveillance of TBE cases in Brandenburg (6). In case of a TBE notification this questionnaire had been distributed to the respective PHO for the intensified investigation and documentation on local and federal state level. PHOs had been asked to send the completed questionnaire to the federal department of health for further analysis. This improved the identification of autochthonous cases and will facilitate localisation of possible places of infection, in order to be able to investigate possible local foci in Brandenburg. Further, she wrote a project proposal addressing the evaluation the intensified TBE surveillance system and the investigation of possible local foci for TBE in Brandenburg (7).

Supervisor(s): Dr Gabriele Ellsäßer

Competencies developed:

I intensified my contact to local PHOs, improved cooperation and formalised email requests for further information on unexpected events. I addressed the importance of intensified surveillance and advanced laboratory analysis in TBE cases among colleagues. I improved my competencies in questionnaire development as a tool for improving case documentation on local and federal level and for enhancing the quality and completeness of data quality on federal level.

2. Outbreak investigations

Title: Large *Campylobacter coli* outbreak associated with minced pork consumption, Germany, 2016

Though campylobacteriosis is the most common notified bacterial disease in Germany, outbreaks of *Campylobacter (C.) coli* are rare and usually involve <5 cases. On 01.06.2016, the public health office of Märkisch-Oderland reported eleven *C. coli* cases, located in neighbouring towns. We investigated the outbreak to identify the source of infection.
We defined cases as residents in Märkisch-Oderland with symptoms' onset between 23.05.-27.05.2016 and with positive *C. coli*-culture or epidemiologically linked symptomatic persons. We compared cases with unmatched controls selected from the same area using random digit dialling. We interviewed cases and controls using a structured questionnaire on food consumption and calculated odds ratios (OR) with 95% confidence intervals (95%CI). The case:control ratio was about 1:1. The local food safety authority collected food and environmental samples. The national reference centre for salmonellosis and other enteric pathogens subtyped human isolates by pulsed-field gel electrophoreses (PFGE).
Overall, 15 cases were identified (33% female, median age: 51 years; range: 4-69 years; 4 hospitalised); 12 isolates showed an identical PFGE pattern. Cases were more likely to consume minced pork compared to controls (9/10 cases vs 6/14 controls; OR=12, 95%CI=1.2-122), and to consume it raw (9/10 cases vs 0/14 controls; OR=∞, 95%CI=16-∞). Seven cases, but none of the controls, bought meat at the local butcher. Pork and environmental samples in the butchery tested negative.
To our knowledge this was the largest *C. coli* outbreak documented in Germany since 2001. Epidemiological evidence suggested raw minced pork from a local butcher as the most likely vehicle of infection.

The project implies an underestimated role of *C. coli* as cause of large foodborne outbreaks, and pork as a source for Campylobacter outbreaks. The investigation highlights the need of close collaboration between food safety and public health authorities and the importance of timely advanced laboratory analysis in foodborne outbreaks. Consumers should be advised about the risk of consuming raw pork. Improvements of food safety regulations are still required to reduce contamination of pork with *Campylobacter coli.*

Role and outputs:

Claudia was the principal investigator, confirmed the outbreak, informed the federal ministry and the national public health authorities, instructed co-investigators, decided on the study design and control acquisition, advised public health officers, informed further laboratory analysis methods, developed questionnaires including a section on informed consent, interviewed cases, conducted data verification, descriptive and univariable analysis, and wrote the first draft of the manuscript. Further, she compiled and distributed information from case interviews and investigations regarding possible sources within the outbreak team, in order to keep all stakeholders informed and in order to further enhance cooperation during the investigation. She took the lead in writing the report (8) and will present the results, both, on the ESCAIDE 2017 (9) and on the National Symposium on Zoonoses Research 2017 (10). Further, she prepares a manuscript planned for submission to a peer-reviewed journal (11).

Supervisor(s): Dr Gabriele Ellsäßer, Dr Christian Friedrich

Competencies developed:

I improved my competencies in producing scientific output with a lot of co-authors and in report writing. Further, I improved my scientific (and abstract) writing skills, my competencies of instructing co-investigators while working under high time pressure and got a deep insight in food safety regulations and possible sources of food contamination and food safety regulations concerning meat production.

As member of the inter-sectoral and inter-ministerial working group of public health and food safety experts in the Federal State of Brandenburg I applied my experience to give input for the update of the decree on mutual communication between food control and public health authorities in the Federal State of Brandenburg. Further, our group gives input to amend and to develop a manual for the management of foodborne outbreaks in the Federal State of Brandenburg. This will result in an official inter-ministerial recommendation by the Ministry of Health and the Ministry of Justice.

3. Applied epidemiology research

Title: Impact of rotavirus vaccination on disease incidence in children on district and federal level in the Federal State Brandenburg, Germany

Since the approval of rotavirus vaccines for infants in 2006, rotavirus incidence has decreased markedly among children in Brandenburg. Brandenburg is the only State in Germany with rotavirus vaccine uptake (VU) data at population level in all 18 districts. We aim to quantify the impact of VU on rotavirus incidence in young children, and to describe VU at district level to inform local authorities to address vaccination acceptance in districts with low uptake.

We described overall rotavirus notification rates from 2007 to 2011 at State and D level in 5 age groups and rotavirus VU rates at State and district level. Using Spearman correlation, we quantified the impact of VU on rotavirus incidence at district level, stratifying by age group.

Overall VU increased from 0.4 to 61.4%, with a range of 37.7 to 72.6% between districts in 2011. After a peak in 2009 of 3,023 rotavirus cases per 100,000 among children under 5, the rotavirus incidence rate decreased in all age groups: from 4,030 to 1,417/106 in <1-year-old, 5,897 to 2,497/106 in 1-year-old, 2,651 to 1,691/106 in 2-years-old, 1,525 to 1,060/106 in 3-years-old and 952 to 648/106 in 4-years-old. At district level rotavirus incidence was significantly associated with VU in <1–years-old (-0.57), 1-years-old (-0.47) and 2-years-old (-0.32) (all p<0.003), but not in older age groups.

VU in Brandenburg is comparable with that of other former East German States (estimated from vaccination sales and prescriptions). Analysis at district level identified areas where VU should be enhanced. Furthermore, analysis suggested effectiveness of the vaccination in children <3-years-of-age. If available, information should be analysed at district level, in order to target public health measures locally.

Role and outputs:

As a principal investigator Claudia wrote the research protocol, analysed survey and surveillance data, presented results on the ESCAIDE 2016 as a poster (12) and on the German National Immunisation Conference 2017 (13), published a short article in the Brandenburg Physician's Association Journal (14). She presented the first ideas of the study and its results during the jour fixe for German FETP fellows, RKI, Berlin in February and September 2016 (15,16). In addition, she presented the key results during the annual departmental meeting, January 2017 (17).

Supervisor(s): Dr. Gabriele Ellsäßer, Dr. Christian Friedrich

Competencies developed:

I updated my knowledge about and application of MVA and negative binomial regression. I improved my skills to work and perform statistical analysis with Stata. Further, I got a good insight in the strengths and fallacies of the use of long term human population survey data, as well as of secondary data, for estimates of population vaccine uptake. I improved my skills in planning a research project, in writing project proposals and research protocols and in conducting a research project. Finally, I improved my skills in presenting results of more advanced statistical analyses to different audiences and in English.

4. Communication

Manuscripts submitted to peer reviewed journals (in review process)

One manuscript is in preparation and planned to be submitted until November 2017 (11).

Conference presentations

One oral presentation at ESCAIDE 2017 (9), one poster presentation at ESCAIDE 2016 (12), one poster presentation at the 5. National Immunisation Conference 2017 (13) and one poster presentation at the National Symposium of Zoonoses Research 2017 (10).

Other presentations

Three oral presentations at the Brandenburg Surveillance Workshop, Zossen, 25.05.2016 (18) - (20). One oral presentation (17) at the annual meeting of the Department of Health, Zossen, 18.01.2017. One oral presentation (21) at the annual meeting of the Department of Health, Zossen, 18.01.2017.

Reports

One outbreak report (8) and one surveillance report (1).

Other

- The acquired competences have been implemented in the cooperative inter-sectoral and inter-ministerial development of a decree on mutual communication between food control and public health authorities and

into the amendment and development of a manual for management of foodborne outbreaks in the Federal State of Brandenburg (as official inter-ministerial recommendation) (Guide in preparation).

- One project resulted in an ECDC Rapid Risk Assessment (European Centre for Disease Prevention and Control. Increase in Salmonella Stourbridge infections in Germany during 2016-16 December 2016. Stockholm: ECDC; 2016).
- Preparation of information for several press releases.
- Provision of legwork for the answers of the Health Ministry to Minor Interpellations of the Brandenburg Parliament.

5. Teaching activities

Workshop for local Public Health Officers in the Federal State of Brandenburg on surveillance and notification according to the Infectious Disease Act in Zossen, 25 May 2016

I planned and selected the topics for the workshop in cooperation with my colleagues, I chose and invited the external experts as referees, prepared the time schedule and chaired the meeting. I conducted the analysis on notification data, and prepared and delivered three presentations (Measles outbreak in Brandenburg 2014/2015. Analyses of surveillance data and actual measles situation (19); European Risk Assessment Guidelines for diseases transmitted on Aircrafts, RAGIDA - What are they and how to deal with them in Brandenburg? (20); Notification data quality – A focus on vaccine preventable diseases (21)). Further, I chaired the discussions, edited the final minutes and compiled additional information material. The training methods used were presentations and facilitated discussions. The target audience were local public health officers. Duration: one day in total (duration of own presentations incl. discussions about two hours). Reflection: Next time it would be good to include one interactive exercise to improve the communication, to increase participation and the consolidation of contents. Focussing on one or two main topics resp. themes would be advantageous; with at least one about data quality, as well as the invitation of not more than two external referee(s) and more time for mutual exchange during breaks. Further, it's important to reserve time to develop and distribute feedback forms in order to facilitate structured evaluations.

Supervisor(s): Mr. Detlef Berndt

Practical facilitation: IHR Summer School for countries in South East Europe, Robert Koch Institute (RKI)

I participated in the meeting about the final details and materials (organisational details, case studies, etc.) with colleagues from the RKI. In a team of two, I facilitated in one case study as well as in an exercise for the application of the JEE evaluation tool. The target audience were national Public Health experts of SE Europe. Duration: I participated on three consecutive days. The case studies lasted each about two hours. Reflection: I learned applicable tools and procedures for the preparation of a week of summer school and practical methods to facilitate adult learning. I learned how to build up respectively amend a case study. I improved and practised my facilitator skills. 04-06 July 2017, Berlin, Germany.

Supervisor(s): Mrs. Hannah Lewis Winter, RKI

Practical facilitation: RKI Children's Day: Outbreak investigation game

I facilitated during the outbreak game in team of three facilitators and participated in the on-site preparation. We used existing training material, developed by former fellows and amended by RKI facilitators. The training methods used were to play the role game and to give age specific explanations. The target audience were school aged children, but also younger ones participated; the duration was a half day in total, with each iteration (with a different group) lasting about 30 minutes. Reflection: I learned how to organise such an event and where to find the material. Further I learned about useful tools and procedures for working with children and the value of engaging facilitators who want to be engaged and enjoy it! Location: RKI, Berlin, Germany.

Supervisor(s): Mrs. Michaela Diercke, RKI

Educational outcome:

I learned to know different ways to address adult and children's education. Conducting these teaching assignments improved and practised my moderation, presentation and organisation skills. My positive experience encourages me to apply these training methods in future workshops at our department: adapting existing tools as case studies, short simulation exercises, table top exercises, or tests or quizzes to increase attention and interaction among participants. The development of feedback forms for structured evaluation of future teaching activities and workshops is planned.

6. Other activities

- Weekly participation in telephone conferences with Robert Koch Institute (RKI) and federal states of Germany
- Weekly participation in telephone conferences with German FETPs (PAE telephone conference)
- Weekly report of infectious diseases in Brandenburg, Germany.
- Quarterly work group meeting "surveillance" of the epidemiologists of the German Federal States and the National Public Health Institute, RKI, ("Bund- Länder- Arbeitsgruppensitzung Surveillance")
- Biannual Jour fixes of the German FETP-Fellows, RKI, Berlin.
- Weekly meeting of the infectious disease group, unit of infectious disease control and health reporting at the department of health in the State Office of Occupational Safety, Consumer Protection and Health of the federal state of Brandenburg, Germany.
- Meeting of the inter-sectoral and inter-ministerial working group of public health and food safety authorities on foodborne outbreaks. Mandate: update of the decree on mutual communication between food control and public health authorities and amendment and development of a manual for management of foodborne outbreaks in the Federal State of Brandenburg (as an official interministerial recommendation), February and June 2017, Potsdam.
- Participation in a vaccine survey study in a Greece refugee camp as interviewer, 23 June 2016, Eliniko, Greece
- Meeting of the inter-sectoral and inter-ministerial working group "Climate" ("IMAG Klima") concerning health indicators for climate change in Brandenburg. Aim: to develop a catalogue of suitable indicators for a climate change monitoring report for Brandenburg. 15.12.2016, Potsdam.

Conferences and Workshops attended

1. ESCAIDE, 11-13 November 2015, Stockholm, Sweden
2. ESCAIDE, 28-30 November 2016, Stockholm, Sweden
3. ESCAIDE, 6-8 November 2017, Stockholm, Sweden
4. 5th National Immunisation Conference, 10-11 May 2017, Oldenburg, Germany.
5. National Symosium on Zoonoses Research, 12-13 October 2017, Berlin, Germany.

7. EPIET/EUPHEM modules attended

1. EPIET Introductory Course, Spetses - Greece 28 September to 16 October 2015
2. EPIET outbreak investigation module, Berlin 7-11 December 2015
3. EPIET module on Multivariable Analyses, Vienna 14-18 March 2016
4. EPIET RAS module, Athens 20-25 June 2016
5. EPIET Project Review Module, Lisbon 22-26 August 2016
6. EPIET module on Time Series Analyses, Bucharest 07-11 November 2016
7. EPIET Vaccinology Module, Stockholm 12-16 June 2017
8. EPIET Project Review Module, Lisbon 28 August to 1 September 2017

Additional Training

9. Laboratory Module, RKI, in Berlin and Wernigerode, 15-19 February 2016

10. QGIS training for DZIF and German FETP- and EPIET-fellows, RKI, in Berlin, 17 May 2017

11. Scientific Writing Course, RKI, in Berlin, 18-19 July 2017

Supervisor's conclusions

Claudia Siffczyk has successfully managed to combine fellowship requirements with routine work. As was anticipated, assignments inherent to EPIET programme objectives have expanded the width of Claudia's involvement in departmental activities beyond her previous focus on surveillance of notifiable infectious diseases and outbreak reporting to epidemiological research and the scientific communication of results on international level. Her support to the ministry through the preparation of press releases and legwork have increased her skills in briefly reporting according to political demands. Scientific communication, outbreak investigations and provision of advice and guidance to partners in local public health offices will continue to be part of her portfolio – but at a more in-depth level. Her knowledge of methods for rapid assessment in public health emergency situations will be useful in case of emergencies. Presentations at official meetings with local public health authorities and at events for continuing education have already provided opportunities to convey contents from the EPIET programme to the local level, and will continue to do so. One asset of her fellowship was the constructive cooperation with colleagues from all sectors involved during investigations of foodborne outbreaks. The acquired competences will be implemented in the cooperative inter-sectoral and inter-ministerial development of a decree on mutual communication between food control and public health authorities and into the amendment and development of a manual for management of foodborne outbreaks in the Federal State of Brandenburg, the decree and an official inter-ministerial recommendation being drafted. In an on-going process, results from the *Campylobacter coli* outbreak investigation contributes to the discussion on national and international level on the risk that this pathogen poses to the public and has the prospect to contribute to arguments for changes in laboratory methodology, as well as food safety regulations towards a stronger one-health approach. Implications derived from the Rotavirus-project study will be discussed further with stakeholders at local, federal state and national level, to develop interventions for the improvement of childrens' immunization against rotavirus and other vaccine preventable diseases. Implications derived from the surveillance-project studies have already improved and will continue to improve the daily surveillance routines of the Unit; the preparations for a workshop are being under way. Additionally, her skills will facilitate the evaluation of future projects. At the end of the supervision period, I am very grateful to Claudia for taking up the challenge to participate in the EPIET MS Track programme, and to ECDC for admitting her to this cohort. My strong support for the EPIET MS Track approach is continuing, and is backed by the achieved skills of Claudia. Claudia will apply her competencies by supervising the coming German FETP Fellow and contribute to consolidate the programme in our Department.

Coordinator's conclusions

Before the EPIET programme Claudia was already an experienced epidemiologist, particularly skilled on surveillance of infectious disease. I believe that Claudia has benefitted from the programme by developing her competencies on applied research and statistical analysis.

She has proven to be a very competent professional able to combine her daily surveillance routines at the Unit of Infectious Disease Control and Health Reporting at the Health Department of the State Brandenburg with all the requirement of the EPIET fellowship with outcomes that will have a positive impact on the scientific level of her unit as shown by her capacity of identifying research opportunities from surveillance data.

Claudia has a remarkable commitment to service, always identifying the public health benefits before starting a project. As her frontline coordinator it was a real pleasure to have the opportunity to follow her development and to be part of the thorough methodological discussions we had. The complete overview on applied epidemiology that Claudia has developed in these two years makes her the perfect supervisor for either a German FETP or an EPIET fellow on her training site.

Coordinator: Dr Alicia Barrasa

Personal conclusions of fellow

The EPIET program provides an excellent opportunity for me as a Member State track fellow to strengthen and improve knowledge of recent developments in epidemiology and to get a good overview of up to date methodology used in epidemiological surveillance and research, of laboratory methods, here especially recent developments, as well as of teaching. In the different modules, we acquire a solid theoretical basis in different topics like outbreak investigation, sampling strategies, data analysis, public health in emergency situations and on vaccination. Further, we acquire a common language, practise to communicate results of our studies and investigations, and we get experienced to communicate to international audiences. We directly apply our gained knowledge to our projects. On the other hand, the program acts like an external quality enhancement for the training site. As new skills can be applied on the site, it develops further; also, a continuing evaluation and feedback is part of the programme and valuable in this respect. As Member State track fellow on the federal state level, we can implement our learning achievements directly into our routine work. We can act as multipliers, also, but not only, for the local public health authorities, also encouraging scientific output. This excellent program provided me with the unique opportunity to learn new tools of teaching, new methods, refresh, update and deepen my analytic skills, improve my scientific reporting output and practise new software programs. I had the opportunity to take part in excellent modules delivered by excellent coordinators and experienced lecturers with most relevant content providing up to date professional insights. Last but not least, we had the excellent opportunity to profit from the experience of my co-fellows, who taught in parts of the modules and presented insight into their work and experiences e.g. on international assignments.

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