

## **Deliverable 5. Results incorporated in common training programmes of PENTA, CASCADE, EuroSIDA and Europe HIV Resistance**

Description of future training programmes.

The ACTIVATE programme has been used as the basis for the Training & Outreach work package in the FP7-funded EuroCoord. The questionnaire used in ACTIVATE will be expanded to include relevant questions for HIV statisticians and will be in the form of an e-questionnaire hosted by the EuroCoord website in order to maximise the response rate. The need for training in statistical methods was highlighted during the ACTIVATE programme, particularly as a result of the Tallinn course where delegates commented on the need for training, as evidenced by the increased post-course test scores in related questions. The analysis of complex cohort data requires constant development of statistical methods, so it is hoped that this need can be addressed through EuroCoord. As highlighted by ACTIVATE, there is a need to circulate the survey again mid-way through the project to ensure that topics remain relevant and allow programmes to be adapted as necessary.

The residential training courses established through ACTIVATE will also be brought forward to EuroCoord. The courses which were simultaneously translated between English and Russian proved very successful. Where necessary and appropriate, residential courses will continue to be run in more than one language. To maximise the effectiveness of these courses, links with other stakeholders will be exploited.

Other lessons have been learned from the ACTIVATE programme. The need for regular post-course contact with participants in order to assess knowledge increase has been recognised. The training platform hosted by the EuroCoord website will be used to address this. The EuroCoord training administrator will maintain a contacts list of previous and potential course participants via the website and send regular updates to the circulation list. E-learning content which can be easily updated through structured XML files will be developed by an SME (Cadpeople) which will enrich the knowledge gained from residential courses and facilitate ongoing learning. A discussion forum will also encourage proactive learning and effective networking. The administrator will also maintain a database of trainers to allow courses to be developed efficiently.

The knowledge gained from ACTIVATE has allowed these programmes to be instigated which will act to change the HIV research and clinical management environment for the future.

Work Package 2 “Training and Outreach” taken from Annex I “Description of Work” of the EUROCOORD Grant Agreement.

|                               |                       |           |                                       |      |             |       |                  |                     |       |                   |           |       |                   |              |
|-------------------------------|-----------------------|-----------|---------------------------------------|------|-------------|-------|------------------|---------------------|-------|-------------------|-----------|-------|-------------------|--------------|
| <b>Work package number</b>    | WP 2                  |           | <b>Type of activity</b> <sup>10</sup> |      |             |       | Other activities | <b>Start month:</b> | M1    | <b>End month:</b> | M60       |       |                   |              |
| <b>Work package title</b>     | Training and Outreach |           |                                       |      |             |       |                  |                     |       |                   |           |       |                   |              |
| <b>Lead Beneficiary</b>       | PENTA                 |           |                                       |      |             |       |                  |                     |       |                   |           |       |                   |              |
| <b>Beneficiary number</b>     | 1                     | 2         | 3                                     | 4    | 7           | 8     | 10               | 12                  | 13    | 15                | 16        | 22    | 23                | <b>Total</b> |
| <b>Beneficiary short name</b> | M R C                 | P E N T A | U C P H                               | U B2 | I N S E R M | U K B | N K U A          | A M C               | H M F | R A A             | S P C A C | U C L | C a d p e o p l e |              |
| <b>Person-months</b>          | 3.8                   | 5.25      | 2.7                                   | 1.02 | 1.18        | 1.38  | 20.86            | 0.8                 | 0.73  | 1.39              | 2.35      | 3     | 7.0               | 51.46        |
| <b>Person-years</b>           | 0.3                   | 0.4       | 0.2                                   | 0.1  | 0.1         | 0.1   | 1.7              | 0.1                 | 0.1   | 0.1               | 0.2       | 0.3   | 0.6               | 4.3          |

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| <b>Objectives</b> |
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### Objectives

The main objectives of this WP are to improve research skills including statistical techniques to allow researchers to undertake observational research of the highest calibre, and to provide basic and updated laboratory and clinical training to aid the management of HIV-infected patients. This will be achieved through a variety of ways including: online resources, residential courses, PhD and short term staff exchanges. Training needs will be identified through a comprehensive survey distributed throughout the EuroCoord network, and courses and materials will be accredited by relevant national (e.g. Royal College of Physicians in the UK, Italian Ministry of Health) and international (e.g. European Accreditation Council for Continuing Medical Education) bodies. This WP will build on work currently carried out by partners to organise integrated multidisciplinary training for HIV clinicians and researchers in Europe, with dissemination of expertise, knowledge transfer, and learning. A European funded HIV training initiative "ACTIVATE" has already brought together very successfully EuroCoord partners. Furthermore, the training needs of data managers will be addressed in collaboration with the WP4 leader (data management), and within network-specific WPs (WPs 5-12), which will provide training related to specific studies and projects planned within the network. Experience will also be drawn from other established programmes such as EACS medical exchange and annual courses.

The WP2 working group will be made up of representatives from the 4 networks and include members with experience of coordinating EU-funded training programmes. They will meet regularly to coordinate and integrate the training programme, planning ahead to ensure training needs are met. The group will work together to standardise relevant training packages (e.g. clinical training packages; statistical and research methodology packages etc). The leader of the group will rotate between the WP network representatives every 15 months to fully utilise the expertise within the whole EuroCoord network.

## Description of work and role of participant

### **Task 2.1 - Development of the online training platform (PENTA):**

In the first year of the programme, the training platform will be established within the EuroCoord website, and will be the hub for training, with the aim of giving easy access to all training activities and resources aimed at both lay and professional audiences. All resources will be comprehensively indexed and available in a number of languages and will include: the agenda for future courses; links to registration for courses; the list of completed courses with available course materials; a log of course feed back; a library of EuroCoord publications; discussion forum; and training materials for patients (including adults, young people and children). The site will contain both 'open' and 'members-only' areas to maximise functionality.

The site will also include a Learning Management System providing access to the distance learning materials which will be a component of some training programs (e.g. Tr@inforPedHIV) or stand alone modules.

A part-time EuroCoord training administrator will support the WP leader by maintaining the site and being the main point of contact for queries. They will maintain regular post-course contact with participants in order to assess knowledge increase. They will direct training queries to the appropriate team members, and coordinate the annual forward planning of courses and activities by the groups to ensure that courses are harmonised and comprehensive. The administrator will also maintain a database of trainers and attendees of courses and other activities, and support the WP2 working group to produce an annual report of training activities, and coordinate the distribution of the training needs survey.

Cadpeople, an SME, will use our Flash template to produce e-learning content which can be easily updated through structured XML files. The core learning will be based on visuals e.g pictures, diagrams, videos, interactive 3D etc. supported by describing text. The templates provides us with functionality that can make questioning interactive in several different ways, e.g multiple choice, drag and drop, fill in etc. The final module will be delivered as SCORM packages that should be compliant with the existing Learning Management System. Each module will be kept under 8 minutes divided in 3-4 chapters. Extensive information will be accessed through a link to pdf files or other learning modules. The whole process will be facilitated from interview and documentation to finalized e-learning modules.

### **Task 2.2 - Assessment of training needs (UCPH):**

In the first year of the programme, the working group will devise and distribute surveys of clinical and research training needs. This survey will be extensive and include in-depth questions on the various specialties (e.g. paediatrics, obstetric, epidemiological/statistical), knowledge level (e.g. junior doctor, senior statistician), country settings (e.g. Western, Central & Eastern Europe), and special populations (e.g. pregnant women, migrants, injecting drug users, commercial sex workers, prisoners) contained within Europe. The survey used by ACTIVATE will be used as a basis, but will be expanded to include relevant questions for HIV researchers and will be in the form of an e-questionnaire hosted by the EuroCoord website in order to maximise the response rate. It will be circulated among the >300 affiliated sites through links from the websites of the 4 networks and those of the partner institutions to ensure that an accurate assessment of training needs can be made. This survey will be circulated again mid-way through the project to ensure that topics remain relevant and allow programmes to be adapted as necessary.

### **Task 2.3 - Engagement with patient groups and general public (PENTA):**

As part of the aim to engage the wider HIV community and general public, materials and resources will be developed that are targeted towards a lay audience. The need for buy-in from these groups is recognised; education on the importance of participation in observational and epidemiological studies will improve the research environment. Knowledge of the latest findings in HIV research empowers HIV patients. In order to meet these needs, regular electronic newsletters will be developed, not only aimed at clinicians and researchers, but also at lay audiences to inform on outcomes of research. Resources available on the website (such as presentations and newsletters) will be developed with a view to being accessible and useful to all. National community advisory boards where they exist (UK, F, D, SP, P, RO, RU, GR) and EATG as an umbrella organisation as well as other community based information providers such as NAM, I-Base, Project Inform Germany) will be used in this regard as well.

The need for endorsement by patient groups is particularly pertinent in paediatric HIV research. To meet this unique requirement, an initiative will be established to involve clinical country teams to develop an expert patient panel, including parents of children with HIV and young adults with HIV. This panel will develop their knowledge of HIV, epidemiology, and clinical trial methodology. They will be encouraged to participate in training for clinicians, help with designing patient information and give feedback on trial designs etc.

### **Task 2.4 - Residential training courses (MRC):**

ACTIVATE has a well-established infrastructure for residential training courses, utilising expertise within the EuroCoord NoE. This, along with knowledge gained from NEAT (FP6 NoE) and Monitoring Medicines (a WHO FP7-funded project), as well as the training needs survey, will be used as the basis for a series of training courses for clinicians, statisticians/epidemiologists, and laboratory staff. The types of training will include classroom, and the trainer'. Such specialised courses will help build infrastructure and allow knowledge to be cascaded more efficiently within countries.

In the first year, a specialised course for data managers will be held. This will ensure consistency in data collection within the network and increase knowledge capacity in the field. Two residential courses in advanced statistical and epidemiological methodology will also be organised. CASCADE has a well-established programme for this kind of training which will be used as the model for these courses. The courses will include topics such as dealing with late entry, missing data, and competing events and more sophisticated statistical methods, including causal models. The final content of these courses will be informed by the training needs survey, work carried out as part of WP4 (data capture), previous training courses (e.g. ACTIVATE), as well as a PhD studentship in advanced modelling techniques (see task 2.6). This will ensure that all participants are kept up-to-date with current methods and have a forum for discussing methodological issues driven by practical clinically-relevant problems encountered in study design, analysis and interpretation.

Three courses in clinical skills will be organised. These will address patient management issues including paediatrics, pregnancy, drug resistance, and coinfection as well as the fundamentals of epidemiology, including basic statistics, and clinical trials and observational studies. These courses will be based on those carried out as part of ACTIVATE, informed by the outcomes of the training needs survey. ACTIVATE has also been successful in running courses which were simultaneously translated between English and Russian. Where necessary and appropriate, courses will continue to be run in more than one language. To maximise

the effectiveness of these courses, links with other stakeholders will be exploited, e.g. EuroCoord has representation on the EACS Executive Committee.

A trainers' course will be held on an annual basis. Using the knowledge gained through CASCADE from similar courses, this initiative will act to increase local training capacity in the most cost-effective way. Participants will be identified initially from within the network, and then from the wider European clinical and research communities via the planned courses.

A training programme including a combination of distance learning and residential learning will be organised every year by PENTA focusing on paediatric, pregnancy and adolescents (Tr@inforPedHIV). Access to online modules, including courses and interactive cases will be provided also to people not attending the residential course. As shown in the past this will allow us to reach people who might have economic and logistic travel constraints.

Further dissemination of knowledge will be achieved through presentations at professional 'meetings' such as the annual International Workshop on HIV Observational Databases. This meeting brings together researchers of all levels who are working on cohorts of patients with HIV, to present new research in an informal, closed-meeting format which allows for open discussions on common issues of cohort methodology, techniques and statistics.

Training methods which have been used successfully within these programmes will be continued, such as case studies, whereby course participants discuss the management of challenging cases encountered in their clinics. All courses will be qualitatively assessed through completion of questionnaires by attendees to ensure they remain effective. Knowledge increase will be assessed quantitatively (see task 2.6).

#### **Task 2.5 - Short term staff exchanges (UB2):**

CASCADE has piloted a laboratory exchange programme whereby partners in C & E Europe trained at partners' laboratories in Western Europe. This proved very successful, not just because of the knowledge and skills learned but also because of the professional links that were established as a consequence. Four such exchanges are planned, and more specifically as part of WP7, CASCADE will provide training in the development and application of transferable avidity assay for staff from Poland, Estonia and Ukraine who will attend a laboratory in London. Exchanges of statistical staff also took place as part of CASCADE, which will be developed and extended.

#### **Task 2.6 - Evaluation of Training efficacy (MRC):**

All courses will be evaluated through quantitative and qualitative assessment. Three levels of outcomes will be included: reaction (participants' satisfaction); learning achievements (participants' knowledge acquisition, improved skills or changes to attitude); behaviour (changes in participants' on-the-job behaviour). These will be assessed through qualitative evaluations to include questions that ask participants to rate tutors, material, and methods and through quantitative pre- and post-course tests. These will be specific to each training course, with significant input from tutors, but the methodology will be developed by the working group to ensure standardisation and will be assessed through post-course liaison within the 4 networks and through the WP administrator. The evaluations developed as part of ACTIVATE proved a useful tool for both assessing participants' knowledge increase, and improving future courses.

These tasks will include both evaluations before and just after the training sessions and assessment of long term feedback through on line surveys.

## Task 2.7 - PhD studentship in statistical methodology (NKUA):

As the analysis of cohort data requires constant development of statistical methodology, there will be provision for a dedicated person (PhD) to work on techniques to address these issues with a view to translating techniques to analyse data from observational studies. They will be expected to release programmes for public use written in statistical software, with full documentation so it can be used by other researchers. They will be supervised by an expert in statistical methodology at the University of Athens and will have opportunity to liaise with other methodologists across the EuroCoord NoE. Methodological work will be driven by practical problems in analysing data to address clinically-relevant questions. This PhD in statistical methodology will inform the residential courses and online resources and ensure that the teaching techniques are state-of-the-art.

| List of WP Deliverables |   |                         |                                    |        |                     |               |
|-------------------------|---|-------------------------|------------------------------------|--------|---------------------|---------------|
| Deliverables Number     | Deliverable Title   | Lead Beneficiary number | Estimated indicative person-months | Nature | Dissemination level | Delivery date |
| D 2.1                   | Development of the EuroCoord Website platform for Training & Outreach | CR23                    | 2.75                               | O      | PU                  | M06           |
| D 2.2                   | Annual training courses and report                                    | CR02                    | 3                                  | O      | PU                  | M12           |
| D 2.3                   | Annual training courses and report                                    | CR02                    | 3                                  | O      | PU                  | M24           |
| D 2.4                   | Annual training courses and report                                    | CR02                    | 3                                  | O      | PU                  | M36           |
| D 2.5                   | Annual training courses and report                                    | CR02                    | 3                                  | O      | PU                  | M48           |
| D 2.6                   | Presentation at IWHOD   | CR02                    | 2                                  | O      | PU                  | M51           |
| D 2.7                   | Annual training courses and report                                    | CR02                    | 3                                  | O      | PU                  | M60           |
| <b>Total</b>            |   |                         | <b>20</b>                          |        |                     |               |

| List of WP Work documents |   |                         |                                    |        |                     |               |
|---------------------------|---|-------------------------|------------------------------------|--------|---------------------|---------------|
| Work document Number      | Deliverable Title                             | Lead Beneficiary number | Estimated indicative person-months | Nature | Dissemination level | Delivery date |
| WD 2.1                    | Development of training assessments           | CR02                    | 2                                  | O      | PU                  | M08           |
| WD 2.2                    | Development of training needs questionnaire   | CR02                    | 2.5                                | O      | PU                  | M12           |
| WD 2.3                    | Training in avidity assay techniques          | CR02                    | 1.35                               | O      | PP                  | M14           |
| WD 2.4                    | Expert panel set up                           | CR02                    | 1                                  | O      | PU                  | M18           |
| WD 2.5                    | Laboratory skills staff exchange              | CR02                    | 2                                  | O      | PP                  | M40           |
| WD 2.6                    | Compilation of newsletter on research updates | CR02                    | 2                                  | R      | PU                  | M60           |
| WD 2.7                    | PhD thesis approved                           | CR10                    | 21                                 | R      | PU                  | M60           |
| <b>Total</b>              |   |                         | <b>32</b>                          |        |                     |               |

| <b>Schedule of relevant milestones</b> |                              |                                |                                    |                  |
|--|------------------------------|--------------------------------|------------------------------------|------------------|
| <b>Milestone number</b>                | <b>Milestone name</b>        | <b>Lead beneficiary number</b> | <b>Delivery date from Annex 11</b> | <b>Comments</b>  |
| M 2.1                                  | Registration of PhD student  | CR10                           | M06                                | PhD registration |
| M 2.2                                  | Assessment of training needs | CR02                           | M12                                | Report           |