ECDC Fellowship Programme

PHT

Scientific Guide for EPIET and EPIET-associated fellowships

For use by fellows, coordinators, and training site supervisors

Current 2015 version - under review

This report of the European Centre for Disease Prevention and Control (ECDC) is currently under review by Marion Muehlen, Acting Head of EPIET, and the EPIET Scientific Coordination Team. The previous version was coordinated by Yvan Hutin, Head of EPIET in ECDC's Public Health Communication programme.

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Abbreviations

CDMT	Competencies Development Monitoring Tool
DD	Director's Decision
EAN	EPIET Alumni Network
EAP	EPIET-associated programme
ECDC	European Centre for Disease Prevention and Control
EEA	European Economic Area
EPIET	European Programme for Intervention Epidemiology Training
ESCAIDE	European Scientific Conference for Applied Infectious Disease Epidemiology
ETSF	EPIET Training Site Forum
EUPHEM	European Public Health Microbiology Training
EU	European Union (28 Member States)
EU-track	EU-track of EPIET (fellows trained in a country other than their country of origin)
EVA	ECDC Virtual Academy (e-learning platform)
FETP	Field Epidemiology Training Programme
FPO	Fellowship Programme Office team (ECDC)
FSC	Fellowship Scientific Coordination team (ECDC)
LMS	Learning Management System
MS-track	Member State-track (fellows trained in their country of origin)
NFP-T	National Focal Point for Training
PAE	German Postgraduate Training for Applied Epidemiology
PHT	Public Health Training section (ECDC)
SOPs	Standard Operating Procedures

1 Introduction

The European Programme for Intervention Epidemiology Training (EPIET) is a two-year fellowship designed to build the core competencies of European Union (EU) public health epidemiologists in communicable disease surveillance and response*.

EPIET is one of the training activities of the European Centre for Disease prevention and Control (ECDC). ECDC also hosts the European Public Health Microbiology Training (EUPHEM) that works in close collaboration with EPIET. ECDC's Public Health Training section (PHT) hosts and manages the EPIET and EUPHEM programmes.

The primary aim of EPIET is to strengthen the capacity of the workforce in the EU by providing state-of-the-art training in field epidemiology, enabling its fellows to apply epidemiological methods to a wide range of public health problems in Europe and elsewhere. The main emphasis of the programme is on learning through delivery of public health service. As fully-fledged professionals, fellows deliver products that contribute to prevention of disease, death and disability and protect the EU against communicable disease threats.

Key programme objectives are:

- To strengthen the surveillance of infectious diseases and other issues of public health concern in Member States and at EU level;
- To develop response capacity for effective field investigation and communicable disease control at national and community level to meet public health threats;
- To develop a European network of public health epidemiologists who use standard, state-of-the-art methods and share common objectives;
- To contribute to the development of the community network for the surveillance and control of communicable diseases;

In addition, ECDC sees the programme as a way to set new standards and contribute to the development of national programmes in field epidemiology

The fellowship builds competencies through public health assignments at training sites. Participation in the introductory course and subsequent training modules provides the basic induction required to acquire competencies through practice.. Training site supervisors are closely linked to the training activities of the fellows and play a key role in the acquisition of the fellows' field epidemiological competencies. Supervisors provide day-to-day supervision and participate in the delivery of specialized training modules during the fellowship. ECDC provides support to supervisors in the form of technical workshops (ECDC Summer School), participation at training modules (as Training-of-Trainer or as facilitator), participation at the yearly ESCAIDE conference, senior exchange programmes, and by having supervisors accompany coordinators to site visits and site appraisals.

EPIET and EUPHEM training sites contribute resources to the programmes in several ways, including provision of access to field assignments, on-site supervision, engagement in the peer review process during training site visits, and facilitation in training modules. EPIET is composed of two administrative tracks: the EU-track and the MS-track. ECDC funds salaries and training modules for EU-track fellows who are assigned in countries other than their own. In the case of MS-track fellows, Member States fund the salaries of fellows undergoing EPIET in their own countries while ECDC funds their participation in training modules.

EPIET works in close collaboration with a number of EPIET-associated programmes (EAPs). EAPs are Field Epidemiology Training Programmes (FETP) run and governed by the Member State. In 2015, EAPs included the German Postgraduate Training for Applied Epidemiology (PAE) and the Field Epidemiology Training Programmes in the United Kingdom (UK-FETP), and Austria (Austria FETP). EPIET and EAPs run their programmes based on the curricular process described in this guide. In this guide, experts responsible for EAPs are designated as 'EAP scientific coordinators' even though titles may differ by country (e.g. scientific coordinator, senior scientific coordinator, director).

In this document, the term 'fellow' refers to EPIET (EU-track and MS-track) and EAP fellows who are recruited into a fellowship administered in accordance with this guide, follow the EPIET curriculum and receive an EPIET diploma upon satisfactory completion of the two-year training course.

* Technical document: Core competencies for public health epidemiologists working in the area of communicable disease surveillance and response in the EU, Jan 2008. Available from http://ecdc.europa.eu/en/publications/Publications/0801_TED_Core_Competencies_for_Public_Health_Epidemiologists.pdf

1.1 Purpose and audience

This guide aims to define the scientific content of the two-year EPIET/EAP fellowship programme and describe some of its key principles, for the shared use of:

- Fellows
- Training site supervisors
- EPIET/EAP scientific coordinators.

It also provides references to other documents and standard operating procedures (SOPs) available on ECDC's website, including the Director's Decision (DD), the Call for Application, SOPs for the selection of fellows, international assignments, site visits and preparation of abstracts for submission to conferences.

1.2 EPIET administrative guide

Upon entry into the programme, EPIET provides fellows with an administrative guide detailing the administrative rules and procedures of the EPIET programme (e.g. taking up and ending duty, modules, international assignments, ECDC travel insurance, reimbursements and social media code of conduct). Different versions of the administrative guide are available for the EU and MS programme tracks. EAPs have their own administrative guides.

2 Management and governance

EPIET is governed by the rules and regulations of ECDC, while EAPs are governed by the rules and regulations of the institutes that host them. ECDC and national institutes are in turn subject to their respective governance structure.

The Fellowship Programme Office (FPO) in ECDC's Public Health Training (PHT) section is responsible for the managerial and logistical aspects of the programme and fellowship (excluding grants management). It provides support to the scientific team. EAPs have their own managerial and logistical support.

The Fellowship Scientific Coordination (FSC), also based in ECDC's Public Health Training section, manages the scientific aspects of the curriculum jointly with EAP scientific coordinators. The head of EPIET manages a team of EPIET scientific coordinators based in selected national public health institutes in Europe. EPIET scientific coordinators manage the specific scientific aspects of the programme and help mentor the fellows. EAP scientific coordinators are responsible for EAP fellows.

The National Focal Points for Training (NFPT) advise ECDC's PHT section on training needs at country level. They coordinate expressions of interests from training sites to host fellows in a given cohort.

The EPIET Training Site Forum (ETSF) includes representatives of EPIET and EAP training sites and representatives from Member States without training sites. It also includes the president of the EPIET Alumni Network (EAN), and at least one representative of the current fellows. EAP scientific coordinators also represent those EAP training sites that are not concomitantly EPIET training sites. EPIET and EAPs consult at least once on an annual basis with ETSF to feed back on programme achievements and discuss decisions that need to be made for the fellowships.

ETSF tasks include:

- Providing technical suggestions regarding scientific and managerial issues (e.g. administration, communication, training resources and tools, preparation and execution of modules);
- Providing guidance on the prerequisites and training objectives of the fellowship, as well as level of competencies to be acquired during the two-year fellowship;
- Participating in the recruitment of fellows;
- Participating in a dialogue with EPIET on ways to engage training site supervisors in ECDC activities for the training of senior epidemiologists and the facilitation of EPIET modules;
- Communicating views and suggestions from training site supervisors.

ETSF organises a standing committee consisting of volunteering members of the Forum, with one of them acting as president (renewed every three years). EPIET/EAPs can consult the standing committee who can interact on behalf of the ETSF to advise EPIET/EAPs on various questions for which input is needed at short notice. In return, the standing committee reports back to ETSF on interactions with EPIET/EAPs.

The EPIET Alumni Network (EAN) advises EPIET and EAPs on scientific and managerial aspects of the programme.

Finally, ECDC's Advisory Forum advises on the strategic direction of the fellowships while the Management Board takes decisions involving resource allocation. For information on the composition of the Advisory Forum and the Management Board, please consult the ECDC webpage.

3 Curriculum

3.1 Prerequisites and selection

The Call for Applications for EPIET and EAPs specify the formal eligibility criteria and selection processes every year. ECDC's Director's Decision (DD) on Rules governing the EU-track of the ECDC Fellowship Programme, EPIET epidemiology path (EPIET) and EPIET public health microbiology path (EUPHEM) and this Scientific Guide are an integral part of the Call for Applications for EPIET.

3.2 Duration

The fellowship is a full-time, two-year placement during which fellows develop field epidemiology competencies by providing public health services at a training site and participate in specialized training modules. These modules do not exceed 10% of the duration of the fellowship (10 weeks).

3.3 Training sites

Fellows are placed at training sites that have a mandate to work on communicable disease surveillance, outbreak response, epidemiology and the provision of public health advice at international, national and sub-national levels in the European Union (EU) and EEA (European Economic Area) countries.

Training sites need to offer the following:

- Access to field epidemiology activities and data sets as detailed in this guide;
- Personal on-site supervision for an average of at least four hours per week throughout the training;
- Adequate work space and communication facilities for the fellow, including PC or laptop;
- Commitment to share all outputs of the fellow, including early drafts, equally between fellow, supervisors and EPIET or EAP coordinators (this communication is confidential).

Training sites commit to working with EPIET/EAPs in accordance with the principles described in this guide. Specific guidance for coordinators and supervisors on continuous quality assurance at training sites, site appraisals and site visits is available separately from EPIET and EAPs.

3.4 Introductory course

Shortly after the start of the fellowship, fellows attend a 3-week introductory course that provides basic knowledge and skills in intervention epidemiology/public health microbiology and aims to strengthen motivation for fieldwork.

3.5 Further training modules

In addition to the introductory course, fellows attend another seven weeks of joint training modules organised by EPIET and/or EAPs. This includes the annual 'project review module' focused on peer review of the fellows' output. The content of the modules is tailored to address the competency-based objectives of the programme. The modules support the acquisition of competencies by the fellows complementing the learning-by-doing at the training site. Modules are also opportunities to develop the network and engage training site supervisors.

Generally, public health emergencies (e.g. outbreak investigations) are of higher priority than modules for fellows when they occur. This may result in a fellow being authorised not to attend a module. Otherwise attendance to modules is compulsory. The heads of EPIET/EAP make the final decision on an individual basis. The Fellowship Programme Office (FPO) is to be informed by the fellow immediately in case of non-attendance.

3.6 Annual ESCAIDE conference

Fellows participate at the annual European Scientific Conference for Applied Infectious Disease Epidemiology (ESCAIDE) three times: the year they join the programme, in the middle of the fellowship and upon graduation. Attendance is compulsory. Fellows are expected to submit abstracts and present their projects at ESCAIDE. Subject to funding being available, fellows may also submit abstracts and present their work at other conferences. Before deciding to submit any abstract to a conference, fellows are required to discuss this with their EPIET/EAP scientific coordinators and training site supervisors (see also SOP for submission of abstracts to conferences on ECDC's website).

3.7 Core competencies

The fellowship develops core competencies (Annex 2) through facilitating acquisition of knowledge, skills and attitudes. EPIET/EAPs use the core competencies or their own list of skills as a reference framework to:

- define the pre-requisites for selecting candidates and the learning objectives to be achieved by the end of the two-year fellowship (with input from ETSF);
- organise and update the curriculum, including modules;
- monitor the progress of fellows' acquisition of competencies and aid the planning of learning activities.

3.8 Field assignments

To develop the required competencies, fellows engage in a number of field assignments (projects) based on the learning needs of the fellow and the public health service needs of the training site. They deliver professional quality products. EPIET/EAPs use a number of quality standards to evaluate these products and determine whether field assignments are satisfactory. All products/deliverables of the field assignments are subject to the rules on contributions, authorship, clearance and acknowledgements (Annex 1).

3.8.1 Investigate outbreaks

The aim of the outbreak investigation assignment is to engage in all stages of an outbreak investigation.

Description of the assignment

Fellows will investigate as many outbreaks as possible using the classic 10-step field epidemiology approach. Analytical components are desirable in order to develop relevant competencies.

Upon completion of the fellowship, fellows should have investigated at least one outbreak as a primary investigator. However, an equivalent experience may have been acquired working on several outbreaks with various levels of responsibility.

Product/deliverable

To complete the outbreak assignment, fellows need to produce at least one final outbreak report or submit a manuscript to a peer-reviewed journal as first author.

3.8.2 Conduct surveillance projects (design, implement, data analysis or evaluation)

The aim of the surveillance assignment is to support the training site in using information from surveillance systems for action in light of the strengths and limitations of the data.

Description of the assignment

The surveillance project may include:

- designing, adapting, and/or implementing a new surveillance system,
- evaluating an existing surveillance system; or
- analysing and interpreting data from a surveillance system to generate information for action.

When analysing and interpreting surveillance data, it is important to discuss the limitations of the information generated through surveillance. This will include a full description of the surveillance system and takes into account the attributes of the system and may therefore constitute the equivalent of a surveillance evaluation.

Product/deliverable

To complete the surveillance assignment, fellows need to produce a protocol of the surveillance assignment and either the final report or submit a manuscript on the surveillance project to a peer-reviewed journal.

3.8.3 Conduct an operational research project

The aim of the operational research project is to master all aspects of the life cycle of an operational research project.

Description of the assignment

Fellows will conduct an operational research project that includes:

- Assessing information needs;
- Framing a research question;
- Formulating epidemiological objectives;

- Outlining the analysis plan;
- Writing a complete study protocol
- Seeking ethical approval (if necessary);
- Preparing the data collection instrument;
- Collecting data;
- Analysing data;
- Formulating conclusions;
- Proposing recommendations;
- Engaging stakeholders in next steps (for example, further research and public health recommendations).

Research projects involving human subjects that require ethical committee clearance must be subject to these procedures, in accordance with the rules and regulations of the training site.

Product/deliverable

To complete the research assignment, the fellows need to deliver products documenting their involvement in all aspects of operational research. Because research may take more time than the duration of the fellowship, this may be done through more than one project (e.g. writing a protocol for a study that will be implemented by others and analysing data in order to write a paper using data generated with a protocol written by others).

3.8.4 Train public health professionals

The aim of the training assignment is to develop and deploy learning tools according to pedagogical techniques suitable for adult learners.

Description of the assignment

Fellows will use instructional design techniques to develop and deploy epidemiology training activities, both in teaching institutions and in the field. This may include:

- Preparing learning activities (e.g. interactive lecture, case study, problem-based learning, others);
- Conducting learning activities (e.g. interactive lecture, case study, problem-based learning, others).

Product/deliverable

To complete the teaching assignment, the fellow needs to produce a new or updated learning tool and a report reflecting on the training activities conducted (e.g. results of the training evaluation, summary of the instructional design process). This reflection may be documented in the final Fellowship Summary Report (FSR).

3.8.5 Written and oral scientific communication

The aim of the scientific communication assignment is to communicate effectively with other public health professionals.

Description of the assignment

Fellows will communicate with the scientific community by:

- Presenting their results as an oral or poster presentation after successful submission of abstracts to international, peer-reviewed, English-language conferences (primarily ESCAIDE, alternatively TEPHINET conference and EIS International Night)*;
- Submitting an English-language article to a peer-reviewed, indexed journal as a first author (scientific communication in other languages is welcome, but at least one article in English is required to demonstrate that fellows can express themselves in written English).

* For international conferences, fellows first notify their coordinator of their intention to submit an abstract well in advance of the abstract submission deadline, approximately 4-6 weeks before –For more information see the guidance document on EVA.

Product/deliverable

To complete the scientific communication assignment, the fellows need to:

- Submit at least one abstract to ESCAIDE (as first author);
- Give at least one oral presentation or at least one poster presentation within a structured, moderated poster session at an international, peer-reviewed, English-language conference (primarily ESCAIDE, alternatively EIS or TEPHINET, as first author);
- Submit at least one manuscript in English cleared by EPIET/EAPs to a peer-reviewed journal (as first author, preferably open-source indexed in Medline).

3.9 International assignments

Fellows may apply to optional international assignments if they are on track with their acquisition of competencies and their field assignments (see SOPs on International Assignments on ECDC's website). In some cases, international assignments offer opportunities for fellows to acquire competencies or to conduct field assignments that would otherwise not be available at their training site. However, international assignments are not compulsory.

4 Interactions between fellows, supervisors, and coordinators

4.1 Fellows

Fellows in training are considered to be competent professionals and as such, they are expected to:

- Work as part of the team at the training site and meet the professional standards expected of other staff members;
- Time-manage their work plan;
- Comply with deadlines issued by the training site or the fellowship, including deadlines for submission of abstracts and manuscripts for review and clearance (Annex 1);
- Share all early drafts with training site supervisors and scientific coordinators alike;
- Revise drafts as many times as necessary; share with coordinators until quality standards are met;
- Upload all final products (e.g. final reports, protocols, training material, submitted abstracts and manuscripts, etc.) to ECDC's online training platform to document their achievements in the form of an 'e-portfolio' (EAP fellows follow the requirements of their programmes);
- Make themselves available for public health emergencies;
- Comply with scientific, administrative and logistical requirements, as communicated by EPIET/EAP scientific coordinators, the Fellowship Programme Office and EAP programme offices.

All activities carried out by the fellows must comply with the administrative regulations and codes of conduct that apply to the training site.

4.2 Training site supervisors

4.2.1 Role of the supervisor

A main training site supervisor is the person who has the primary responsibility for the fellow. However, the training site must assign at least one other co-supervisor to support the main supervisor in his/her tasks related to the fellow. Overall, a fellow should benefit from approximately four hours of supervision with training site supervisors (i.e. primary and project supervisors) every week, allowing for some variation, depending on fellows and supervisors. The primary supervision functions may be shared among more than one individual..

The main training site supervisor is responsible for on-site, local, day-to-day supervision, including:

- Assessment of training needs;
- Facilitation of learning activities;
- Facilitation of access to field assignments;
- Monitoring of a work plan to ensure that all field assignments are completed;
- Review of progress towards acquisition of core competencies;
- Supervision of projects;
- Guidance for scientific production (e.g. protocols, data collection instruments, manuscripts, etc.).

All supervisors agree to ensure that early drafts of reports are shared (confidentially) with the scientific coordinators in a spirit of peer review, continued learning and quality improvement. This enables the scientific coordinator to monitor the progress and competency acquisition of the fellows.

Training site supervisors further contribute to EPIET/EAP through:

- Participating in site visits to other training sites;
- Teaching during the introductory course and/or at modules
- Participating in EPIET/ETSF meetings and workshops
- Reviewing EPIET-related documents
- Participating in supervisor training courses (e.g. ECDC Summer School).

4.2.2 Site visits

Training sites actively hosting fellows are visited every two years by one EPIET/EAP scientific coordinator and one supervisor from another training site. These visits are scheduled to ensure that every fellow receives at least one site visit during their fellowship. The aim of the site visit is to optimise interaction between the fellow, the supervisor and the scientific coordinator. Additionally, it provides an opportunity to identify training needs of supervisors and assess if the choice of projects of fellows addresses the programme objectives (see Introduction).

Detailed SOPs for site visits are available on ECDC's website.

4.3 EPIET/EAP scientific coordinators

ECDC and institutes hosting EAPs develop and maintain job descriptions for the EPIET/EAP scientific coordinators. These job descriptions are detailed in the framework partnership agreement according to which ECDC collaborates with national institutes for scientific coordination. The job description is available on ECDC's website. The tasks of EPIET/EAP scientific coordinators* include:

- Scientific reviews for the fellows' scientific production within a specific deadline (Table 1)†;
- Monitoring of progress in terms of acquisition of core competencies and progress in field assignments to ensure graduation within the timeframe;
- Provision of advice, counselling and tutoring with respect to work at the training site;
- Facilitating exchanges of information among fellows;
- Responding, or identifying appropriate respondents, to queries from fellows;
- Identifying and addressing issues arising between training site supervisors and fellows;
- Regular (at least monthly) documented contact with the fellow to review projects and outputs
- Ensuring that fellows' deliverables are uploaded to ECDC's online training platform. EAP scientific coordinators may have different monitoring mechanisms.

Table 1. **Standard timeline to be expected in terms of feedback by EPIET/EAP scientific coordinators to fellows on written scientific products/documents**

Scientific products/documents	
Manuscripts, protocols	10
Intermediate products ‡	5
Abstracts or presentations, 42–10 days before submission deadline	5
Abstracts or presentations, 10–7 days before submission deadline	2
Abstract or presentations, a week before submission deadline	1

EPIET/EAP scientific coordinators conduct scientific reviews and communicate their feedback to both the fellow and the supervisors in an open, tactful and frank peer-review spirit. They may also assist in the identification of third parties/subject matter experts who may provide additional contributions. When fellows do not hear from the scientific coordinator by the deadline, they should first send a reminder. If the issue is not sorted out within two working days, EPIET fellows notify the head of EPIET via the epieteuphem@ecdc.europa.eu mailbox. EAP fellows act in accordance with the SOPs of their programme.

* For an optimum learning/working environment, fellows require a training site supervisor and a coordinator. Hence, EAP coordinators must make arrangements to ensure that the functions of training site supervisor and coordinator do not overlap (e.g. exchange of the coordinator function with other EPIET/ EAP coordinators).

† Fellows and coordinators anticipate and plan for their respective absences (e.g. leave).

‡ For example, questionnaires, analysis listing, tables and figures.

5 Monitoring progress

5.1 Acquisition of core competencies

EPIET/EAPs monitor the acquisition of skills and core competencies as an initial assessment conducted during the introductory course, at 12 months and during the exit interview, using tools based on ECDC's core competencies (Competencies Development Monitoring Tool, CDMT), or equivalent. Competencies are documented on the basis of experience and quantified on a scale of 1 (unaware) to 5 (master).

The fellow initiates the process through a self-assessment (CDMT, Annex 2); thereafter the training site supervisor provides input on this self-assessment. Fellow and training site supervisor document the assessment on the basis of the fellow's experience and scientific production (e.g. theoretical exposure through academic degrees or projects and products included in the fellowship portfolio). The fellow and training site supervisor share the output with the coordinator.

5.2 Competency development and monitoring of field assignments

EPIET/EAPs monitor progress in the completion of the field assignments by means of an incremental progress report, IPR (outline available in Annex 3), or equivalent tools (EAPs) structured in accordance with the field assignments and competencies to be developed during the two-year training. The format remains flexible and will gradually be migrated to an electronic format. The tool tracks progress in the activities, both in terms of competency development and field assignments. Fellows update their IPR and discuss it with their supervisor regularly (i.e. on a monthly basis for EPIET), highlighting new developments. The main supervisor reviews and clears the monthly IPR and fellows then share it with the scientific coordinators. Every monthly IPR should be uploaded to ECDC's online training platform as a new copy, and previous versions should remain in the folder for future reference.

The monthly update of the report is an opportunity for the fellow and the coordinator to touch base, review progress and update a work plan. If required, triangular teleconferences including the supervisor may be arranged to ensure that the supervisor, coordinator and fellow share the same understanding of the situation. At the end of the fellowship, the IPR is transferred and edited into a 'fellowship portfolio' (Annex 4) that reflects the overall experience of the fellowship and documents achievements. This fellowship portfolio focuses on deliverables (e.g. abstracts) and includes the contributions of the fellow in each of the achievements as well as a reflection by the main supervisor. Publications and communications publicly available are referenced in Vancouver format at the end of the document. Upon completion of the fellowship, ECDC uploads all portfolios onto its Internet site.

5.3 Mid-term review

EPIET/EAP scientific coordinators conduct a mid-term review after the first year of the fellowship by means of a telephone conference with the fellow and his/her supervisor. The objective is to review:

- Acquisition of core competencies (using the CDMT);
- Progress in field assignments;
- Training needs for the second year of fellowship.

Upon completion of the mid-term interview, the coordinator and the supervisor evaluate confidentially how the fellow is doing with respect to the field assignments. Consensus during the review determines whether the fellow is (1) ahead, (2) on track, (3) in need of follow-up or (4) at risk. Fellows requiring follow-up are monitored on a routine basis and are offered additional reviews at 15 and 18 months.

6 Graduation

EPIET/EAP scientific coordinators and supervisors conduct a confidential exit interview with the fellows a few weeks before the end of the fellowship. During this interview, coordinators assess whether competencies were acquired and whether field assignments were completed with deliverables that meet EPIET/EAP quality standards. Scientific coordinators also check if the fellow has uploaded all deliverables to ECDC's online training platform. Following the exit interview, the finalised, edited and cleared fellowship portfolio is made public and uploaded on the ECDC website. Upon completion of the exit interview, EPIET/EAP scientific coordinators decide whether or not the fellow may proceed with graduation. Fellows who complete the 24-month full-time training period and comply with

graduation criteria receive a diploma. Fellows who leave the fellowship more than four weeks before term, or do not comply with the training objectives, do not receive a diploma. EPIET/EAP coordinators may grant unpaid extensions for a fellow to complete any of the graduation requirements. Extensions are decided on a case-by-case basis by the Head/Director of the programme after discussion in the coordinator team and usually comprise 2-3 months. A fellow requiring an extension to complete his/her fellowship must request the extension in writing to the Head/Director of their programme, specifying assignments to be completed and expected termination date.

7 External fellowship review

Annually, EPIET and EAP seek advice from a panel of external reviewers that evaluates the fellowship portfolios and other documents reflecting processes for the outgoing cohort. The panel usually consisting of one training site supervisor, one ECDC expert involved in public health practice, one board member of the EPIET Alumni Network (EAN), one director of a TEPHINET-member FETP, one representative from a European Public Health School and one former EPIET scientific coordinator. The panel uses standardised criteria (i.e. checklists and assessment for public health relevance) to assess the graduation decisions formulated by EPIET/EAP scientific coordinators and make internal recommendations in the form of a short report to the EPIET/EAP scientific coordinators and to the head of ECDC/PHT for quality improvement of the programme.

8 ECDC's online training platform (EVA)

The fellowship will rely on ECDC's Virtual Academy, EVA, as the learning management system. Each fellow will be requested to set up his/her own profile. During the fellowship, fellows share all documents (e.g. protocols, reports, abstracts, presentations and manuscripts) via their respective personal folders. EAP fellows will follow their programmes requirements, which might differ.

The uploaded products constitute an e-portfolio that documents whether or not the fellow meets the criteria necessary for graduation. Hence, it needs to contain all final versions of the field assignments. In addition, EPIET fellows upload to EVA their incremental progress reports every month. During the fellowship, these reports may be accessible to all fellows in training, training institute supervisors, and scientific coordinators. ECDC offers to host the progress reports prepared by the EAPs for their graduates in EVA.

9 Additional information

For additional information, EPIET fellows, training site supervisors and scientific coordinators may read the full ECDC document on core competencies available on the ECDC website, upon which the EPIET CDMT is based, and the EPIET SOPs and administrative guides available from ECDC's website. EAP fellows refer to their programmes' own set of documents.

Annex 1 Contributions, clearance, affiliation, and acknowledgments

Contributions

EPIET/EAPs refer to the 'Uniform Requirements for Manuscripts Submitted to Biomedical Journals' (http://www.icmje.org/urm_main.html) for contributions and authorship.

Authors must meet all of the following criteria:

- Substantial contributions to concept and design, acquisition of data, or analysis and interpretation of data;
- Drafting or revision of the article for important intellectual content;
- Final approval of the version to be published.

Authors must have participated sufficiently in the work to take public responsibility for appropriate portions of the content. Other persons should be mentioned as contributors, usually in the acknowledgments. If one of the EPIET/EAP coordinators qualifies for authorship, they may be included. If not, the front line EPIET/EAP coordinator would usually meet criteria for acknowledgments and should be mentioned, as appropriate. Acknowledgements and authorship need to be approved by all persons included.

Clearance and technical green light for scientific communications (including late breakers and rapid communications)

Fellows first seek institutional clearance from their training site for all publications.

Fellows who are first authors must also obtain a technical green light for all published products resulting from their fellowships (e.g. manuscripts, abstracts, book chapters) with their front line coordinator. The request must mention where the product will be submitted. For all abstracts, and for other products, if the front-line coordinator feels it is necessary, input, opinions and advice can be requested from a second reviewer. In that situation, the green light of both will be necessary. The front-line coordinator will consult with the coordinator team to ensure that the journal or conference proposed is appropriate (e.g. Medline indexed, reputable). If there is any doubt, ECDC will provide assistance to check the credentials of a proposed journal or conference.

EPIET/EAP technical green light is sought after approval of the training site supervisor and institutional clearance from the training site. In the event of disagreement regarding scientific content, the opinion of the training site supervisor will prevail. Scientific products that have not been approved by EPIET/EAP may not be published under the EPIET affiliation and will not count as field assignments for the fellowship. If such incidents occur, they will be discussed afterwards by the training site and EPIET/EAP since they go against the spirit of the collaboration with EPIET/EAP.

Fellows who are co-authors must obtain technical green light for the product with their front line coordinator before submission. When planning submissions, fellows must take into account the time required for the green light process and cannot set deadlines for submission on their own initiative. Rapid communications require prior consultation between the fellow, the training site supervisor and the coordinator so that the team can agree to work together by the deadline before any commitment is made with any journal. Work conducted with another organisation (e.g. WHO), requires institutional clearance from the other organisation. ECDC clearance is not required for EPIET/EAP fellows, unless an ECDC staff member is a co-author.

Affiliation and acknowledgements

In addition to the affiliation of the training site, fellows must use the fellowship affiliations (EPIET or EAP) for all scientific communications. The acknowledgments section must contain the source of the fellowship funding (European Programme for Intervention Epidemiology Training, European Centre for Disease Prevention and Control or the name of the EAP). Posters or oral presentations must include the EPIET or EAP logo. EAP fellows may use both EPIET and EAP affiliation and/or logos if they wish, in accordance with the recommendations of EAP scientific coordinators.

IMPORTANT: Contributions, clearance, affiliation and acknowledgment rules must be strictly applied for fellowship-related work, both before and after graduation. Contact the coordinator team for specific guidance.

Annex 2 Competencies Development Monitoring Tool

Competency development of: {name} {EPIET, Cohort 2016}	0 months	12 months	Exit Interview
1. Areas specific for the profession			
1.1. Public Health			
1.1.1.: Public health science			
Have you used current knowledge of epidemiology of infectious diseases to guide public health or epidemiological practice?	#DIV/0!	#DIV/0!	#DIV/0!
Have you provided epidemiological input to develop measurable, relevant objectives of public health programmes?			
Have you used knowledge of specific sociological and cultural factors in the population to conduct studies and recommend public health actions relevant for the affected community?			
Have you evaluated the impact of an intervention on population health?			
Can you identify, review and assess relevant literature and other evidence?			
1.1.2.: Public health policy			
Have you used epidemiological information to plan public health programmes?	#DIV/0!	#DIV/0!	#DIV/0!
Have you measured health outcomes to guide decision making in prevention strategy?			
Have you identified appropriate public health interventions based on surveillance data?			
1.2. Applied Epidemiology			
1.2.1.: Risk Assessment			
Have you conducted risk assessments?	#DIV/0!	#DIV/0!	#DIV/0!
Have you identified surveillance data needs to assess risks?			
1.2.2.: Routine Public health surveillance			
Have you run a surveillance system?	#DIV/0!	#DIV/0!	#DIV/0!
Have you used surveillance information for decision making?			
Have you used time-series analysis to make interpretations and draw conclusions?			
Have you evaluated surveillance systems?			
Have you setup a new surveillance system?			
Have you used event-based surveillance?			
Have you used sources of information to detect public health threats?			
Do you know the law on communicable diseases reporting at regional, national and international level?			
1.2.3.: Outbreak investigation			
Have you formulated a case definition in an outbreak investigation setting?	#DIV/0!	#DIV/0!	#DIV/0!
Have you described outbreaks in time, place and person?			
Have you generated hypotheses about the cause and/or risk factors during outbreaks?			
Have you conducted analytical epidemiological studies in outbreak investigations to identify the outbreak source?			
Have you recommended evidence-based measures to control an outbreak?			

Have you reported outbreak investigation results?			
1.2.4.: Epidemiological studies			
Have you writen a study protocol in an epidemiological study, identifying the public health problem?	#DIV/0!	#DIV/0!	#DIV/0!
Have you conducted epidemiological studies?			
Have you reported and presented results of a study?			
Have you recommended evidence-based interventions in response to findings of an epidemiological study?			
Have you prioritised and scheduled tasks in a project?			
1.2.5.: Infectious diseases			
Are you familiar with the concepts of R0, incubation period and transmissibility of a disease?	#DIV/0!	#DIV/0!	#DIV/0!
1.2.6.: Laboratory issues for outbreak investigations and surveillance			
Can you interpret the diagnostic and epidemiological significance of reports from laboratory tests?	#DIV/0!	#DIV/0!	#DIV/0!
Are you familiar with different methods for diagnosis and typing, including molecular tests?			
Can you communicate effectively with the laboratory team?			
1.2.7.: Public health recommendations			
Have you developed evidence-based recommendations for the surveillance, prevention and control if communicable diseases and other acute public health events?	#DIV/0!	#DIV/0!	#DIV/0!
Have you identified target groups for recommendations?			
2. General areas, common to other professions			
2.1. Biostatistics			
2.1.1: Inferential statistics			
Have you calculated and interpreted point estimates and confidence intervals for measures of central tendency and dispersion?	#DIV/0!	#DIV/0!	#DIV/0!
Have you calculated and interpreted point estimates and confidence intervals for measures of disease frequency?			
Have you calculated and interpreted point estimates and confidence intervals for measures of association and impact?			
Have you calculated and interpreted significance tests?			
Have you drawn conclusions from analysis results?			
2.1.2.: Sampling			
Have you selected an appropriate sampling strategy in a population?	#DIV/0!	#DIV/0!	#DIV/0!
Have you selected a sample from a source population?			
2.2. Informatics			
2.2.1.: Statistical and other data analysis			
Have you used database software packages to enter and manage data (e.g. Epidata Entry)?	#DIV/0!	#DIV/0!	#DIV/0!
Have you performed statistical analyses with statistical software (e.g. Stata, SAS, SPSS.PAWS) including multivariable analysis?			
2.3. Communication			

2.3.1.: Risk communication			
Have you applied basic principles of risk communication?	#DIV/0!	#DIV/0!	#DIV/0!
Have you adjusted your message when presenting results of an investigation to different audiences?			
2.3.2.: Written communication			
Have you written epidemiological reports for decision makers?	#DIV/0!	#DIV/0!	#DIV/0!
Have you written articles for peer-reviewed scientific journal?			
Have you written abstracts for peer-reviewed conferences?			
2.3.3.: Oral communication			
Have you analysed and synthesised the main points in an oral presentation?	#DIV/0!	#DIV/0!	#DIV/0!
2.4. Management			
2.4.1.: Planning and use of resources			
Have you monitored the progress of a project against specific targets?	#DIV/0!	#DIV/0!	#DIV/0!
Have you managed resources against specific targets, adjusted schedules and made changes if necessary?			
Have you managed the financial and operational planning aspects of epidemiological projects?			
Have you prepared activity reports?			
2.4.2.: Team building and negotiation			
Have you been an effective team member, adopting the role needed to contribute constructively in a group work setting?	#DIV/0!	#DIV/0!	#DIV/0!
2.5. Capacity development			
2.5.1.: Training			
Have you trained other students or health professionals (e.g., colleagues, other PH professionals)?	#DIV/0!	#DIV/0!	#DIV/0!
2.6. Ethics			
2.6.1.: Protection of individuals			
Have you followed ethics principles and guidelines to plan research and to collect and disseminate data?	#DIV/0!	#DIV/0!	#DIV/0!
Have you applied relevant laws in all steps of your work (e.g., data collection, management, dissemination and use of information), reflecting it in relevant protocols in your work?			
2.6.2.: Confidentiality			
Have you respected and adhered to ethical principles regarding data protection and confidentiality regarding information obtained as part of your professional activity?	#DIV/0!	#DIV/0!	#DIV/0!
2.6.3.: Conflicts of interests			
Can you identify and handle conflicts of interest?	#DIV/0!	#DIV/0!	#DIV/0!

Annex 3 Outline for the incremental progress report

Incremental Progress Report – EPIET Cohort 2016

From: Name

Cohort: Cohort number **Host institute supervisor:** Name of main supervisor

Update from: Current Date **Email of supervisor:** Institutional email of main supervisor

Note: please indicate changes from last IPR in red

1) Administrative Matters:

Date:	Topic:	Status:
Put date	List and comment on administrative issues relevant to the training programme (salaries, insurance, hosting office, communication means, reimbursements etc.).	Put status (starting, ongoing, completed…)

2) Outbreak Investigations:

Date:	Type of outbreak and your involvement:	Status:
Put date	Describe any involvement in outbreak investigations. Each completed outbreak investigation should be detailed in a summary of about 15 lines (context, investigation team, objectives, methods, results, conclusion, recommendations and actions). Please state also your role, e.g. if you were main investigator, activities you contributed with, etc.	Put status (starting, ongoing, completed…)

3) Surveillance Activities:

Date:	Type of surveillance and your involvement:	Status:
Put date	Summarise activities related to epidemiological surveillance, including protocols, data analysis and reports developed to set up surveillance systems, evaluation schemes and results of surveillance data analyses.	Put status (starting, ongoing, completed…)

4) Research Activities:

Date:	Type of research and your involvement:	Status:
Put date	Summarise research protocols, study reports or manuscripts written during the last three months. The summary should include: objectives, methods, results, recommendations and public health impact.	Put status (starting, ongoing, completed…)

5) Training activities:

Date:	Type of training followed:	Status:
Put date	a) List all training sessions/modules which you attended during the reporting period, and include comments on their content. This should also include the visits to the laboratories.	Put status (starting, ongoing, completed…)

	b) List all the EPIET modules you have attended.	

6) Teaching Activities:

Date:	Type of teaching and your involvement:	Remarks:
Put date	List the context and content of various teaching sessions which you helped to plan, develop or undertook. State the objectives, content, audience and location of the courses.	Put status (starting, ongoing, completed…)

7) Communication:

Date:	Type of communication (including publications and presentations):	Remarks:
Put date	a) List all on call/ telephone help-line duties, TV and radio interviews, question and answers briefs, preparation of press releases, public health decision and policymaking sessions, oral scientific presentation, and poster presentations. List all scientific reports and manuscripts in preparation.	Put status (starting, ongoing, completed…)
	b) List all publications, referenced using **Vancouver style** and organised according to type of article and type of journal: • Epidemiological bulletin • National or regional journals (state whether peer-reviewed) • International journals	

8) Other:

Date:	Type of activity and your involvement:	Remarks:
Put date	Short description of any other activity and your involvement (meetings, visits, international assignments, etc)	Put status (starting, ongoing, completed…)

Annex 4 Outline for the final fellowship portfolio

{First Name} {Last name}

Background

Pre-fellowship short biography

Prior to EPIET/EAP, {First name} {Last name} (Summarise your experience and education in two or three lines).

EPIET/EAP assignment

On {date}, {First name} {Last name} was assigned to {Unit}, {Institution}, {City}, {Country}. (Describe assignment in a few lines).

Fellowship projects

Surveillance project(s)

Title of first surveillance project {Add second and other projects as necessary}

- Summarise the project in four or five lines or cut and paste the text of the abstract if an abstract is available (no need to copy the title twice, no need to include authors/affiliations).
- Status: {Summarise the status using ONE of the following keywords: 'Planned', 'Protocol written', 'Data collected', 'Data analysed', 'Report drafted', 'Completed'}
- Involvement: specify the involvement of the fellow in the project (e.g. primary investigator, other)

Summary of routine surveillance activities

- Summarise the experience in four or five lines in terms of (a) type of activity (e.g. quality control of surevillance data, trend control, outbreak detection algorhythm) (b) own role (c) any relevant findings/outcomes.

Outbreak(s)

Title of first outbreak investigation {Add second and other outbreaks as needed}

- Summarise the outbreak in four to five lines or cut and paste the abstract if an abstract is available (no need to copy the title twice, no need to include authors/affiliations).
- Status: (as above)
- Involvement: specify the involvement of the fellow in the project (e.g. primary investigator, other role).

Research

Title of the first research project {Add second and other projects as needed}

- Summarise the project in four to five lines or cut and paste the abstract if an abstract is available (no need to copy the title twice, no need to include authors/affiliations).
- Status: (as above)
- Involvement: specify the involvement of the fellow in the project (e.g. primary investigator, other role)

Scientific communication

- XX posters and the place where they were presented.
- XX oral presentations and the place where they were given.
- XX manuscripts drafted, XX manuscripts submitted, XX manuscripts accepted and XX manuscripts published.

Teaching experience

Summary of the first teaching experience {Add second and other teaching experience as needed}

- Summarise the teaching experience in four-or five lines in terms of (a) target audience (e.g. undergraduate students, nursing student, doctoral level students), (b) subject, (c) duration of the activity, (d) learning approach used and/or any other relevant element.
- Involvement: specify the involvement of the fellow in the project (e.g. lead, assistant, other role)

International assignment(s) [if applicable]

Summary of the first international mission

- Summarise international missions in four-to-five lines or use an abstract if available (no need to copy the title twice, no need to include authors/affiliations).
- Status: (as above)
- {Add second and other international missions as necessary}.

Others

Add details/additional information as necessary.

Next steps

Outline future professional aspirations/goals, or replace by post-fellowship plans if known (two-to-tree lines)

Reflection by the training site supervisor(s)

Supervisor(s) can elaborate of the achievements of the fellow and how they impacted on the work of the site, if they have led to change in the services, etc.

Reflection by the frontline coordinator(s)

The frontline coordinator will also elaborate of the achievements of the fellow with a focus on attitudes, development of competencies, etc, including if the training objectives have been met and led to a diploma being issued (or not).

References – List of publications and communications

1. First reference in Vancouver format {Add cross reference in the text where the abstract is mentioned} Example of journal citation in Vancouver: Russell FD, Coppell AL, Davenport AP. In vitro enzymatic processing of radiolabelled big ET-1 in human kidney as a food ingredient. Biochem Pharmacol 1998 Mar 1;55(5):697-701.
2. Second reference in Vancouver format {Add cross reference in the text where the abstract is mentioned} Example of book citation in Vancouver: Lodish H, Baltimore D, Berk A, Zipursky SL, Matsudaira P, Darnell J. Molecular cell biology. 3rd ed. New York: Scientific American; 1995.
3. Third reference in Vancouver format {Add cross reference in the text where the abstract is mentioned} Example of conference proceedings citation in Vancouver: Kimura J, Shibasaki H, editors. Recent advances in clinical neurophysiology. Proceedings of the 10th International Congress of EMG and Clinical Neurophysiology; 1995 Oct 15-19; Kyoto, Japan.