STATENS VETERINÄRMEDICINSKA ANSTALT

EURL – *Campylobacter*

Work programme for 1st of January 2015 to 31st of December 2015

INTRODUCTION

The activities in the work programme for 2015 for the EU Reference Laboratory (EURL) - *Campylobacter* will follow EU legislation Regulation (EC) No 882/2004 and Commission Regulation (EC) 776/2006. The work programme includes description of activities, objectives and expected outputs, and are structured in line with the Performance indicators for 2015. The Performance Indicators will be submitted separately and before deadline 31 October 2014.

The work programme for 2015 will consist of the following key activities:

1. Organisation of proficiency tests
2. Production and validation of analytical methods
3. Training and support to NRLs
4. Provision of expertise to stakeholders (EU Commission and agencies, Member States, candidate and third countries) and preparedness of staff for emergency situations
5. Reciprocal exchange of information with professional bodies
6. Development activities in the field of molecular methods for species identification and typing/strain characterization of *Campylobacter*
7. Communication

ACTIVITY 1
ORGANISATION OF PROFICIENCY TESTS, PTs, IN 2015

Regulation (EC) No 882/2004, Article 32 1b, 4a, b, d

Objectives: To provide NRLs with details of relevant analytical methods for performing PTs that mimic realistic diagnostic samples to be analysed for *Campylobacter* in the MSs. To assess the performance of the NRLs and to identify potential analytical problems that could be solved by assistance from the EURL in order to improve the performance.

The EURL has so far organised 14 proficiency tests for the NRLs. In addition to the NRLs in the EU MSs, three to four Official Laboratories (OLs) in third countries have participated in the PTs each year. The PTs have been developed to correspond to the type of analyses that are common in monitoring or official control of *Campylobacter* in the food chain in the EU Member States.

Seven PTs have included both detection and enumeration of *Campylobacter* in chicken skin, chicken meat or minced meat. Basically, the protocols for analysis (the SOPs) have followed the standardised protocols of ISO 10272 Part 1 and Part 2: 2006 "Microbiology of food and animal feeding stuffs – Horizontal method for detection and enumeration of *Campylobacter* spp". The PT protocols

have also included mandatory or voluntary adding different selective media and incubation times. This has been done in order to obtain more knowledge about modifications of the ISO protocols for the revision of the standard (please see 2.2).

In both 2013 and 2014, a second PT with new types of matrices was introduced in which the laboratories were to detect and identify *Campylobacter* species. In 2013, faeces- contaminated "boot socks" were inoculated with live bacterial cultures and in 2014 milk filters with a small amount of standard milk were prepared in a similar way and used in the PT. The inoculums consisted of *Campylobacter* or other bacterial species or were blank. The choice of boot socks and milk filters for the PTs had been discussed with the NRLs at the preceding workshops and were considered relevant since those types of samples are often analysed for monitoring of *Campylobacter* or tracing sources of infection in outbreak situations.

In 2015, the EURL plans to organise two PTs that will be similar to before in order to make it possible to compare NRLs´ performances between years. For their accreditation, several NRLs have also expressed their need to participate in a PT that includes enumeration of *Campylobacter*. The EURL will therefore continue to organize one PT on enumeration of *Campylobacter*. Both PTs in 2015 are considered to be of complexity grade 3. Both PTs will be distributed together, by courier in the spring 2015. Details about the PTs and the exact date for distribution will be discussed with the NRLs at the EURL workshop in 2014 (29 September – 1 October 2014).

NRLs with poor performance will be contacted and the EURL will provide assistance to solve the problems leading to the poor performance. If there has been a delay in distribution or the package with the PTs has been damaged, a new PT will be sent out. If the NRL asks for more 'hands-on help', the EURL staff will suggest making a mission to the NRL or NRL staff will be offered to visit the EURL for training.

PT 15, "Detection and enumeration of Campylobacter in food"

The planned proficiency test number 15 will consist of detection and enumeration of *Campylobacter* in a food matrix for example chicken meat, carcass skin or other relevant matrix, basically using the abovementioned ISO 10272 standards. Vials with freeze dried bacterial cultures will be used as reference material. The matrix will be thoroughly tested for stability and to ensure freedom from *Campylobacter* before the test is distributed to the NRLs.

PT 16, "Detection and species identification of Campylobacter in sock samples"

The planned proficiency test number 16 will consist of detection and species identification of *Campylobacter* in boot socks contaminated with chicken faeces similar to the PT in 2013. Chicken litter, containing faeces, from a *Campylobacter* free flock will be collected and "contaminated socks" will be prepared. Most probably, live cultures of bacteria will be used for inoculation of the socks in a similar way as in 2013. The preparation of bacterial reference material is further elaborated on under Activity 2.1. The method for detection will basically follow

the ISO 10272 part 1: 2006 standard. The NRLs will be free to use any method (phenotypic or molecular) for identification of *Campylobacter* species.

The EURL will prepare standard operating procedures (SOPs) for the two PTs. The reporting of test results will be made by using QuestBack. Results will be analysed by relevant statistical methods. Preliminary reports of the results will be prepared and sent to the NRLs shortly after the deadline for submitting the results. The results will be presented and discussed at the workshop in 2015. Final reports will then be prepared and communicated with the participating laboratories and DG-Sanco.

Expected output: Two PTs of complexity grade 3 will be organised in 2015. All EU NRLs are expected to participate in both PTs. OLs in third countries, e.g. BA, CH, IS, MK and NO will be invited to participate. It is expected that > 75% of the participating EU NRLs will provide results that are graded as 'acceptable' or higher in both PTs.

ACTIVITY 2
PRODUCTION AND VALIDATION OF ANALYTICAL METHODS

Regulation (EC) No 882/2004, Article 32 1a, 1c, 4a, b, e

Objectives: To provide information about new or modified methods for analysis of *Campylobacter* in new type(s) of sample (matrix), to produce vials with freeze dried *Campylobacter* (and other bacteria) as bacterial reference material for PTs, and to validate and/or participate in validation studies of methods.

2.1. Development and production of reference materials for preparation of PT 16, "Detection and species identification of Campylobacter in sock samples"

In the future, the EURL would like to use vials with freeze dried bacteria (as bacterial reference material) in all PTs. However, the purchased vials used in "Detection and enumeration PTs" could not be used with the PTs with sock and milk filter samples. The technique for freeze drying *Campylobacter* is problematic due to the biology of this type of bacteria. Staff of the EURL has started to learn and use the technique and to work out a procedure for this purpose. It is anticipated that this will take time and the bacterial reference material for PT 16 will therefore most likely be live cultures (as in PT 12). The preparation of the PT with testing strains and stability of the strains with chicken litter will follow the protocol worked out in 2013. More *Campylobacter* strains of different species and bacteria of related genera will be tested and prepared for the PT. Other components such as the size of inoculums and stability of the test will be tested to prepare the "sock sample PT".

Expected output: To be able to produce vials with freeze dried *Campylobacter* (and other bacteria) for use in different types of PTs in the future. This type of bacterial reference material should be easier to handle and made more stable compared to live cultures. Another expected output would be to achieve a strain collection useful for future PTs.

2.2. Participation in a validation study of ISO 10272

Validation studies of ISO 10272 Part 1 and Part 2: 2006, were organized by the Food and Consumer Product Safety Authority and National Institute for Public Health and the Environment, The Netherlands, in 2013. The EURL collaborated in the studies and contributed with expert advice in 2014 when the results of the studies were evaluated and presented at the ISO/CEN meeting in Washington DC in June 2014. The EURL will continue to contribute to the final report which will probably be finalized in 2015.

Expected output: Reports of the evaluations will be prepared by the organizers and the EURL will contribute to this activity.

2.3 Testing PCR based assays for detection and identification of Campylobacter.

A NordVal validated real-time PCR assay for detecting *Campylobacter* (NordVal Certificate no 017) has been tested with caecum samples. The results will be presented at the EURL workshop in 2014. Testing other assays will be discussed at the workshop (2014) and the plan is to select one or more assays for EURL validation in 2015.

At the 33rd meeting of ISO/TC34/SC9 and the 21st meeting of CEN/TC275/WG6 held in Washington DC in June 2014, the working group TAG 3 Molecular methods presented their work about review of PCR assays for confirmation and species identification of *Campylobacter*. The EURL has contacted the TAG 3 group leader and suggested collaboration on this matter in 2015 (also see Activity 5).

Expected output: Results of the EURL testing and review of assays will be communicated with the NRLs and other relevant laboratories.

2.4. Detection of Campylobacter in water samples

Contaminated water has been shown to be a vehicle for the transmission of *Campylobacter* to humans, both in sporadic cases and large outbreaks. Contaminated water could also be a source of infection/contamination of broiler flocks. The ISO 17995: 2005 standard "Water quality – Detection and enumeration of thermotolerant *Campylobacter* species" specifies a method for the detection and semi quantitative enumeration of *Campylobacter* in filterable water samples. However, the isolation of *Campylobacter* from water poses several problems. Large volumes of water are often required to reach desired sensitivity. The EURL has started to test filtration of 50L of water using a special filter followed by direct testing the filter for detection of microorganisms. Smaller volumes have also been tested by a two step approach: first filtration and then enrichment of the filters before culture for detection of *Campylobacter*. These studies will be continued in 2015.

Expected output: A summary of the results of testing and comparing different methods for detection of *Campylobacter* in water will be communicated to the NRLs and other OLs.

ACTIVITY 3
TRAINING AND SUPPORT TO NRLs

Regulation (EC) No 882/2004, Article 32 1a, 1c, 1d, 4a –c, e, f

Objectives: To communicate, with NRLs, OLs and stakeholders, about ongoing activities that include *Campylobacter* at EU and national levels. To assist NRLs with scientific and technical advice and to train NRL staff in conventional and molecular techniques for *Campylobacter* analyses.

3.1 Organisation of a workshop

Description of planned workshop in 2015

The EURL workshop in 2015 is planned to be held in Stockholm. Representatives from the 28 MSs NRLs for *Campylobacter*, as well as experts from third countries and invited speakers will be asked to attend as reimbursed participants. As in previous years, experts from DG- SANCO, the European Food Safety Authority (EFSA) and the European Centre for Disease Prevention and Control (ECDC) will be invited and asked to present *Campylobacter* activities at EU level.

The agenda will include presentations and discussions on:

- *Campylobacter* activities in the EU at Community level. Results of zoonosis monitoring, surveys and control of *Campylobacter* in animals, food stuffs and humans
- Results of proficiency tests
- Updates on analytical methods, including validation/assessment of methods for detection and enumeration of *Campylobacter* and molecular methods for identification and characterization of *Campylobacter* strains
- *Campylobacter* activities at national level (EU MSs and third countries), i.e. monitoring and research studies
- Information about proficiency tests to come
- Information from meetings and activities within working groups of ISO/CEN, ISO/TC34/SC9 and CEN/TC 275/WG6
- Information about the revised ISO 10272 standards
- Future EURL-*Campylobacter*- NRL collaboration and activities, e.g. training activities, depending on recent and urgent matters of common interest

At least one NRL representative from each EU MS is expected to participate in the workshop in 2015. Actions taken to ensure participation include:

- A date for the workshop in 2015 will be suggested already at the workshop in 2014 (First announcement)
- A second announcement with details will be sent out about 4 months before the workshop
- Reminders will be sent out by emails and if necessary be made by phone
- If an NRL is unable to participate, the EURL will send an email and ask the NRL to provide a written explanation for the reasons why they cannot participate.

In previous evaluations of workshops, the majority of participants have given high points and positive comments about the workshops. Actions to address negative feedback will include discussion within the EURL to evaluate the feedback and possibilities to make changes if relevant. The EURL may contact the NRLs or make a survey by use of QuestBack to find ways to change things that have received low points or negative comments in the evaluation of the workshop.

Expected output: Representatives from all EU MSs NRLs- *Campylobacter* and from OLs in approximately 5 countries will participate and positive responses will be given in the evaluation survey by the majority of participants. Presentations given at the workshop and a summary of the workshop will be posted on the website.

3.2 EURL staff visits (missions) to NRLs for training of NRL staff

If an NRL repeatedly underperforms with the *Campylobacter* analyses in the PTs, the EURL will suggest a visit to the NRL for training of the staff. Before the mission, the EURL staff will prepare laboratory material, relevant literature and presentation material needed for the visit.

Expected output: Depending on the situation, one such visit (mission) is planned for in 2015.

3.3. Training course and study visits to EURL

A training course in the application of molecular techniques is planned to be organized for a maximum of 5 participants in 2015. The training course could be on PCR for identification of thermophilic *Campylobacter* spp or PFGE technique for the strain characterization (typing) of C. jejuni.

If requested and on ad hoc basis, the EURL will offer training for NRLs that plan to make study visits to the EURL.

Before a training course or an ad hoc training activity takes place, preparations will be made by the EURL, i.e. testing assays, bacterial strains, making up laboratory protocols and lists of suppliers of reagents, chemicals, equipment, etc., and collect relevant literature for the participants/visitors.

Expected output: One training course or ad hoc training activity is planned for in 2015.

3.4. Ad hoc assistance to NRLs

Upon request from the NRLs, the EURL will perform confirmatory testing of isolates that the NRLs send to the EURL. Usually, the NRL asks for species identification and the number of submitted isolates per year has ranged from 1 to 30 from a single laboratory. The EURL also provides assistance on questions about methodology, techniques, equipment, etc. NRLs are also provided with "reference material" consisting of well characterized strains from the EURL, to

help when the NRL is setting up a new method, for example PCR or typing by a molecular method, i.e. MLST.

Expected output: It is difficult to foresee how many requests will be made, but the EURL always provides assistance as soon as possible when these types of questions occur.

3.5. Preparation of learning material for the website (under link "Analytical methods")

For some NRLs, changing of staff and/or limited experience of routine analysis of *Campylobacter* could be reasons for poor performance of PTs. Some steps in the standard analysis of *Campylobacter* are more problematic than others. Phenotypic tests for confirmation and species identification are sometimes misinterpreted and some NRLs have problems with enumeration of *Campylobacter* on agar plates with contaminating flora. In 2014, the EURL has started to prepare photos and text material for website presentation. Basic steps in the analysis following the standard ISO 10272 Part 1 and 2 (2006) will be presented. The intention is to offer a useful and easily accessed material as complement to other assisting activities provided by the EURL, such as training courses and missions to NRLs. The preparation and presentation of learning material for the website will continue in 2015.

Expected output: Texts and photos demonstrating details in the basic procedures of *Campylobacter* analysis according to the ISO 10272 procedures will be prepared and posted on the website.

ACTIVITY 4

PROVISION OF EXPERTISE TO STAKEHOLDERS (COMMISSION AND AGENCIES, MEMBER STATES, CANDIDATE AND THIRD COUNTRIES) AND PREPAREDNESS OF STAFF FOR EMERGENCY SITUATIONS

Regulation (EC) No 882/2004, Article 32 1e, 1f, 4a, 4e, 4h

Objectives: To ensure that the EURL staff is well trained, up-dated and knowledgeable about the area of *Campylobacter* so that appropriate expertise can be provided to stakeholders and emergency situations can be handled in a proper way.

4.1. Provision of expertise to stakeholders

Requests from the Commission and agencies for scientific and technical assistance will have priority and be handled by the EURL scientific staff in a timely manner.

One person of the EURL staff (Elina Lahti) will continue to be a member of the EFSA Scientific Network for Zoonoses Monitoring Data in 2015.

On request, EURL staff will be involved in training programmes or act as lecturers at seminars, for example at Microbiology courses for third countries within the European Training Platform for Safer Food Programme (DG

SANCO) (BTSF), and workshops organised by TAIEX. EURL staff will also give presentations and act as lecturers at other seminars or meetings both internationally and nationally.

Campylobacteriosis is one of the diseases in focus for ECDC's program on Food and Waterborne Diseases and Zoonoses (FWD). The EURL will continue to collaborate with ECDC and provide assistance in the work with harmonizing surveillance including analytical methods for campylobacteriosis in humans.

Meetings with the Commission services that are of relevance for EURL staff to participate in:

- Coordination meeting(s) of EURLs in the area of veterinary public health-biological risks, organized by DG- Sanco.
- One meeting with Commission working groups under the Standing Committee on the Food Chain and Animal Health (SCFCAH), section biological safety of the food chain in Brussels – if the topic of the meeting is of relevance for the EURL- *Campylobacter*.

Expected output: Scientific and technical support will be given to stakeholders

4.2. Preparedness of staff

To ensure high quality and competence within the area of *Campylobacter*, the issues of skills of the EURL staff and continuous professional development are of fundamental importance. The EURL staff will thus collaborate with and visit other expert laboratories and participate in international and national networks, scientific seminars, conferences and workshops, ie:

- One member of the EURL staff (Eva Olsson Engvall) is a member of the Advisory Board to the EU FP7 financed project "*Campylobacter* control – novel approaches in primary poultry production" (acronym: CamCon, http://www.camcon-eu.net/). The four-year project started in 2010, was approved an extension with one year, and will end in 2015. Project coordinator is Merete Hofshagen, National Veterinary Institute, Norway.
- Relevant national and international seminars and research meetings in order to assure competence and knowledge on recent advancement within the *Campylobacter* area.
- In 2015, members from the EURL staff plan to participate in the international conference *Campylobacter, Helicobacter* and Related Organisms (CHRO). This is the biggest international conference on *Campylobacter*, it is organized every second year, and will be held in Rotorua, New Zealand, 2-5 November 2015 (http://www.chro2015.com/). The participation of EURL staff will be co-funded by SVA.
- Other meetings of relevance for microbiological analyses of food, e.g. "Food labs in crystal ball. Future challenges in food analysis", jointly organised by AOAC Europe, NMKL and NordVal International, 21- 22 May 2015 in Stockholm, Sweden

Expected output: The members of EURL staff will maintain high technical competence in laboratory analyses and acquire new important knowledge in the field of *Campylobacter*.

ACTIVITY 5
RECIPROCAL EXCHANGE OF INFORMATION WITH PROFESSIONAL BODIES

Regulation (EC) No 882/2004, Article 32 1f, 4e

Objectives: To exchange information and assist with expertise when requested from professional bodies, and to actively participate in CEN/ISO standardization activities

Provision of consultant expertise to FAO/WHO/OIE

The EURL- *Campylobacter* is not a reference laboratory for FAO/ WHO, or reference laboratory or collaborating centre of OIE, but provides consultant expertise on an ad hoc basis to these professional bodies whenever requested.

Participation in CEN/ISO activities

EURL staff participates in CEN/ISO standardization activities and one staff member (Ingrid Hansson) is active member of working groups:

- Working group CEN/TC 275/WG 6/TAG 5
- Revision of ISO 10272: 2006, Part 1 and Part 2

The following meetings will be attended in 2015:

- The 34th meeting of ISO/TC34/SC9 and the 22nd meeting of CEN/TC275/WG6, which will be held in The Netherlands. Total duration of the two joint meetings will be 5 days.
- One meeting with working group CEN/TC275/WG6 TAG 5 "ISO 10272 standards", date not set yet. Duration is probably 2 days.

Expected output: Reports from the meetings will be prepared and the EURL will contribute to this activity.

Additional subactivity: EURL staff plans to collaborate with the ISO/CEN working group TAG3 Molecular methods for review of PCR assays for confirmation and species identification of *Campylobacter* (see Activity 2).

ACTIVITY 6
DEVELOPMENT ACTIVITIES IN THE FIELD OF MOLECULAR METHODS FOR SPECIES IDENTIFICATION AND TYPING/STRAIN CHARACTERIZATION OF *CAMPYLOBACTER*

Regulation (EC) No 882/2004, Article 32 1a, c, 4a, g, h

Objectives: To achieve more experience and knowledge about molecular methods for detection, identification and strain characterization ("typing") of *Campylobacter* in order to provide the NRLs with details about the methods and advances in the field.

Further, to prepare routines for handling molecular typing data from NRLs.

6.1. Methods for species identification

Species identification of *Campylobacter* by traditional phenotypic tests ("biochemistry") is usually not as reliable as molecular methods. This has been very obvious in all PTs that the EURL has organized. When the EURL receives isolates from the NRLs for confirmation and species identification, a set of tests mainly PCR- based assays, are used in order to obtain a conclusive identification. The EURL will continue to evaluate PCR assays and other non-cultural methods, i.e. mass spectrometry (MALDI- TOF) for species identification of *Campylobacter*.

6.2. Methods for strain characterization of Campylobacter

Strain characterization or 'typing' of *Campylobacter* isolates is important, especially when studying outbreaks of food borne infections and for the identification of transmission routes for example from an animal source. Although campylobacteriosis cases are often considered to be sporadic events, larger food-borne outbreaks have also recently been identified, much thanks to the use of molecular typing methods.

A 'Vision paper on the development of data bases for molecular testing of fooborne pathogens in view of outbreak preparedness' was prepared by DG-Sanco in 2012. In this document, it is stated that molecular typing of food-borne pathogens could "substantially contribute to the epidemiological investigations of foodborne outbreaks and to the identification of emerging health threats". An initiative to collect molecular typing data (PFGE) from food-, animal-, and human isolates in two data bases was presented with EFSA managing food and animal and ECDC managing the human typing data. In the pilot project, only four pathogens are included (not *Campylobacter*), but it is expected that also *Campylobacter* will be in focus for this activity, since campylobacteriosis is by far the most reported zoonosis in the EU and one of prioritized diseases by ECDC.

Many NRLs- *Campylobacter* perform molecular typing but there is a need for harmonization of methods and reference materials. The EURL- *Campylobacter* often receives questions about what protocols, equipment and other material should be used.

To be prepared for the expected extension of the EFSA-ECDC databases to cover *Campylobacter* isolates and to be able to provide technical assistance to the NRLs it is important that the EURL is updated on the techniques and has experience and knowledge about details of the methods. At the EURL, three techniques for molecular typing are being used and tested to gain experience and good knowledge of each type of technique.

Pulsed field gel electrophoresis, PFGE

Two standardised protocols are recommended for use:
Campynet protocol (http://campynet.vetinst.dk/PFGE.html) and *the PulseNet (USA- PulseNet) protocol* (http://www.cdc.gov/pulsenet/PDF/campylobacter-

pfge-protocol-508c.pdf). At the EURL- *Campylobacter* PFGE training course in 2011, this was the protocol that was trained.

The EURL has compared the two protocols and found that they both perform well, giving comparable results. However, if PFGE data will be collected at EU level, the PulseNet protocol will be recommended and supported by the EURL.

Multi locus sequence type, MLST

The MLST method according to reference Dingle et al (2001) (1) has been established at the EURL. The details of the protocol are available at http://pubmlst.org/campylobacter/ . The PubMLST website also holds the database for sequences, determining the designations of the ST types. The advantage with MLST is that sequence data are unambiguous and can be exchanged between laboratories and compared with the big database at the PubMLST website.

Whole genome sequencing, WGS

In June 2014, EFSA staff participated in the EFSA Scientific Colloquium "Use of whole genome sequencing (WGS) of food-borne pathogens for public health protection". This EFSA initiative shows that WGS is becoming a method that is seriously considered for food safety applications in the near future.

The costs for performing WGS have gone down and the number of platforms for handling the large amount of sequence data have increased. The EURL has in collaboration with the NRL- *Campylobacter* at SVA, started to test the technique using MiSeq (Illumina) in order to meet future needs for assistance and advice from NRLs and stakeholders. Different methods or platforms are tested to extract relevant information of the whole genome sequences, e.g. the DTU platform for defining MLST type (2). At present, another web-based platform, Ridom SeqSphere+, is being tested (http://ridom.de/seqsphere/index.shtml). The EURL will continue to explore the possibilities to - in a user-friendly way - obtain relevant information from WGS data in 2015.

The EURL collaborates with the Swedish NRL- *Campylobacter* in research projects that among other things include strain characterization by molecular techniques.

The EURL staff provides competence and expert advice on methodology and interpretation of results. In return, the EURL staff gains updates and valuable knowledge about relevant research questions. A repository of typing data is being developed, covering Swedish animal and environmental *Campylobacter* isolates. This repository could easily be adjusted to include also typing data from NRLs.

Expected outputs: More knowledge will be acquired about analytical methods for detection and identification of *Campylobacter* and about strain

characterization by molecular methods. The routines for handling incoming isolates for typing and typing data will be looked at and improved.

Publications: members of the EURL staff will author/co-author at least 2 scientific publications in peer reviewed journals and contribute with oral/poster presentations at scientific meetings, eg. CHRO in New Zealand in 2015.

ACTIVITY 7
COMMUNICATION

Regulation (EC) No 882/2004, Article 32 1a- f, 4b-c, g

Objective: To communicate with the Commission and its agencies, with NRLs, OLs and stakeholders and provide quick assistance whenever asked for.

The website is used for communication of basic and relevant information about the EURL activities (http://www.sva.se/en/About-SVA/EURL-campylobacter/). The EURL will maintain and continuously update the list of NRLs- *Campylobacter* contact persons in EU MSs and at the corresponding official laboratories in other European countries that are participating in activities organized by the EURL- *Campylobacter*. Presentations given at the workshop will be posted as pdf-files on the website and technical information about PTs will be provided. Other relevant information will be posted, e.g. "learning material".

Most communication with NRLs, the Commission, other EURLs and stakeholders is done by emails and consists of both short questions and more complicated issues, sometimes on ad hoc basis. The time right before and after workshops and PTs are the periods with most intensive contacts with NRLs. The web based form for reporting results of PTs (QuestBack) is very useful and has been well received by the NRLs. The reporting form is designed to fit each individual PT and the NRLs are encouraged to send their comments in order to make improvements. Problems (at the NRLs) with using the QuestBack will be addressed. The EURL prepares draft and final reports of the PT results which are then distributed to the NRLs and DG- Sanco by email. The annual technical and financial reports are sent to DG-Sanco both by regular post and email.

Expected outputs: The website will be updated and improved. Technical and financial reports for 2014 will be sent to DG-Sanco by deadline (31 March 2015) and the final PT reports will be sent to the NRLs after the workshop in 2015.

References

1. Dingle KE, et al. 2001.Multilocus sequence typing system for *Campylobacter jejuni*. J. Clin. Microbiology,39: 14-23.
2. Larsen MV, et al 2012. Multilocus sequence typing of total-genome-sequenced bacteria. J. Clin. Microbiol, 50: 1355.