



## MEETING REPORT

# Annual meeting of the European Legionnaires' Disease Surveillance Network

Copenhagen, 15 September 2010

## Executive summary

Since 1 April 2010, ECDC has coordinated the European Legionnaires' Disease Surveillance Network (ELDSNet). This includes the daily surveillance of travel-associated Legionnaires' disease, the timely detection of clusters, their immediate notification to the network and the close monitoring of cluster site investigations and control measures taken.

On 15 September, the first annual ELDSNet meeting under ECDC coordination convened in Copenhagen, Denmark. It followed a meeting of the newly established ELDSNet Coordination Group and led into the twenty-fifth Scientific Meeting of the European Working Group for Legionella Infections (EWGLI) from 15 to 17 September.

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Stockholm, February 2011

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# 1 Background

Since 1 April 2010, ECDC has coordinated the European Legionnaires' Disease Surveillance Network (ELDSNet). This includes the daily surveillance of travel-associated Legionnaires' disease, the timely detection of clusters, their immediate notification to the network and the close monitoring of cluster site investigations and control measures taken. It also includes the annual collection, analysis and reporting of all cases of Legionnaires' disease that were notified to the 27 EU Member States, Iceland and Norway in the preceding year.

The epidemiological activities are complemented by centralised laboratory services that were outsourced through an open call for tender. The Health Protection Agency's Atypical Pneumonia Unit in London was contracted to provide an inventory of *Legionella* reference laboratory capacities in Member States, external quality assurances (EQAs) and targeted training, enhanced investigation of clusters and a quarterly science-watch bulletin.

This meeting was the first annual ELDSNet meeting under ECDC coordination. It followed a meeting of the newly established ELDSNet Coordination Group and led into the twenty-fifth Scientific Meeting of the European Working Group for Legionella Infections (EWGLI) from 15 to 17 September 2010.

## 1.1 Objectives

The following is a list of the objectives of the annual ELDSNet meeting:

- To present and discuss the epidemiology of Legionnaires' disease in Europe in 2009.
- To present and discuss laboratory surveillance aspects of Legionnaires' disease in Europe.
- To refresh the knowledge in the use of The European Surveillance System (TESSy).
- To discuss and recommend possible revisions of the EU case definition, the variables collected in TESSy and their analysis.
- To discuss and recommend ways to systematically increase the numbers of clinical and environmental isolates available for typing.

The following is a list of the planned outcomes of the meeting:

- Updated knowledge on the epidemiology of Legionnaires' disease in Europe, and on pertinent ongoing laboratory activities and on the use of TESSy.
- Recommendations on whether and how to revise the EU case definition, the TESSy variables and their analysis, as well as recommendations on how to increase the number of clinical and environmental isolates available for typing.

# 2 Presentations

## 2.1 European Legionnaires' Disease Surveillance Network — looking back and looking ahead

Birgitta de Jong (ECDC) gave a presentation on the historical evolution of the international collaboration and future challenges. The aims of the network are to identify relevant public health risks, to enhance the prevention of cases and to monitor the epidemiological trends. The European Legionnaires' Disease Surveillance Network staff team at ECDC was presented to the audience and an overview was given of the tools developed for surveillance and outbreak investigation, such as TESSy and the Epidemiological Intelligence Information System (EPIS).

## 2.2 Results of the annual dataset collection 2009

Phillip Zucs (ECDC) presented the results of the annual data collection for 2009. In total, 5089 confirmed and 429 probable cases were reported in 2009. A slight decrease in the number of cases was reported compared with previous years. In conclusion, the reported incidence and mortality of Legionnaires' disease in Europe is stable; disaggregated data allow for more analytical epidemiology and more complete reporting of outcome, cluster status and sequence typing results which could help generate new hypotheses.

## 2.3 Reported travel-associated cases in 2009

Carol Joseph (HPA, EWGLINET project leader, London) presented the travel-associated cases reported in the period from 1989 until 2009. Since 2008, the number of yearly registered cases of travel-associated Legionnaires'

disease has gone down. Over the last 20 years, the mean interval between the onset of disease and reporting to the network has gone down dramatically. In 2009, 22% of the cases were reported within 10 days and 56% within 20 days. The added value of European surveillance is evident when considering that in 2009, 37 (5%) of the clusters were only detected because of the network. Carol Joseph concluded the presentation by thanking all collaborators for their contribution to the network during the data collection for 2009.

## 2.4 Laboratory activities

Tim Harrison (HPA, London) presented laboratory activities contracted by tender. The tender consists of the following four work packages: Work Package 1: Standardisation and training; Work Package 2: Quality Assurance; Work Package 3: Outbreak investigation; and Work Package 4: Other scientific output and advice. The objectives of the work packages include the following:

- to standardise diagnostic and surveillance methods across national reference laboratories;
- to ensure a high quality of laboratory diagnosis, sequence typing and environmental investigation in national reference laboratories;
- to enhance outbreak investigation; and
- to keep ECDC and national reference laboratories abreast of the latest developments in the field.

The participants agreed on the clear need for further laboratorial collaboration between MS to enhance cluster investigation.

## 2.5 TESSy update

Silvia Sarbu (ECDC) led the parallel session on TESSy and gave an overview of the challenges encountered by the system, providing some tips and hints on how to upload and erase cases. She also offered individual consultations on TESSy-related items.

## 2.6 Lab survey details, external quality assurance results

Tim Harrison (HPA, London) led the parallel session on the EQA scheme and the results. Four distributions (10 samples each) for urine antigen testing had been made since October 2009: two under EWGLINET arrangements and two under ELDSNet arrangements. Results are available on-line. Norman Fry and Massimo Mentasti (HPA, London) presented the EQA results from sequence-based typing (SBT) and PCR proficiency testing.

Tim Harrison ended the session by presenting the results from the water EQA. The presentation gave an update of the results for 2009 when two distributions had been done. Samples were distributed to 31 EU/EEA and candidate countries. More laboratories reported fully correct or almost fully correct results in 2009 compared with 2008.

# 3 Working groups

## 3.1 Introduction to working groups

The general purpose of these working groups was to provide a forum for focussed exchange of experiences and ideas. Participants were asked to discuss specific questions and provide recommendations that would support ECDC and the ELDSNet coordination group to fulfil their mandate of coordinating and continuously improving Legionnaires' disease surveillance in Europe.

## 3.2 Feedback from working groups

### Revision of the EU case definition

Emmanuel Robesyn (ECDC, Stockholm) presented the results of the working group on a revised EU case definition for Legionnaires' disease.

The revised EU case definition for Legionnaires' disease would read as follows:

#### **Clinical criteria:**

- Any person with pneumonia

**Laboratory criteria for a confirmed case; at least one of the following three:**

- isolation of *Legionella* spp. from respiratory secretions or any normally sterile site;
- detection of *Legionella pneumophila* antigen in urine; or
- significant rise in specific antibody level to *Legionella pneumophila* serogroup 1 in paired serum samples.

**Laboratory criteria for a probable case; at least one of the following four:**

- detection of *Legionella pneumophila* antigen in respiratory secretions or lung tissue; e.g., by DFA staining using monoclonal-antibody derived reagents;
- detection of *Legionella* spp. nucleic acid in respiratory secretions, lung tissue or any normally sterile site;
- significant rise in specific antibody level to *Legionella pneumophila* other than serogroup 1 or other *Legionella* spp. in paired serum samples; or
- single high level of specific antibody to *Legionella pneumophila* serogroup 1 in serum.

## Case classification

**Possible case:**

- NA

**Probable case:**

- Any person meeting the clinical criterion AND at least one laboratory criterion for a probable case.

**Confirmed case:**

- Any person meeting the clinical criterion AND at least one laboratory criterion for a confirmed case.

## 3.3 Revision of TESSy variables

Maria Cristina Rota (Istituto Superiore di Sanità, Rome) presented the results of the working group on revisions of TESSy variables for the daily and annual surveillance of Legionnaires' disease in Europe. In all, changes in 16 different variables were proposed.

The working group requested that all information identifying an accommodation site (address, telephone number, URL) be included in the ELDSNet case and cluster alerts. Finally, the group endorsed the coordination group recommendation to report the disaggregated 2005–2008 Legionnaires' disease surveillance data to TESSy by the end of 2010.

## 3.4 Enhanced cluster investigations

Tim Harrison (HPA, London) presented the results of the working group on ways to enhance cluster investigations by increasing the number of clinical and environmental *Legionella* isolates available for typing and matching.

To increase the number of clinical isolates, the group suggested raising clinicians' awareness of Legionnaires' disease. Treating clinicians should refer samples for culture and PCR. This could be achieved by directly contacting them and requesting a sample whenever urinary antigen is detected in a patient. It might also require reviewing and modifying or adopting existing guidance at the national level and disseminating it to hospitals. Finally, a system of modest incentives for each sample submitted might spark interest among clinicians.

To increase the number of environmental isolates, the group suggested using a pool of people experienced in sampling and, as key factors, experienced and accredited laboratories and good quality feedback.

The European Centre for Disease Prevention and Control should assist Member States by improving international communication through EPIS. The group also felt that the training courses included in the laboratory contract with HPA could help to increase awareness and improve the competence necessary for enhanced cluster investigations.

The group did not make any recommendations regarding the flow of samples between a country where a cluster occurs and ECDC's lab contractor at HPA. For the time being, the network was asked to inquire with Tim Harrison (HPA London, United Kingdom) or Birgitta de Jong (ECDC, Stockholm) on an ad hoc basis.

## 3.5 Steering committee activities 2009/2010

Carol Joseph (former EWGLINET coordinator, HPA, London) presented main activities of the former EWGLINET steering committee in late 2009 and 2010.

One of the steering committee's main activities was to help organise the network transition to ECDC including the timetable, TESSy developments and transfer of data and website contents. Final grant report and budget statements were prepared, and a final steering committee meeting was held in April 2010.

The final version of the European Guidelines for Control and Prevention of Travel-Associated Legionnaires' Disease was agreed.

### 3.6 New Coordination Group and mandate

Birgitta de Jong (ECDC) presented the roles, tasks and procedures of the ELDSNet coordination group based on ECDC's terms of reference for European surveillance network coordination groups. These terms of reference define a coordination group's main role as to discuss and make suggestions and proposals to ECDC on any technical, epidemiological or other scientific aspects of disease-specific surveillance that will enable the network to develop further and improve its effectiveness and added value.

An invitation to become a member of the ELDSNet coordination group was sent out in April. In June, the following eight network members who had expressed their interest were appointed to join for two years:

- Carmen Pelaz Antolin, Spain
- Christine Campese, France
- Irina Dontsenko, Estonia
- Tim Harrison, United Kingdom
- Maria Cristina Rota, Italy
- Iskra Tomova, Bulgaria
- Søren Uldum, Denmark
- Günther Wewalka, Austria

The coordination group also includes Kande-Bure O'Bai Kamara representing the WHO HQ, and Birgitta de Jong from ECDC as secretariat. The eight core members of the group elected Günther Wewalka as their chair for the next two years.

### 3.7 Epidemic Intelligence Information System (EPIS)

Birgitta de Jong (ECDC,) updated the network on EPIS, its planned structure, main functionalities and navigation, as well as its intended users and their training. She showed mock-ups of the EPIS-ELDSNet main page, the overview of clusters and their follow-up status, an online Form A, and cluster site-specific discussions.

Guiding principles in developing EPIS are that it should be easy and intuitive to use, requiring only limited training. It should facilitate processes and allow for import and storage of historical data. Additionally, it should be upgradable with subsequent releases possibly offering additional functionalities.

Users of EPIS-ELDSNet will be offered training through an online tutorial. They will also receive a user manual, and a helpdesk will be set up at ECDC to answer questions or assist in solving user problems with the system.

The date of EPIS-ELDSNet going live has recently been postponed from the end of 2010 to February 2011.

### 3.8 ECDC contracts: Toolbox for outbreak investigations and training

Emmanuel Robesyn, (ECDC, Stockholm) presented two projects that have been tendered out. The project, 'Toolbox for investigation of and response to Legionnaires' disease outbreaks with an EU dimension' consists of two work packages:

- developing an actual toolbox; and
- preparing a scoping paper on the use of Geographic Information Systems (GIS) in outbreak investigations

The project 'Curriculum, training materials and course on Legionnaire's disease' consists of three parts:

- designing a curriculum for a course of 3.5 days duration (25 hours);
- development of training materials for the course; and
- organising and facilitating a course for 15 participants.

The course will cover risk assessment, outbreak investigation and control. It is targeted at a multidisciplinary audience of mid-career and senior experts dealing with Legionnaires' disease.

## 4 Conclusions

Günther Wewalka (AGES, Vienna) announced that the next ELDSNet will take place at the Austrian Agency for Health and Food Safety (AGES) in Vienna, Austria, from 25 May 2011.

Birgitta de Jong (ECDC) thanked Søren Anker Uldum (SSI, Copenhagen) and his colleagues for co-organising the ELDSNet meeting 2010. She then thanked all participants for attending and actively contributing, and closed the meeting.

The participants agreed on a revised case definition that will be proposed to the national surveillance coordinators at the end of 2010. Several changes to the TESSy variables were agreed on and will be implemented in 2011.

# Annex 1: Meeting programme

## 15 September 2010

<b>09:00–10:20</b>	<b>Plenary session</b> <i>Chair: Søren Anker Uldum</i>
<b>09:00–09:05</b>	<b>Welcome and opening</b> <i>Birgitta de Jong</i>
<b>09:05–09:20</b>	<b>ELDSNet – looking back, looking ahead</b> <i>Birgitta de Jong</i>
<b>09:20–09:40</b>	<b>Results of the annual dataset collection 2009</b> <i>Phillip Zucs</i>
<b>09:40–10:00</b>	<b>Reported travel-associated cases for 2009</b> <i>Carol Joseph</i>
<b>10:00–10:20</b>	<b>Lab activities</b> <i>Tim Harrison</i>
<b>10:20–11:00</b>	<b>Parallel sessions</b> TESSy Update – <i>Silvia Sarbu</i> Lab survey details, EQA results – <i>Tim Harrison</i>
<b>11:00–11:30</b>	<b>Coffee break</b> <i>Individual TESSy coaching if required</i>
<b>11:30–11:45</b>	<b>Plenary Session: Introduction to working groups</b>
<b>11:30–11:35</b>	<b>EU case definition</b> <i>Günther Wewalka</i>
<b>11:35–11:40</b>	<b>TESSy variables and their analysis</b> <i>Phillip Zucs</i>
<b>11:40–11:45</b>	<b>Enhanced cluster investigation</b> <i>Birgitta de Jong</i>
<b>11:45–13:00</b>	<b>Parallel sessions: Working groups</b> Possible case definition revisions/ Possible variable revisions/ Enhanced cluster investigation
<b>13:00–14:00</b>	<b>lunch</b>
<b>14:00–15:15</b>	<b>Plenary session</b> <i>Chair: Carmen Pelaz Antolin</i>
<b>14:00–14:45</b>	<b>Feedback from working groups</b>
<b>14:45–15:00</b>	<b>Steering committee activities</b> <i>Carol Joseph</i>
<b>15:00–15:15</b>	<b>New coordination group and mandate</b> <i>Birgitta de Jong</i>
<b>15:15–15:45</b>	<b>break</b> <i>Individual TESSy coaching if required</i>
<b>15:45–16:30</b>	<b>Plenary sessions</b> <i>Chair: Günther Wewalka</i>
<b>15:45–16:00</b>	<b>EPIS</b> <i>Birgitta de Jong</i>
<b>16:00–16:15</b>	<b>ECDC contracts: Toolbox for outbreak investigations; Training</b> <i>Emmanuel Robesyne</i>
<b>16:15–16:20</b>	<b>Network meeting in Vienna, Austria 2011</b> <i>Günther Wewalka</i>
<b>16:20–16:30</b>	<b>Wrap up and closure</b> <i>Birgitta de Jong</i>

## Annex 2: Participants

Country	Name
Austria	Daniela Schmid
Austria	Günther Wewalka
Belgium	Ingrid Wybo
Bulgaria	Iskra Tomova
Czech Republic	Vladimir Drasar
Czech Republic	Kamila Haluzova
Czech Republic	Irena Martinkova
Denmark	Kåre Mølbak
Denmark	Søren Anker Uldum
Estonia	Irina Dontsenko
Finland	Outi Lyytikäinen
France	Christine Campese
France	Sophie Jarraud
Germany	Bonita Brodhun
Greece	Georgia Spala
Greece	Emanuel Velonakis
Hungary	Ildiko Paluska Ferencz
Hungary	Judit Krisztina Horváth
Ireland	Lorraine Hickey
Ireland	Pat Mulhare
Italy	Maria Luisa Ricci
Italy	Maria Cristina Rota
Latvia	Antra Bormane
Malta	Rodianne Bonnici
Malta	Robert Decelis
Netherlands	Jeroen den Boer
Netherlands	Leslie Isken
Netherlands	Kata Ottovay
Norway	Katrine Borgen
Norway	Ingeborg Aaberge
Poland	Agnieszka Napiorkowska
Poland	Hanna Stypulkowska-Misiurewicz
Portugal	Teresa Marques
Portugal	Carlos Orta Gomes
Romania	Gratiana Chicin
Slovenia	Darja Kese
Slovenia	Maja Sočan
Spain	Rosa Cano-Portero
Spain	Carmen Pelaz - Antolin
Sweden	Margareta Löfdahl
United Kingdom	Norman Fry
United Kingdom	Tim Harrison
United Kingdom	Carol Joseph



Country	Name
United Kingdom	Sandra Lai
United Kingdom	Massimo Mentasti
United Kingdom	Nick Phin
United Kingdom	Falguni Naik
United Kingdom	Anthony Underwood
World Health Organization, Switzerland	Kande-Bure O'Bai Kamara

## ECDC participants

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