



MEETING REPORT

European STI and HIV/AIDS Surveillance Networks Berlin, 28-30 September 2010

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Abbreviations

AIDS	acquired immunodeficiency syndrome
AMR	antimicrobial resistance
ANC	antenatal clinic
ART	antiretroviral therapy
ARV	antiretroviral
CDC	Centers for Disease Control and Prevention (Atlanta, Georgia, USA)
CLSI	Clinical and Laboratory Standards Institute
CSF	EU civil society forum on HIV/AIDS
CSW	commercial sex worker
CT	<i>Chlamydia trachomatis</i>
ECDC	European Centre for Disease Prevention and Control
EEA	European Economic Area
EFTA	European Free Trade Association
EIA-RI	an assay to detect recent HIV-1 infection of less than six months
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
EMIS	European MSM Internet Survey
EPIS STI	Epidemic Intelligence Information System for Sexually Transmitted Infections
EPP	Estimation and Projection Package Spectrum
ESSTI	European Surveillance of STI project
EU	European Union
EUCAST	European Committee on Antimicrobial Susceptibility Testing
Euro-GASP	European Gonococcal Antimicrobial Surveillance Programme
FRR	false result rates
HAART	highly active antiretroviral therapy
HBV	hepatitis B virus
HCV	hepatitis C virus
HIV	human immunodeficiency virus
HPA	Health Protection Agency, UK
IDU	injecting drug use(r)
LGV	lymphogranuloma venereum
MARPs	most-at-risk populations
MDR-TB	multi-drug resistant TB
MIC	minimum inhibitory concentration
MLST	multi-locus sequence typing
MPES	multi-parameter evidence synthesis
MSM	men who have sex with men
MTCT	mother-to-child transmission (of HIV)
NG	<i>Neisseria gonorrhoeae</i>
NG-MAST	<i>Neisseria gonorrhoeae</i> multi-antigen sequence typing
PCR	polymerase chain reaction or gene amplification reaction
PLWHA	people living with HIV/AIDS
RITA	recent HIV infection assay/algorithm
SGS	second generation surveillance
SIALON	study of capacity building in HIV/syphilis prevalence estimation using non-invasive methods among MSM in southern and Eastern Europe
SSA	sub-Saharan Africa

STI	sexually transmitted infection
SW	sex workers
SY	syphilis
TB	tuberculosis
TDR	transmission of drug resistance
TESSy	The European Surveillance System
TP	<i>Treponema pallidum</i>
WHO	World Health Organization
WHO/Europe	WHO Regional Office for Europe
UNAIDS	Joint United Nations Programme on HIV/AIDS
UNGASS	United Nations General Assembly (Twenty-sixth) Special Session Declaration of Commitment on HIV/AIDS
VNTR	variable number tandem repeat

Executive Summary

The 2010 annual meeting of the European STI and HIV/AIDS surveillance networks was held at the Abba Hotel, Berlin, Germany, 28–30 September 2010. The meetings were hosted by the European Centre for Disease Prevention and Control. Participants included nominated contact points for STI and HIV/AIDS surveillance from the 27 countries of the European Union and the three countries of the European Economic Area (EEA). The STI meeting included 51 experts, the joint STI/HIV session 61 and the HIV meeting 33 experts.

The ECDC long-term strategy for surveillance includes strategies to strengthen surveillance systems for communicable diseases and to improve insight into determinants of disease within the EU and EEA countries. This strategy has been implemented in the ECDC annual work plan. As a consequence, the ECDC programme on STI, including HIV/AIDS and blood-borne viruses, has launched several projects in the field of STI and HIV/AIDS with the aim to strengthen surveillance and to explore the added public health value for certain activities. The 2010 annual meeting aimed to review the new surveillance results and consult Member States on the ongoing projects related to HIV/AIDS and STI.

European STI Surveillance Network meeting

The meeting reviewed recent data collections for STI, including the 1990–2009 data, and discussed the data presentation, differences across the EU/EEA and trends. The meeting reviewed the transfer of STI Alert to EPIS-STI and established a group to review the guidance for alert reporting. The network discussed the results of the 2009 European Gonococcal Antimicrobial Susceptibility Surveillance Programme (Euro-GASP) and how to include new countries in Euro-GASP, and explored how to implement a pilot study on molecular surveillance for resistant and susceptible *Neisseria gonorrhoeae* strains in the EU/EEA. Future ECDC activities and collaborative opportunities were also addressed.

The working groups were organised around issues related to interpretation of data and trends, presentation of regional and sentinel STI information, challenges related to antimicrobial resistance (AMR) reporting and the further implementation of Euro-GASP. The working groups, in their observations and recommendations, noted that:

- Current reporting systems are very variable and there is as yet no single EU graph showing the trends.
- Challenges include under- and over-reporting.
- Better labelling and caveats are needed on tables.
- Reporting will improve as countries standardise their formats.
- The grouping of countries can be politically sensitive (and GDP could be a useful option).
- Data can be presented in many different ways but are only useful when they are comparable.
- The purpose of the data presentation is to show changes in trends.
- Challenges remain for data collection, particularly in federal countries.
- Time is needed to adapt national systems to TESSy.
- Regular reviews of reporting can promote change to resolve missing variables or not reporting.

Recommendations made with respect to Euro-GASP called for the ECDC to amend the Reporting Protocol to take into consideration the minimum set of antimicrobials to be tested, difficulties with the uploading of data into TESSy, the removal of the pilot of quarterly testing and the testing of non-consecutive isolates.

Countries that are not currently participating in Euro-GASP described their methods for diagnosis of gonorrhoea, with particular regard to their (in)ability or experience with culture for *N. gonorrhoeae*. Five countries indicated plans to start collecting isolates for Euro-GASP.

With respect to both STI and HIV in EU/EEA, the meeting featured a session on topics that are common to STI and HIV surveillance and control, including the prevalence of HIV in STI patients, prevalence studies of HIV and STI in MSM and the results from antenatal screening programmes for HIV and syphilis, and the establishment of combined services for STI and HIV. HIV and STI experts in the respective networks had an opportunity to learn from each other with respect to methodological issues in surveillance and research.

European HIV/AIDS Surveillance Network Meeting

The meeting reviewed the results of the HIV resistance project, identifying EU added public health value and plans for 2011, the results of the ECDC project on TB–HIV co-infection and the upcoming HIV testing guidance document were discussed. The new ECDC project on HIV modelling of prevalence estimates and the undiagnosed fraction were discussed and the minimum surveillance requirements specifically identified. Additionally, the meeting addressed the epidemiological framework for conducting HIV incidence studies within Europe using Recent Infection Testing Algorithms (RITA) tests, implementation of the pilot study and identified opportunities for collaboration.

Working groups discussed the HIV incidence framework, data quality, HIV modelling related to undiagnosed fraction and HIV testing guidance. Discussions identified:

- Factors that need to be taken into account when interpreting the proportions of recent infections.
- Essential individual data that must be collected to participate in the pilot study on the use of a recent HIV infection assay (RITA) in Europe.
- Criteria for selection of participating countries. Many country representatives stated their willingness to join the pilot study.
- Numerous ways of grouping countries, emphasising that quality assurance is key. If data delivered by a country does not fit with the expected trends and models, it should be verified. The aim is to publish only accurate information. Some compromise and adjustments may be needed, however, when there are delays or missing reports. Dangers of adjustments were identified.
- Strengths and weaknesses of current modelling approaches, e.g. EPP and extended back-calculation, for generating estimates of the HIV-infected population in the EU. There was strong interest in finding ways to improve modelling because current methods are difficult to use in most Member States. Many country representatives expressed interest in participating in pilot studies.
- Additional suggested indicators for testing guidance and questions on patient and staff acceptability.

Introduction

Marita van de Laar, ECDC Programme Coordinator for STI including HIV/AIDS and blood-borne viruses, welcomed the participants to the 2010 Annual Meeting of the European networks for STI and HIV/AIDS surveillance in Berlin. Participants included nominated contact points for enhanced STI and HIV/AIDS surveillance in 30 EU/EEA countries.

This is the second year that a partly combined meeting of the HIV/STI surveillance networks has been held. The focus of the 2010 meeting was finding ways of enhancing collaboration between the networks and reviewing ongoing projects. The STI meeting included 51 experts, the joint STI/HIV session 61 and the HIV meeting had 33 experts.

The STI meeting focused on enhanced surveillance of STI, the results and further implementation of the European Gonococcal Antimicrobial Resistance Surveillance Programme (Euro-GASP) and the EPIS STI platform.

Enhanced surveillance of STI

Enhanced surveillance of STI at EU level began in January 2009 with a first call for data in June 2009. The draft surveillance report was disseminated in May 2010, a second data collection took place in June 2010 and the European STI surveillance report covering 1990–2009 will be finalised after this Annual Meeting.

The European Gonococcal Antimicrobial Resistance Surveillance Programme (Euro-GASP)

Euro-GASP conducts laboratory-based surveillance for *Neisseria gonorrhoeae* susceptibility, which can be used to inform treatment guidelines. Input from the networks was requested to review the participation of EU Member States in Euro-GASP and to discuss new proposals for the implementation of Euro-GASP 2010–2012.

The EPIS STI platform

The Epidemic Intelligence Information System for Sexually Transmitted Infections (EPIS STI) is a platform for discussion and exchange of information and goes beyond simple reporting of events. EPIS STI combines microbiology and epidemiology. Input from the networks was requested in order to harmonise the event reporting in EPIS STI.

Forthcoming projects

In the next year, budget permitting, ECDC will contract for three projects: 1) an epidemiological framework for a prevalence database on chlamydia, HIV and hepatitis B and C; 2) a study on innovative approaches for testing; 3) a project on chlamydia prevention and control.

Session I: STI surveillance activities

1.1 STI surveillance data, 1990–2009 (Marita van de Laar, ECDC)

The preliminary results of the enhanced surveillance of STI 1990–2009 were presented.

Chlamydia. Based on data from the eight countries that have reported consistently during the 2000–2009 period, there has been an increasing trend. Sixty per cent of case reports came from one country, the United Kingdom. There is considerable heterogeneity in Europe on diagnostics, screening and epidemiological surveillance and this hampers interpretation. The greatest burden of disease was found in the 15–19 and 20–24 age groups.

Syphilis. Data from 14 countries that have consistently reported during 2001–2009 show an overall downward trend. However, there are diverging trends in different countries. Only 18% of cases were found in the 15–24 age group, but there are increasing numbers of cases in older age groups.

Gonorrhoea. A declining trend was evident from data from 14 countries; 58% of cases were reported by one country, the United Kingdom. Age distribution differed between countries, with the highest proportion of cases in 19–25 and 25–34 age groups. Overall, almost half of the cases occurred in young people.

The rates of STI in young people and MSM were high. Of particular concern was a large increase (up to 300%) in syphilis cases in some countries. To be able to interpret the data, the age categories need to be clear and compatible. Many countries have provided aggregate data in a fixed format which does not allow the age of patients to be identified.

Conclusions:

- Enhanced surveillance of STI is essential.
- Heterogeneity in STI diagnostics and reporting hampers interpretation of trends and comparisons.
- Completeness, comparability and accurateness need to be improved over time.
- Epidemiological parameters, transmission mode, HIV status, ethnicity, co-infection and behavioural indicators should be integrated in the overall HIV-STI surveillance.

1.2 EPIS STI (Tobias Bergroth, ECDC)

The 2009 STI Alert Annual Report highlighted 16 reports of greater than expected numbers of STI, 18 reports of congenitally acquired STI, four reports of clusters, four of gonococcal resistance and three reports of unusual laboratory observations. Overall, the level of detail in reports varied considerably, especially on gonococcal resistance, making it difficult to compare reports.

In August 2010, STI Alert was replaced by the Epidemic Intelligence Information System for Sexually Transmitted Infections (EPIS STI). The aim of the EPIS STI platform is to increase the level of interaction within the network and stimulate expert discussion. This will be evaluated during a 6–12 month period. In this testing phase, users are invited to give feedback and comment on the features.

1.3 AMR surveillance of gonorrhoea, 2009 (Michelle Cole, UK)

Seventeen countries participated in the gonococcal resistance surveillance. Involvement by other Member States needs to be improved. Ideally, for each country 110 consecutive gonococcal isolates were collected over a three-month period, October–December 2009. This period was extended for countries with low collection rates. The methodology could identify where strains show resistance or decreased

susceptibility. There is a need to be vigilant for cefixime treatment failure and re-examine therapy options.

Key findings:

- High rates of azithromycin and ciprofloxacin resistance were noted;
- There has been a 5% decreased susceptibility to cefixime; and
- There is an upwards ceftriaxone MIC drift.

Based on these findings, the conclusions of the surveillance exercise were that continued surveillance of antimicrobial resistance in *Neisseria gonorrhoeae* is essential, to monitor for emerging, increasing and high-level resistance, to inform local, national and European guidelines for therapy and to prevent the spread of infection. The first annual Euro-GASP report will be published in January 2011.

1.4 Public health benefits of routine gonorrhoea typing (Kirstine Eastick, UK)

All gonorrhoea cases in Scotland are referred to the Scottish Bacterial STI Reference Laboratory. Every year, the laboratory makes a chart of the top ten sequence types, which allows tracking of new sub-types. A key goal is to link the epidemiology and microbiology. Differences can be seen in deprived areas, urban areas and areas with high population mobility. *Neisseria gonorrhoeae* multi-antigen sequence typing (NG-MAST) can improve understanding of the epidemiology of gonorrhoea, regional differences and the epidemiology of antimicrobial resistance. It can aid surveillance of resistance and the investigation of outbreaks and clusters and help targeting of interventions, education and resources. However, there are some limitations of NG-MAST; it does not perfectly correlate to antimicrobial resistance (AMR). New/unique sequence types can be importations or mutation – and may not be 'new'.

1.5 Challenges for chlamydia typing (Magnus Unemo, Sweden)

A fast, highly discriminative, objective and reproducible testing tool for chlamydia would be extremely valuable. It would help improve understanding of strain populations and sexual transmission chains.

Considerations on typing of chlamydia:

- High level of conservation between genomes, but is recombination relatively common?
- Exceedingly high number of positive samples in many populations
- Single strain transmission pattern and in general, strain populations unknown
- Further evaluation of multi-locus sequence typing (MLST) and variable number tandem repeat (VNTR) are crucial
- In the future and in the pipeline are nano-technology, whole or part genome DNA sequencing, tiling microarray. Feasibility and the potential of added benefits: an EU or public health perspective will need to be evaluated but, at present, no added value is seen to typing of chlamydia.

1.6 Proposal for molecular surveillance, 2010–2011 (Catherine Ison, UK)

An expert group looked at the public health value of molecular surveillance, exploring different molecular typing methods for *N. gonorrhoeae*, *Chlamydia trachomatis* and *Treponema pallidum* and quality assurance systems. The findings were that molecular typing combined with demographic and behavioural data is useful for epidemiological studies in research. The method for typing should be driven by the practical need for surveillance. It should produce comparable and valid data between laboratories/countries, give unambiguous typing data with single nomenclature that is apparatus- and country-independent. The results should guide the public health response.

Typing of gonorrhoea from AMR sentinel data will give greatest public health benefit. NG-MAST is the most appropriate method, although there is need to investigate different methods to enhance discrimination. Associations between sequence type and AMR profile will be helpful and baseline data will be valuable. Quality systems will need to be implemented for NG-MAST. At present, typing for chlamydia and syphilis has no public health benefit, although it was suggested to explore EU funding for a collaborative syphilis typing study.

Session II: STI country contributions

2.1 Epidemiological surveillance of STI in Latvia (Violeta Mavcutko)

Since July 2008, laboratories have been involved in providing information to the Ministry of Health and WHO/EU. STI were reported by almost all regions of Latvia. In terms of trends, there were large increases in the early 1990s during the migration and socio-economic changes of the time. The main routes of transmission of STI are heterosexual. From 2001–2009 there was a five-fold reduction in syphilis cases. An ongoing concern is the high number of congenital syphilis cases. Current challenges include the lack of STI case management guidelines for all doctors, impact of economic crisis (payment, healthcare reform), lack of studies on STI prevalence, no methodology for doctors on how to interview STI patients on risk factors, and surveillance for gonorrhoea antimicrobial resistance is not yet in place.

2.2 Results from STI sentinel surveillance in Germany (Karin Haar)

In 2001, a new law came into force; only hepatitis, HIV and syphilis are now designated as reportable diseases. STI sentinel surveillance was implemented at the end of 2002: demographic, geographic and behaviour data is collected both monthly and quarterly from doctors, with a questionnaire on each patient and a voluntary questionnaire for each patient. Both questionnaires are merged at Robert Koch Institute. Chlamydia is the most common STI and only 1% of STI cases involve HIV. Male patients are significantly older than women and are mostly MSM. In contrast, female patients are mostly sex workers and migrants and are infected with *Chlamydia trachomatis* and *Trichomonas vaginalis*. A quarter of all gonorrhoea cases had had a previous infection in the preceding 12 months. In terms of co-infections; chlamydia and gonorrhoea tended to be diagnosed at the same time, co-infection of syphilis and HIV (9%) was also reported. For condom usage, 64% of heterosexual partners do not use condoms with their regular partners and 50% of MSM do not. Overall, STI trends are relatively stable. Co-infections are frequent, so doctors should always look for other STI in patients with one STI. The sentinel surveillance system was discontinued in 2009.

2.3 Results from STI sentinel surveillance in Spain (Mercedes Diez)

Mandatory reporting on syphilis and gonorrhoea was initiated in 1982. The sentinel surveillance project began in July 2005, covering syphilis and gonorrhoea and data are gathered from 14 specialised STI clinics in major cities. These are low threshold public facilities whose clients generally belong to core populations for STI; they are free of charge and no identification is required. Since 2007, the prison health service has been included. The sentinel system shows increases in gonorrhoea, syphilis, chlamydia and herpes. The most common STI found among young women (25–44 years) is chlamydia, whilst gonorrhoea is more common amongst men of the same age group. The conclusion is that after earlier declines, there has been an increase recorded in STI since 2002. Most cases are in males but women represent almost 30% of cases among migrants because sex work plays an important role in infection. In the native Spanish population, the vast majority of infections are found in MSM, while among migrants heterosexual transmission is the main mode. HIV co-infection levels are high, particularly associated with MSM, those aged over 34 and those of Latin American origin. Future challenges are to adapt the surveillance system to European requirements and amend the question on congenital syphilis.

2.4 Congenital syphilis reports (Vasileia Konte)

In 2009, ECDC became responsible for the coordination of enhanced STI surveillance in the EU, including congenital syphilis. This enhanced reporting uses EU case definition i.e. that only confirmed cases of congenital syphilis are reported. Data are available from 21 countries and missing from 10 countries. Challenges include heterogeneity in reporting systems and time periods. In 2008, 69 cases were reported in ten countries (seven reported zero cases) and 44 cases were confirmed. Many countries do not report and therefore the actual number is likely to be under-estimated. Another way to investigate could be to analyse the rate by 100,000 live births instead of 100,000 population. Another issue to explore is whether a change in syphilis in women is followed by similar change in incidence of congenital syphilis. There is a public health interest in managing congenital syphilis: early prenatal care is an essential part of congenital syphilis prevention because it facilitates early detection and treatment of maternal syphilis. Policy guidelines for universal screening are in place, levels of antenatal attendance are generally high, screening and penicillin treatment are low cost.

2.5 Spotlight on chlamydia (Irina Dinca, ECDC)

The 'Spotlights' are a new communication product from ECDC. Each edition of Spotlight focuses on one subject, bringing together all available data and scientific advice. It translates existing knowledge into a user-friendly product that is tailored for the needs of various audiences. Spotlights target public health experts who are in a position to influence prioritisation, budget allocation and policies important to STI control. The format is concise, with no more than three key messages. The aim is a document that can be easily updated and has a long-life usability. The Spotlight on chlamydia used the slogan "high numbers, low awareness". The next Spotlight, to be published on World Aids Day (1 December), will address HIV/AIDS.

Session III: STI working groups

3.1 STI surveillance report, including AMR

The first STI workshop used an innovative methodology to encourage active participation by all delegates and maximise engagement. An adapted form of the 'open space' approach¹ to meetings was used to encourage free movement between informal small group discussions. The conversation flow was mapped out on flipchart paper, allowing new entrants to grasp the discussion so far and add new points. This resulted in a very rich exchange, sparking bilateral and group exchange. Reporting back to the plenary involved highlighting key elements of the discussions rather than a traditional list of recommendations. The network participants agreed that this approach was fruitful in opening up new channels of communication and setting an interactive tone for the meeting. Eight topics were suggested and discussed and volunteers were found to host the small group discussions and to report back to the plenary.

1. Interpretation of trends (Gwenda Hughes)
2. Suggestions for advanced statistics (not chosen)
3. Over- and under-reporting (Susan Cowan)
4. Better use of data from sentinel surveillance systems (Osamah Hamouda)
5. Review of process of data collection (Viorica Gheorghiu)
6. Review the description of national surveillance systems (Vasileia Konte)
7. Suggestions for regional STI presentation (Inga Velicko)
8. Comments on the 2009 AMR gonorrhoea report (Tania Crucitti)

STI Working Group 1.1 & 1.3: Interpretation of data and trends, under- and over-reporting

Moderators: Gwenda Hughes and Susan Cowan

Participants: Austria, Bulgaria, Czech Republic, Denmark, France, Germany, Greece, Italy, Ireland, Latvia, Lithuania, Poland, Portugal, Spain, Sweden, United Kingdom.

The groups noted that:

- Current reporting systems are very variable and there is no single standard EU graph yet showing the trends.
- In these early days of European surveillance, we should not try to depict multiple trends in one graph or have a 'one size fits all approach'; use different graphs and try to combine 'comparable' countries.
- Challenges to trend interpretation include under- and over- reporting.
- Under-reporting can result from inconsistent data submission by doctors and stigma may lead to under-reporting.
- Over-reporting may reflect non laboratory confirmed cases or the size of the population.
- Technical reasons for under-/over- reporting included use of different testing kits and algorithms.

¹ Open Space invites people in a system to take responsibility for issues they care about with others who also have energy for that issue. In essence, participants create their own agenda, run discussion groups and action plan around the things that matter to them, in relation to a key organising complex question.

- Country 'best guess' estimates based on the best evidence the country experts can produce can point to problems with under-reporting.
- Reporting will improve as countries standardise their formats.
- The aim of the process is to identify where (and explain why) there are major changes in STI infections.
- Integrating the well resourced HIV and poorly resourced STI systems could improve the overall surveillance system.
- Different diseases can be particular challenges: for example, for syphilis, where terminology and definitions are not always consistent or clear, diagnosis is difficult, with many false negatives and positives; confirmatory investigations are often lacking and follow-up as enhanced case based surveillance is needed.

The groups identified the need for:

- more explanation of differences in surveillance systems (e.g. sentinel/comprehensive, voluntary/mandatory);
- better labelling/caveats on graphs and tables – for example, careful demarcation on graphs and reports of changes in laboratory technologies and revisions of inclusion criteria for surveillance;
- better reporting and identification of which countries have insufficient data;
- new diagnostic tests (for example, serology tests for gonorrhoea and chlamydia); and
- grouping by population size, trend direction (up/down), and specified profiles.

STI Working Group 1.4: Better use of data from sentinel surveillance systems

Moderator: Osamah Hamouda

Participants: Belgium, Bulgaria, Denmark, France, Greece, Ireland, Italy, Lithuania, Netherlands, Norway, Slovakia, Spain

The key informational elements identified that need to be integrated into the sentinel surveillance system included:

- aims (e.g. whether monitoring trends, behavioural patterns, etc.);
- proportion of the population covered;
- proportion of cases covered;
- population/target group surveyed;
- financing of sentinel systems;
- characteristics of sentinel sites: private, public, laboratory, etc.;
- catchment/recruitment areas;
- access (paid/free of charge);
- named/anonymous;
- representativeness;
- geographical coverage;
- testing policy (triage);
- (quantitative) information on denominator;
- statistical support; and
- heterogeneity of diagnostic approaches.

STI Working Group 1.5: Review of process of data collection

Moderator: Viorica Gheorghiu

Participants: Austria, Latvia, Slovakia, Bulgaria

Points raised included:

- difficulties associated with change of variables between national and regional systems;
- challenges in reconciling differences between national reporting systems, for example, federal versus national;
- problems related to differing data protection laws;
- that change needs time (for example, adaptation of national systems to ECDC Tessy systems);
- the need to reduce the data gathering burden (for example, overlaps between EPIS with Tessy reporting requirements); and
- the value of regular 'review' reports, which can help stimulate change by identifying missing variables, non-reporting and giving opportunity for feedback.

STI Working Group 1.6: Review the description of national surveillance systems

Moderator: Vasileia Konte

Participants: Belgium, Bulgaria, Estonia, Finland, Germany, Ireland, Italy, Lithuania, Malta, Netherlands, Slovakia, United Kingdom

The group felt that the key challenge was to develop a unified approach to surveillance system descriptions. Description could be presented in text or tables. An example of how this might work was explored for chlamydia. It was recommended that the following information be included:

- Data source
- Legal status of source
- Who is reporting to the national institutes
- Period of report
- Coverage: comprehensive or sentinel
- Comments on every change which could explain an increase or decrease of reported cases
- Case definitions
- Variables selected
- Geographical coverage

STI Working Group 1.7: Presentation of regional STI information

Moderator: Inga Velicko

Participants: Belgium, Estonia, Ireland, Italy, Lithuania, Netherlands, Norway, United Kingdom

Key points raised included the need to:

- group by people at risk for STI/HIV (e.g. MSM, youth, commercial sex workers, migrants – noting that clear definitions are needed for these latter two groups);
- group data starting from 2008 based on the EU case definition;
- include data for EU, neighbouring countries and Switzerland, ensuring that surveillance systems are comparable (e.g. sentinel focused on risk groups vs comprehensive system) and noting that social systems will affect who presents themselves for testing;
- use other data sources such as published academic papers, BorderNet, etc., in order to remove grey areas of missing data;
- group by testing site: public, private, GP, immigration centre. The context for this is that they will have different catchment areas and geographic distribution;

- be sensitive to political issues related to grouping for some countries; and
- consider using GDP as a criterion or indicator for grouping.

STI Working Group 1.8: AMR 2009 surveillance report

Moderator: Tania Crucitti

Participants: not recorded

The group noted that:

- strengths included standardized methodologies and use of both EQA and control strains.
- weaknesses included not having 100% of the EU represented, inclusion of epidemiological data without identification of surveillance sources and variable number of isolates for different countries.

The group suggested that:

- the report should be made available electronically and in hard copy, with a short summary and key messages for policy-makers and wider audiences;
- more detail should be made available electronically for technical and professional audiences;
- standardised breakpoints should be decided for EU; and
- special attention should be given to susceptibility data, for example pharyngeal isolates and cefixime.

3.2 Implementation of Euro-GASP

The objective of these working groups was to review the participation of EU Member States in Euro-GASP and to discuss the new proposal for the implementation of Euro-GASP 2010–2012. Countries that currently participate in Euro-GASP explored how they could assist in strengthening European surveillance of *N. gonorrhoeae* susceptibility (STI working group 2a). In addition, countries that currently do not participate in Euro-GASP explored how they could contribute in the future (STI working group 2b).

The topics for discussion by both working groups were:

- Decentralised testing
- Increasing sampling frequency
- Link with epidemiological data
- Set of variables
- National protocol for implementing Euro-GASP at national level
- EQA for *N. gonorrhoeae* susceptibility testing

STI working group 2a: Implementation of Euro-GASP for participating countries

Moderators: Michelle Cole, Magnus Unemo

Rapporteur: Maria-José Borrego

Countries participating: Austria, Belgium, Denmark, France, Germany, Greece, Italy, Latvia, Malta, Netherlands, Norway, Portugal, Slovakia, Slovenia, Spain, Sweden, United Kingdom

Decentralised testing

The list of antimicrobials to test was discussed and the consensus was that countries should still be able to participate in decentralised testing even if the full list of antimicrobials was not tested. This is a limitation of decentralised testing. It was agreed that as a minimum, cefixime and ceftriaxone should be tested by all countries.

In terms of which breakpoints to use, it was suggested that the same breakpoints that are already applied in Euro-GASP should be utilised (and should be consistent with EUCAST). To ensure consistency and quality of submitted data from decentralised testing, appropriate control strains should be used. How many strains and how often they should be tested needs further thought. A document on which control strains to be used could be developed for those laboratories performing decentralised testing. This should include details on how long to store the control strains, how many times to subculture, etc. There may also be information on this from EUCAST or CLSI.

There was some discussion on the concept of submitting consecutive isolates. It was suggested that it may be more beneficial that isolate data with linked epidemiological data is submitted even if they are non-consecutive. The reporting protocol should be updated to state that non-consecutive isolates may be submitted if more epidemiological data is available, but the isolate data should be from within the time-specified period and this should cause no bias, i.e. all isolates with data are from just one city STI clinic.

Countries at the meeting that would like to be involved in decentralised testing are United Kingdom, France, Portugal, Belgium, Spain, Netherlands, Sweden and Denmark.

Increasing sampling frequency

Overall, there were concerns about quarterly testing and it was decided that quarterly testing should be postponed; it could be piloted in 2012.

TESSy

Details on what exactly each participating laboratory uploads to TESSy should be determined. It was made clear that it is up to the national contact points as to who uploads the data. If individual countries agree, staff from ECDC (or HPA as contractor) could submit AMR and epidemiological data (or could prepare the dataset for uploading) on behalf of the countries and countries can approve the uploaded datasets. This could be seen as an interim solution as, in principle, each country should submit their own data. The national protocol would need to specify the national arrangements for collecting and submitting the AMR and epidemiological data.

There was concern about when the data should be submitted, as some countries do their AMR testing in batches and they do not want to submit to TESSy before their own national annual report. It was clarified by ECDC that countries should only upload their data when they are ready but that in general, ECDC always sends the draft report to individual countries for validation and never publishes anything without the approval of countries. The reporting in TESSy may also facilitate a more timely national report on AMR surveillance on gonococcal resistance.

It was suggested that countries should be able to upload more data than the suggested 100–200 per year. The protocol should be updated to state the suggested numbers are a minimum.

Set of variables

It was discussed whether in-between MIC values generated by using E-tests should be input into TESSy or whether laboratories should round up the values to the full doubling dilution. For analysis it would be easier if the full dilutions were uploaded but there is value in submitting the raw data. A member of the TESSy team stated that it would be no problem to have the E-test half values in TESSy.

There was some concern about the value of some of the variables listed, in particular previous gonorrhoea. It was stated that this is a difficult question without reliable answers. The value of this variable is that it gives insight into the behaviour of high-frequency transmitters. A time period should be made clear in the variable description.

It was suggested that as a minimum, data should specify age, gender, site of infection, probable country of infection and sexual orientation. However, some countries stated that country of infection and sexual orientation may be difficult to obtain.

It was decided that the list should stay as it is and people should submit what they can.

Linking the AMR and the epidemiological information

The question of how difficult it would be to link AMR data from the laboratory with epidemiological information submitted by the epidemiological contact points into TESSy was discussed. It was suggested that the microbiologists should aim to continue to gather the epidemiological data as they currently do, which can be through direct contact with the clinics, data submitted with the isolates or contact with epidemiologists. Data should be combined before they are submitted to TESSy; however, partial data can be submitted (to achieve a reasonable timeliness) and can be replaced by a full dataset once all results are integrated. ECDC will provide appropriate spreadsheet that will facilitate the coding and reporting of the variables until they are integrated in TESSy.

EQA for *Neisseria gonorrhoeae* susceptibility testing

The EQA for *Neisseria gonorrhoeae* susceptibility testing was briefly discussed and everyone seemed happy with the current scheme. An email is due to be sent out to all Euro-GASP participants to determine why everyone does not participate in the UKNEQAS genital pathogens scheme.

Conclusions

The reporting protocol will be amended according to suggestions, to take into consideration the minimum set of antimicrobials to be tested, the uploading of data into TESSy, the removal of the pilot of quarterly testing and the testing of non-consecutive isolates.

STI working group 2b

Moderators: Steen Hoffmann, Catherine Ison

Rapporteur: Peter Kohl

Countries participating: Bulgaria, Cyprus, Czech Republic, Estonia, Finland, Hungary, Ireland, Latvia, Lithuania, Poland, Romania, Slovakia

STI working group 2b consisted of participants from countries that are not currently participating in Euro-GASP. The discussion was initiated by asking each country to describe the method for diagnosis of gonorrhoea, with particular regard to their ability or experience with culture for *Neisseria gonorrhoeae*.

Description of diagnosis of gonorrhoea, by country

Bulgaria

A national laboratory performs PCR for *N. gonorrhoeae* but additional work is done to confirm results. As of this year, Bulgaria has additional funding and support from The Global Fund for the networking of STI. The Bulgarian participants mentioned that Bulgaria does not seem to have a problem with its HIV system but does have problems with its STI systems. If Bulgaria were to receive international support, it should

be able to participate in the surveillance programme. It was suggested that Bulgaria could consider attending the STI training course which is held in May 2011 in London.

Cyprus

Cyprus performs culture for surveillance and performs MIC sensitivities but does not perform E-tests as yet. The numbers of gonorrhoea cases reported do not reflect the true numbers of cases, as these include only government-sector cases, as the private sector is not obliged to make public its results.

Czech Republic

There are no reference laboratories available for *N. gonorrhoeae* but there are reference laboratories available for syphilis and chlamydia. There are about 1000 cases of *N. gonorrhoeae* per year and both culture and PCR are used to diagnose but PCR is used mainly.

Estonia

There are about 100 to 140 cases of *N. gonorrhoeae* per year and the majority of these cases were diagnosed by PCR. At present, culture is not being used.

Finland

There are about 200 cases of *N. gonorrhoeae* per year. Culture specimens, about 50–60 a year, are sent to the one laboratory in Finland. GPs use PCR to diagnose gonorrhoea and laboratories use culture. There is about a 60% resistance level to Ng and ceftriaxone is used as treatment.

Ireland

Ireland has problems with establishing a laboratory contact point for STI and getting epidemiological data. It has participated in the previous ESSTI surveillance programme and it is envisaged that it will be possible to participate in Euro-GASP.

Latvia

There are about 300 male cases of *N. gonorrhoeae* per year and 100 female cases per year. Only few laboratories use culture.

Lithuania

As a result of the political and economic situation within the country, it is not clear which is the national laboratory. It is therefore difficult to get involved at the moment but Lithuania would like to be involved in the surveillance programme in the future. Laboratories in Lithuania do not presently perform *N. gonorrhoeae* cultures.

Poland

There are no reference laboratories in Poland and there are only a few laboratories across the country. Diagnosis is done by culture. Poland's notification system is currently not working very well.

Romania

Doctors refer *N. gonorrhoeae* to specialists, and reference laboratories perform testing mainly using culture. At present it is difficult to get specimens from district laboratories and so difficult to get representative isolates.

Slovakia

There are no reference or national laboratories in Slovakia, only private laboratories. Diagnosis of *N. gonorrhoeae* is done by both culture and PCR.

Reasons for lack of participation

There were three reasons for non-participation: lack of resources (three countries only), lack of communication within the specific country, or the nominated contact is not the most appropriate person and has no link to the laboratory performing culture.

Conclusions

Despite the problems that need to be overcome, there were at least four or five countries who hope to start collecting isolates for Euro-GASP: Czech Republic, Slovakia, Cyprus, Latvia and Poland. The HPA will send an email - through the ECDC - to all participants in this working group to discuss how to make progress.

Session IV: HIV and STI common topics

4.1 Welcome and update on HIV and STI activities (Marita van de Laar, ECDC)

An update on the HIV/AIDS, STI and hepatitis programme at ECDC was presented. The focus was on surveillance of diseases and behaviours, guidance on key prevention strategies, monitoring and evaluation programmes and the follow-up to the Dublin Declaration on HIV/AIDS and EU Action Plan. Since 2008, ECDC has coordinated surveillance of HIV/AIDS in 53 European countries in collaboration with WHO/Europe. ECDC also publishes an Annual Report on HIV/AIDS and hosts an annual meeting. In January 2009, ECDC took over coordination of the STI surveillance network, including a project on STI microbiology. A first round of data collection took place in June 2009 and a second call for data was organised in June 2010, which will be used for an STI surveillance report 1990–2009. The information system (EPIS) is already successfully being used for STI and it could be adapted for HIV and hepatitis. ECDC has just launched a new network on hepatitis B/C.

ECDC is developing a general framework (2010–2013) on behavioural surveillance related to STI and HIV. This will involve a toolkit with technical guidance, assessment on populations and methods, assistance for implementation of behavioural surveillance through pilot projects, and workshops. There has been thematic focus on specific groups at risk: MSM, migrants and now IDU. ECDC and EMCDDA will jointly publish guidance on prevention of communicable diseases in IDU in 2011. On HIV testing, ECDC is planning to launch guidance at a seminar in the European Parliament on 1 December. There is also a new three-year project for HIV modelling to develop better HIV prevalence estimates for European epidemics.

In 2011, there are opportunities to work with ECDC on projects to develop an epidemiological framework for a prevalence database on hepatitis B/C, HIV and chlamydia; innovative approaches for testing (internet tests, SMS results, etc.); HIV and hepatitis prevention control strategies (screening options); public health prospects for future prevention tools (treatment as prevention, vaccines); chlamydia prevention and control; and consultants for STI and HIV.

4.2 The European MSM Internet Survey (EMIS) (Axel J. Schmidt, Germany)

EMIS is the first European MSM internet survey, organised in 23 languages and using the same indicators for 33 participating countries. The project involved a wide range of academic, government, NGO and industry media partners. MSM were recruited online between June and August 2010 under the slogan “Be part of something huge” and more than 184,000 men responded to the internet survey. This corresponds to more than 3% of the estimated national MSM population in Austria, Belgium, Denmark, Estonia, Finland, Germany, Ireland, Latvia, Luxembourg, Norway, Portugal, Slovenia, Spain, Sweden, and Switzerland; and to more than 2% in Cyprus, Czech Republic, Greece, Hungary, Italy, Lithuania, Netherlands, and the UK. The survey covers all six ECDC-suggested core indicators (number of sexual partners in the last twelve months, use of condoms at last anal intercourse with steady and non-steady partners, recency and result of last HIV test, having paid for sex in the last 12 months, contextual indicators (International Standard Classification of Educational Degrees [ISCED], sexual orientation, nationality), knowledge regarding sexual HIV transmission). Further included are 9 out of 10 ECDC-suggested MSM-specific indicators. Preliminary results could not be given as data collection had just been closed.

4.3 SIALON results on HIV and syphilis in MSM (Massimo Mirandola, Italy)

The aim of the project was to estimate HIV prevalence among MSM (Verona, Barcelona, Athens, Prague, Bratislava, Ljubljana and Bucharest) using oral fluid samples and risk behaviour, using a self-report questionnaire, and to model sexual behaviour risk patterns by cross-referencing behavioural and biological data. A venue/date/time sampling (VDT) method was used. Conclusions were that the VDT method works well in cities where the MSM community is well organised with easily accessible venues. VDT does not take into account other recruiting options such as internet, chat rooms and gay magazines, which means the estimate of HIV and risk behaviour may be biased. For surveillance, oral fluid testing has an advantage over blood tests in community settings. UNGASS and ECDC indicators are useful for basic HIV monitoring. Despite the lower prevalence of HIV in Central European cities, the current level of unprotected sex with casual partners and low frequency of HIV testing means high risk of further HIV transmission. Alcohol consumption is broadly reported. Use of drugs and poppers before or during sex may lead to high-risk behaviour and suggests a need for prevention programmes. Multivariate/multilevel statistical analysis should be used as a further step.

4.4 Update on the evidence of HIV treatment as prevention – Danish experience and highlights of AIDS 2010 ‘treatment is prevention’ (Susan Cowan, Denmark)

What is the true MSM incidence of HIV in Denmark? The researchers looked at the number of new diagnoses, which has been stable for more than ten years. The pattern of testing has also been stable for more than four years and CD4 counts at diagnosis have been stable for over five years. Levels of new infections have gone down, but levels of unprotected sex and unsafe sex by HIV-positive men have gone up. The transmission rate is decreasing but this is not due to safer sex practice. The most likely explanation for conflicting trends is a high proportion of HIV-positive men who are receiving ART treatment and thus do not transmit HIV. Ongoing transmission among MSM is driven by undiagnosed, untreated or inadequately treated HIV-positive MSM.

Test and treat conclusions were that ART treatment is not prevention unless there is adequate monitoring and checking. ART has the power to reduce onward transmission of HIV but magnitude and duration is unknown. There is evidence that HAART lowers transmission. There is near zero transmission at immeasurable viral load, but the viral load has to be stable (adherence), although the effect can be offset by transmission from undiagnosed, newly-infected individuals. We need to find the balance point and tip it: test more, treat earlier, work on stigma and make more ‘Swiss statements’ (such as the consensus statement in 2008, which stated that HIV-positive individuals on effective antiretroviral therapy and without sexually transmitted infections (STI) are sexually non-infectious).

4.5 HIV incidence and prevalence in STI patients in Italy (Barbara Suligoi, Italy)

The sentinel surveillance system in Italy has operated since 1991, covering 12 public STI clinics. The trend in STI has been relatively stable, with a total number of reported 51,000 cases and median age of 31. All STI patients are offered HIV tests but only 71% take up this offer. The trend in HIV prevalence has decreased from 9% in 1991 to 4% in 2007. The big decreases have been among women (from 9% to 2%) and MSM (34% in 1994 to 15% in 2007). What is the proportion of new HIV diagnoses among new STI infections? Behind the 5.7% of HIV-positive patients among the STI patients tested for HIV, 72% already knew they were HIV-positive. So the trend is an increase of new HIV diagnoses, meaning that the overall downward trend hides a pattern of undiagnosed HIV. New HIV diagnoses are strongly related to being young and being a foreigner. There was also a longitudinal study of patients with an earlier documented negative HIV test and then tested for HIV again when tested for another STI. The

midpoint between these dates was considered as the seroconversion moment. Highest incidence was found among MSM who had positive test results for syphilis. After 2001, there was an increase in new HIV infections among STI patients. However, multivariate analysis shows a connection between MSM having more than two partners and having a bacterial STI (especially syphilis). The proportion of new HIV diagnoses among STI patients has increased over time, particularly among repeat testers (after 2000), although this estimate is affected by the HIV testing patterns. Monitoring the HIV spread using HIV prevalence among people being tested for STI is no longer informative in the HAART era. HIV estimates should therefore be based on assays.

4.6 Ongoing LGV outbreak in MSM in the United Kingdom (Gwenda Hughes, UK)

LGV emerged with a series of outbreaks in Europe in 2003. A diagnostic reference service was created in UK and an enhanced surveillance system launched. The majority of cases were found in large cities, with 99% among MSM. The median age was 38, 90% were white and 80% acquired the infection in the UK. Seventy-one per cent of MSM LGV patients reported unprotected anal intercourse and there were about 50 known re-infections. Seventy-five per cent of the diagnoses were HIV-positive patients, with 53% of diagnoses on HAART. During 2010, the total number of LGV cases exceeded 1,000, the largest documented outbreak in the world. Recent cases are slightly more likely to be HIV-positive and older. LGV acquisition is associated with meeting partners on the internet, at parties and in saunas, dense sexual networks, simultaneous partners, sexual practices and poly drug use. This is part of a broader phenomenon of HIV-positive MSM seen for care for an acute STI within a 12-month period (8%). Much greater awareness is needed, particularly about symptoms of LGV, risks of multi-partner situations and the use of condoms.

4.7 Short overview of antenatal screening programmes for HIV and STI (Johann Fontaine, ECDC)

Most EU countries have in place antenatal HBV and HIV screening programmes, but the picture is less complete when looking at other STI, particularly syphilis. In terms of gathering comparative information across the EU, the open questions are terminology, context (healthcare or public health function, nationwide or national, content of antenatal care), coverage/participation, access, details on screening practice (who, when, where) and linkage to surveillance systems. One of the most surprising findings is that data generated by antenatal screening programmes are not often used for surveillance and evaluation purposes. It was stated that the overview of ANC screening programmes needs to be updated.

4.8 Effectiveness of antenatal screening for HIV, hepatitis B and syphilis, 2006–2008, Netherlands (Eline Op de Coul, RIVM)

The programme collects data on HBV, syphilis and HIV from screening at 12 weeks of pregnancy. Population coverage is high at over 97%. The research asked how many pregnant women and newborns test positive for HIV, HBV or syphilis. It further asked how many congenital/perinatal infections could be prevented by screening and consecutive treatment. There were limitations to the research: some confirmation results were missed, known positivity was often the reason for the lack of a confirmation test and there were many false positives. In summary, there was high test coverage, after 2004 more Dutch women with HIV were identified, and this was accompanied by a sharp decrease in numbers of HIV-positive children. Screening prevented an estimated 5–10 cases of HIV, 50–75 cases of HBV and ten

syphilis infections among newborns per year. Therefore, screening is effective and most likely cost-effective.

4.9 Antenatal screening for HIV and syphilis, Bulgaria (Tonka Varleva)

The national health insurance fund in Bulgaria covers testing for HIV and syphilis for pregnant women, treatment for syphilis for women, treatment for congenital syphilis and hepatitis B for all patients. However, women in the most-at-risk groups do not have health and social insurance. Since 1986 there has been an increase in new HIV diagnoses. IDU represent 43% of cases but in 2009, MSM comprised 70% of total new HIV-positive cases. HIV testing of pregnant women in public health facilities has dropped from 40% in 2001 to 5% in 2008. Using data from all laboratories (public and private), about 44% of pregnant women are tested for HIV. However, there are huge variations in coverage between cities, ranging from 84% in Sofia to just 6% in other cities. In December 2009, new national HIV testing guidelines were introduced, covering testing of pregnant women and screening for HIV of children born to HIV-positive mothers. There is an alarming trend of increasing congenital syphilis, found in children born to mothers from vulnerable communities, e.g. Roma. In 2005, vulnerable groups such as Roma, IDU and sex workers showed high levels of STI such as syphilis and hepatitis. Next steps are to ensure HIV/STI prevention case management of pregnant women from poor and vulnerable populations; to update the guidelines for STI management, including pregnant women; to coordinate national policies for sexual and reproductive health; and to advocate for the introduction of sexual and health education based on life skills in school curricula.

Session V: HIV surveillance related projects

5.1 HIV resistance – EU public health value of HIV ARV surveillance (Barbara Bartmeyer, Germany)

ECDC commissioned a project (to the Robert Koch Institute) to assess whether there is an added public health value of EU monitoring of ARV resistance among newly diagnosed individuals. The project will also review the added value of genetic sequence data collected as part of ARV resistance monitoring. The preliminary results of the study are as follows:

1. Added public health value for EU to implement the surveillance of resistant HIV:
 - Information about the spread of transmission of drug resistance will provide information needed to design actions on prevention and control in patients at risk.
 - High quality HIV resistance surveillance data will influence recommendations for guidelines.
2. Added value of using genetic sequence data as part of ARV resistance surveillance:
 - Unique resource for epidemiological research in the field of HIV
 - Information about spread of HIV, increase of non B subtype
 - Further influence on outbreak investigation

The final report of the assessment will be drafted in 2011.

5.2 HIV testing guidance – state of the art (Johann Fontaine, ECDC)

ECDC has produced an inventory of policies on HIV testing, a literature review and a survey of practices and barriers at policy, patient, activist and provider levels with respect to HIV testing. Based on this survey, HPA has been commissioned to develop HIV testing guidance. The task involves producing a synthesis of the evidence and a guidance document. This would cover individual and public health effects of HIV testing and treatment, barriers to testing, strategies to increase HIV testing, and appropriate settings to increase update and effectiveness of HIV testing. The results of the evidence synthesis show that there are some knowledge gaps, such as acceptability and effectiveness of non-traditional settings, e.g. acute and primary care settings, prisons, etc. There is only one study (France) on the cost-effectiveness of HIV testing in Europe. Much of the evidence comes from the US and there needs to be more research on these topics. The guidance document will set out who to test, where and when to test, how to test, how to ensure access to HIV treatment and care, monitoring and evaluation.

5.3 Tuberculosis and HIV co-infection: challenges for improving surveillance (Emma Huitric, ECDC)

ECDC has commissioned HPA to carry out a study on TB/HIV co-infection surveillance in Europe. This has started with an internet survey sent to the nominated contact points for TB and HIV.

Both epidemics are feeding on each other in Europe. For every year of life there is a 10% risk of HIV-positive people getting TB or re-activating TB. There is a large difference between notification rates and trends. The challenge for the EU/EEA region is that 23 countries have less than 10% MDR-TB and low incidence, three countries have high notification and low MDR-TB, and four countries have high incidence

and high MDR-TB. Some countries are getting close to elimination and others are working on stopping the increase of TB. In Europe, co-infection rates are 3.1%, based on data from those countries that have provided data.

The proportion of diagnosed co-infections actually captured in the existing data is not well known. A correlation exists between the HIV testing levels and high TB/HIV co-infection levels, but only 23 countries recommend testing TB patients for HIV and 14 countries recommend screening people living with HIV for TB. There are some barriers to this screening: whereas HIV testing is anonymous, TB control is case-based so patient confidentiality legislation is a challenge. Other structural issues include a lack of collaboration between TB and HIV surveillance and reluctance of clinicians to report. Suggested solutions could be stimulating collaboration between the two systems, promoting HIV and TB screening, increasing national funding and developing a system of reporting HIV status within the TB surveillance system.

5.4 Framework for HIV incidence studies (Valerie Delpech, UK)

ECDC has commissioned a literature review on HIV incidence studies and developing an epidemiological framework for HIV incidence studies in Europe. Policy-makers and health care managers need to have an accurate picture of HIV incidence. A literature review looked at 440 peer reviewed documents; most (>60%) studies were sentinel STI clinics and 47 were based on Recent Infection Testing Algorithms (RITA). There are a number of issues that need to be resolved, such as variations in study design and selected populations, representativeness and generalisability, variety in RITA assays, variation in window periods, etc. Other issues include different statistical approaches to estimated incidence using RITA and fractions of non recent infections that are incorrectly classified as 'recent' as a result of applying a RITA. In conclusion, we need a more coordinated approach to using RITA tests, because the public health utility depends on robust incidence estimates. The suggested best approach for Europe is to integrate RITA as part of routine new diagnoses surveillance, incorporating case-based information as a critical component of a RITA to reduce false result rates and other biases. Reports will be finalised near the end of the year and ECDC is planning to carry out a pilot study in a number of countries on MSM in 2011–2012. Details will be discussed in the working group on this topic.

5.5 Improving data quality in HIV surveillance (Giedrius Likatavicius, ECDC)

ECDC aims to enhance and harmonise European HIV/AIDS surveillance methods. It also supports national efforts to improve HIV/AIDS surveillance. HIV data for previous reports were presented by date of notification. Since 2009, data have been presented by date of diagnosis. Data collection taking place in September usually takes into account most of the diagnosed cases for the previous year. However, several countries update the number of cases significantly upwards in the following year. For HIV, reporting delay is most pronounced for the first year and usually does not extend more than two years. Changes in reporting data for longer periods are related to changes in surveillance system, update of information on specific cases and removal of duplicates, which usually has little impact on numbers. For AIDS, reporting delay is usually longer. Several countries are applying different methods to adjust reporting delays. Historically, the 'Heisterkamp' approach for reporting delay of AIDS diagnosis was applied. However, this has several limitations. It may be applied for countries reporting more than 50 cases of AIDS. This takes into account different delays by transmission mode. However, there is an increasing trend of incomplete information on mode of transmission. The HIV surveillance report seeks to improve comprehensiveness of the data, present the completeness of variables, implement data quality reports for selected variables and set minimal standards for inclusion of country data for analysis. There is a working group with some Member States to improve HIV surveillance data. In the short term this

involves grouping of countries and reporting trends at European level, and in the mid to long term surveillance data on HIV incidence at national and European level.

Session VI: HIV working groups (part 1)

HIV working group 1: HIV incidence – framework and pilot (Rapporteur: Barbara Suligoj)

ECDC has launched a project on developing an epidemiological framework for conducting HIV incidence studies within Europe using Recent Infection Testing Algorithms (RITA) tests. The purpose of the working group was to discuss the epidemiological framework for the HIV incidence project; to provide a short presentation of RITA results among newly diagnosed persons as part of routine surveillance in France and UK; to discuss the feasibility of introducing RITA testing across Europe; to discuss factors that need to be taken into account when interpreting the proportions of recent infections; to discuss the caveats when comparing between countries in Europe; and to establish the criteria for countries to participate in the study.

Based on the outcomes and recommendations of the working group, ECDC will finalise the literature review and framework, list criteria and prepare for second phase (pilot protocol in a number of countries), probably as part of HIV case-based surveillance in MSM in 2011.

Data collected in France between 2003 and 2008, based on the national surveillance of new HIV diagnoses and the EIA-RI assay, was presented.

ECDC is proposing that countries participate in a pilot project aimed at implementing the use of a recent HIV infection assay/algorithm (RITA) in European countries (preferably in MSM populations).

Essential individual data that must be collected to participate in the pilot study:

- Previous HIV test: result and date
- CD4 cell count
- AIDS stage
- Previous ART

Criteria for selection of participating countries:

- Number of new HIV diagnoses per year (preferably MSM)
- Completeness of individual data requested
- Possibility of performing RITA assay in the country (decentralised testing)

Benefits of using the proportion “recent HIV infections/new HIV diagnoses” when HIV incidence cannot be calculated because of missing denominators:

- One-shot picture of current at-risk groups
- Raise awareness
- Comparability between countries
- Disaggregation by subgroup
- Trends of proportion over time

Factors that must be taken into account for possible bias:

- Testing pattern (proportion of frequent testers)
- Under-reporting of new diagnoses
- Missing individual data
- Comparability of RITA window periods (if different assays are to be used)
- Lower accuracy of some RITA with non-B HIV subtypes

Countries that would be willing to participate in the study:

- Countries that already perform RITA: Ireland, Italy, Finland, Germany, Spain, UK
- Countries that do not perform RITA: Netherlands, Slovakia, Czech Republic, Hungary, Latvia, Estonia, Bulgaria, Portugal.

HIV working group 2: Improving data quality in HIV surveillance (rapporteur: Eline Op den Coul)

This working group was tasked to discuss two topics:

- Data quality improvement – to determine the best approach to grouping countries for presentation of HIV surveillance data in Europe
- Adjustments for reporting delay for HIV cases, reported by date of diagnosis – to determine the most appropriate method for reporting delays for HIV diagnoses at European level

It is important to identify the main characteristics and trend of the HIV epidemic. Better describing of the trends and associated characteristics helps to understand the reasons behind the shift in the epidemic. Development of presentations of epidemiological information at European level helps to describe the HIV epidemic in the global context and improve national surveillance systems. A geographical grouping into west, central and eastern Europe was used historically. This was a simple grouping, based on geographical and epidemiological considerations, used for more than two decades. Although it depicts relevant migration patterns and effects in different parts of Europe, the situation today has changed significantly and the current grouping of countries needs to be reviewed.

The goal of the data presentation is to depict relevant epidemiological trends and incite action by policy-makers, provide good representability and comparability of data with other diseases (e.g. STIs) and facilitate presentation of epidemic information at regional/global level.

Other proposed ways of grouping countries include by:

- Epidemic type (low level/concentrated/generalised);
- GDP, which is a proxy for standard of living;
- Political orientation (EU/EEA and others);
- Stage of infection of HIV;
- Trend: increasing, stable, decreasing HIV epidemic; and
- Completeness of data submission (known or unknown transmission modes).

As a general principle it was agreed that grouping of countries should not be by criteria from the output of surveillance data (e.g. transmission mode, trends, etc.).

One final, simple suggestion was to use EU (former west), EEA/EFTA (potential candidate countries) and eastern European countries (former east). A key question to be kept in mind in reference to different country groupings is, how does the data presentation relate to the public health response and how would it provide added value?

Trend analysis is an important part of the description of the HIV epidemic. It helps to describe overall change of patterns over time, compare geographical areas, compare populations and make projections. However, HIV/AIDS surveillance data are subject to reporting delays. Reporting delays refer to the time between diagnosis or death and report of this event at national level. Reporting delays vary widely between countries and other variables, such as transmission modes.

Several dates are collected within the European HIV/AIDS surveillance system. Since 2009, data have been presented by date of diagnosis, replacing date of notification reported previously. The working group had the following message for ECDC: quality assurance is key. The aim is to publish only accurate information. However, we should not wait too long for the perfect, complete data. Countries need to be

asked why they cannot deliver data. There could be some dialogue with countries about the real situation regarding reporting delays and what constitutes an acceptable delay. There was a 5–10% level proposed. The possible reasons for the delay were provider initiated or transmission mode related. Ascertaining of certain transmission modes may take additional time. However, there are some difficulties with the collection of risk factor data because of the associated stigma in some countries. Some compromise may be needed: when there are delays, missing regions or missing reports. In some cases adjustments can be made. Several countries use adjustment methods for AIDS cases. The working group discussed the question of adjustment, asking whether the benefits outweighed the cost. There were also concerns that this can complicate the data collection and presentation process. Each country has their own formula for adjustments and the period used for correcting should be flexible according to a country's situation. However, when it comes to EU level data, this adjusted data poses comparability questions. Adjustments should be made in the same way and be fully transparent and easy to update.

It is a challenge to choose a method which would take into consideration all the country-specific factors. Several countries use different adjustment methods for AIDS diagnoses. When data is adjusted, the next question is how to present this information – as trend pictures? There is a danger that the media may use the adjusted data as real figures, which undermines the integrity of the process. Therefore, presentation should take into account real and adjusted data, corrected the same way across Europe and explained appropriately. The method itself should be simple. Other issues such as structural underreporting and completeness of transmission variable should be assessed.

Session VII: HIV prevalence estimates

Estimating the HIV undiagnosed fraction – minimum surveillance requirements (Andrew Phillips, UK)

There are several methodologies that have been used to develop HIV prevalence rates: reconstruction of the HIV incidence curve, or using the CD4–AIDS risk relationship. Before the availability of effective treatment, a back calculation was made from the number of AIDS cases diagnosed in each calendar year. This recreated an incidence curve from which it was possible to work out the number of people living with HIV by subtracting the number of deaths. Once effective therapy was developed, the questions changed from tracking infection to AIDS towards tracking infection to HIV diagnosis. However, this latter process is not a biological phenomenon – it depends on the likelihood of screening and diagnosis. This is a more complicated and less reliable calculation.

Good estimates are based on the best available data and they are derived using transparent processes and evidence-based assumptions that are sufficiently documented to permit replication. A good model is open to change over time, as new data become available to refine both the methods and assumptions. When possible, model-generated data should be systematically compared with other data sources or approaches and accompanied by estimates of uncertainty and bias and discussion of their sources.

There are a number of key methodologies to assess prevalence, such as the Atlanta, Cambridge, Paris, Ottawa/Sydney, Bordeaux and London models. They require different data points and criteria. If CD4 count and simultaneous AIDS diagnosis is made, there are three potential modelling tools that can be used.

Overview of HIV estimates models (Ard van Sighem, Netherlands)

A substantial proportion of the people living with HIV in Europe do not produce symptoms that would lead to diagnosis at the time of infection. Therefore, many people with HIV are not aware of their sero-positive status. But accurate estimates of the number of people with HIV in the region are needed to prepare screening and treatment capacity. Prevalence surveys divide the population into risk groups, such as MSM, IDU and migrants from HIV endemic countries. For each group, one needs to understand the number of people in each risk group and the HIV prevalence within that group. This can be done via a simple Excel spreadsheet created by UNAIDS, the Workbook method. It requires upper and lower parameters on estimated group size and prevalence. The other method is the EPP (Estimation and Projection Package) spectrum method, which estimates five parameters. It needs three prevalence estimates per risk group and can take into account the effect of ARV on prevalence. Epidemic curves for sub-populations are combined to form a national estimate of HIV prevalence. However, both of these approaches to modelling have challenges. There are often multiple sources of data on the size/prevalence of the same risk group. Data may be contradictory, often with sparse or no information on the risk groups. Many of these shortcomings can be overcome by the Multi-Parameter Evidence Synthesis (MPES) developed by the HPA. The limitations of MPES include a non standard software that needs to be adapted and no simple user interface. Biases and contradictions have to be understood. Statistical and epidemiological knowledge is needed and lots of data because of the many parameters that have to be estimated.

In conclusion, there are three main methods used to determine size of the HIV population: Workbook, EPP and Spectrum, and MPES. Their benefits are direct, user-friendly software and they avoid assumptions that cannot be tested. The disadvantages are that not all data are routinely collected, there are

many potential biases and difficulties, and no information on changes over time (except the EPP method) unless repeated.

ECDC HIV modelling project (Geoff Garnett, UK)

Models are complicated because we aim to do multiple things with different types of data. However complex the model, it cannot transform poor data into good data. Models are scientific tools to examine data and generate estimates, making explicit the scientific assumptions with testable predictions. The models give a framework for data analysis. They can explore the past history of the epidemic and identify whether interventions have had any impact. Models can explore perverse outcomes, combining interventions, target setting, impact of new technologies and advocacy. To measure the epidemiological impact of prevention, look at risk behaviours, HIV incidence (tenfold less), HIV prevalence, AIDS and deaths. The EPP model is a simple, practical model for short-term projection. It fits the model to the data. EPP is currently being adapted, which takes out the fraction of population at risk. EPP and Spectrum will still exist but will now be one package into which the data is input. HIV transmission occurs through a dynamic network of sexual and injecting connects, which occur in a geographical, social and cultural space. This can include mean, variance, mixing, micro-structure, intensity and social framework. 'Good' estimates are based on best available data, derived using transparent processes and evidence-based assumptions that are sufficiently documented to permit replication, open to change over time, systematically compared with other data sources and approaches and accompanied by estimates of uncertainty and bias and discussion of their sources. For the ECDC modelling project there are some decisions that need to be made: the purpose of the models – estimates, projections and evaluation; sources of input – cases, risk behaviours, prevalence measures, incidence measures; outputs – AIDS, deaths, treatment need, positive children, orphans; description of processes – detail; and method of fitting – properties of data, priors.

Session VIII: HIV working groups (part 2)

HIV WG3: HIV modelling – undiagnosed fraction (Rapporteur: Ard van Sighem)

The purpose of the working group was to review and provide feedback on priority areas regarding estimates of the HIV-infected population in individual Member States and to identify modelling approaches that would be most suitable for application in EU countries. In general, the approximately 20 participants in the working group discussion were very interested in improving methods for estimating the HIV-infected population in European countries, because currently available methods are difficult to use in most Member States.

From an inventory of countries that had been using the UNAIDS package Estimation and Projection Package (EPP) Spectrum to estimate the HIV-infected population, it became clear that only Spain was reasonably happy with the EPP estimate. Italy also used EPP, but experienced many difficulties. In Germany, EPP did not work. Bulgaria also experienced difficulties and Estonia tried to use EPP but had too few data to make an estimate. Several countries used Workbook instead because fewer data are necessary.

The largest obstacle for using EPP was the limited availability of data on prevalence in high-risk groups. If data were available, these were mostly on men who have sex with men (MSM). Only a few countries, including the United Kingdom, the Netherlands and Spain, had enough data and were able to make satisfactory estimates with EPP and/or the Multi-Parameter Synthesis method (MPES).

There were several issues related to the use of EPP. Although the software is reasonably user-friendly, it is still not easy to use. Also, the training offered by UNAIDS is insufficient and too short. The results of EPP are quite sensitive to certain numbers and assumptions, but it is not immediately clear to which ones. The assumptions are not always appropriate for European countries. Small uncertainties in data can have a large impact on the final estimate of the total HIV-infected population. For example, clients of sex workers in Italy had a large effect on yearly incidence. Estimates in Poland were highly unstable. It is also not clear how to differentiate between overall prevalence in a risk group including those undiagnosed and the HIV prevalence in those tested for HIV.

A few countries used their own approach to make a prediction of the total HIV-infected population. Germany used extended back-calculation for data up to 1995 and a spreadsheet model thereafter, carrying forward observed trends and using additional data on AIDS diagnoses and simultaneous HIV and AIDS diagnoses. France also used extended back-calculation, the Bordeaux method¹, but has additional information on prevalence, which may be informative but could not be used.

Based on the discussion, it became clear that methods based on case report data are more feasible. However, longitudinal data are not available for all countries. Ireland, for instance, has data only from this year onwards. CD4 counts at diagnosis, which are crucial for some of the back-calculation methods, are reported to ECDC's TESSy database by 25 countries. In six countries, CD4 counts are available in more than half of the cases in all years. A certain proportion of missing CD4 counts is not a big issue as long as missing is random and does not depend on a patient's level of immunodeficiency.

¹ Sommen, C., Alioum, A. and Commenges, D. (2009), A multistate approach for estimating the incidence of human immunodeficiency virus by using HIV and AIDS French surveillance data. *Statistics in Medicine*, 28: 1554-1568. doi: 10.1002/sim.3570

The incidence curve obtained from back-calculation methods is biased if the HIV epidemic is influenced by migration. Migrants diagnosed within a Member State will contribute to the incidence curve but may have been infected in their country of origin. The contribution of migrants to a country's epidemic can be considerable. For instance, more than 50% of the diagnosed cases in Belgium had been infected elsewhere. Spain reported an increasing number of migrants.

Simply reconstructing the incidence curve is not enough. For making an estimate of the total HIV-infected population, the number of deaths in the HIV-infected group has to be subtracted. Nowadays, less than half of cases of death are due to AIDS. Survival of drug users is generally better in European countries than in countries elsewhere in the world, but they may die before their HIV diagnosis. Different sources like death registries should be triangulated to obtain a reliable estimate of the number of deceased HIV-infected individuals.

Using information on treatment is not necessary in the back-calculation methods, but will be useful for making predictions. This information could come from cohorts, but also from comparing drug sales and drug prescriptions. In Spain, the total amount of money spent on treatment per year was divided by the average costs of a year of treatment to estimate the number of treated patients.

All countries present at the discussion were interested in applying different methods. Countries that volunteered to participate in a pilot study comparing different methods included Germany (large country, many data), Denmark (smaller country, many data) and Bulgaria (IDU epidemic and good data). Other countries could be Estonia (limited data) and Slovenia, whereas Romania is a special case because of the number of children who are infected.

HIV WG4: HIV testing guidance (Rapporteur: Alicia Thornton, UK)

ECDC carried out a survey in 2008 on HIV testing practices, barriers to HIV testing and linking diagnosed HIV-infected persons with health services. The survey results were used to develop a technical guidance document on HIV testing, aimed at increasing the uptake and effectiveness of HIV testing in Europe. The guidance addresses the development, monitoring and evaluation of national HIV testing strategies or programmes in EU/EEA countries, including the rationale for HIV testing and core principles.

The purpose of this working group was to review the monitoring and evaluation (M&E) section of the guidance and to discuss the follow-up. The results of the working groups will be used as input for finalising the guidance document, particularly on monitoring and evaluation and dissemination activities of ECDC.

Two tables were presented to the group. The first contained a list of suggested indicators for use at national and international level, selected after a review of international indicators contained in existing reports (UNGASS reporting, Dublin Declaration reporting, WHO guidance, ECDC behavioural surveillance mapping). Additional risk groups were suggested: sex workers; illegal migrants; prisoners; and partners of infected pregnant women.

Additional suggested indicators were:

- numbers and proportions of individuals with unknown risk behaviours
- numbers and proportions offered testing stratified by setting (particularly anonymous testing sites and primary care sites)
- proportions of diagnosed individuals who know their results

The second table provided suggested indicators for site-specific M&E of HIV testing initiatives. It was suggested that there were a number of additional questions on patient acceptability:

- Is anonymous testing available?

- Would you disclose your risk factors to your health provider?
- How useful was the patient information that you were provided with?

Additional questions on staff acceptability were:

- How comfortable are you offering an HIV test?
- Do you feel you need training to offer HIV testing?
- What training do you feel you require?

A general comment was made that there is a need to stress confidentiality of data within the guidance document.

The impact and use of the guidance should also be monitored. This could be done by assessing the influence of the guidelines on new or re-shaped national guidelines and the incorporation of the guidelines principles or indicators into national guidelines. This could be assessed using a survey of countries. In addition, it would be useful to assess who uses the guidelines and where the guidelines are referenced in other documents.

Closing remarks

Marita van de Laar, ECDC, thanked all the participants for their active engagement. This second joint meeting of the STI and HIV surveillance networks demonstrated the added value of closer collaboration. Countries expressed their appreciation of the meeting organisation and the continuing coordination activities of ECDC.

Annex 1: Programme

STI surveillance in EU/EEA - Tuesday, 28 September 2010

08:00-08:30	Registration
08:30-10:30	Session I: STI surveillance activities Chairs: Catherine Ison, Marita van de Laar
08:30-09:00	Welcome and update; a. STI surveillance network (Marita van de Laar, ECDC); b. STI microbiology project (Catherine Ison, UK)
09:00-09:20	STI surveillance data, 1990-2009 (Marita van de Laar, ECDC)
09:20-09:35	EPIS STI presentation (Tobias Bergroth, ECDC)
09:35-09:50	AMR surveillance of gonorrhoea, 2009 (Michelle Cole, UK)
09:50-10:20	Gonorrhoea typing for public health information (Kirstine Eastick, UK) Challenges for Chlamydia typing? (Magnus Unemo, Sweden) Proposal for molecular surveillance, 2010-2011 (Catherine Ison, UK)
10:20-10:30	Questions and Answers
10:30-11:00	<i>Coffee break</i>
11:00-12:30	Session II: STI Country contributions Chairs: Gwenda Hughes, Steen Hoffmann
	Epidemiological surveillance of STI in Latvia (Violeta Mavcutko, Latvia) Results from STI sentinel surveillance in Germany (Karin Haar, Germany) Results from STI surveillance in Spain (Mercedes Diez, Spain) Congenital syphilis reports (Vasileia Konte, Greece) Spotlight – a health communication tool of scientific findings (Irina Dinca, ECDC)
12:30-13:30	<i>Lunch buffet</i>
13:30-17:00	Session III: STI Working groups
13:30-15:00	STI 1. STI surveillance report including AMR report (3 parallel sessions)
15:00-15:30	<i>Coffee break</i>
15:30-17:00	STI 2a and 2b. Implementation of Euro-GASP
17:00-18:00	Feedback plenary Chairs: Marita van de Laar, Mika Salminen
19:00-21:30	<i>Bus transportation to dinner (Madi - Zelt der Sinne)</i>

STI and HIV session - Wednesday, 29 September 2010

08:30-09:00	Registration
09:00-10:30	Session IV: HIV and STI common topics (part 1) Chairs: Inga Velicko, Osamah Hamouda Welcome and update on HIV and STI activities (Marita van de Laar, ECDC) The European MSM Internet Survey (EMIS): Preliminary findings on sexually transmitted infections (Axel Schmidt, Germany) SIALON results on HIV and syphilis in MSM (Massimo Mirandola, Italy) Update on the evidence of HIV treatment as prevention – Danish experience and highlights AIDS 2010 'treatment is prevention' (Susan Cowan, Denmark)
10:30-11:00	<i>Coffee break</i>
11:00-12:30	Session IV: HIV and STI common topics (part 2) Chairs: Magdalena Rosinska, Saulius Čaplinskas HIV incidence and prevalence in STI patients in Italy (Barbara Suligoj, Italy) Ongoing LGV outbreak in MSM in United Kingdom (Gwenda Hughes, UK) Short overview of EU antenatal screening programmes for HIV and STI (Johann Fontaine, ECDC) Effectiveness of antenatal screening for HIV, hepatitis B and syphilis, 2006-2008, Netherlands (Eline Op de Coul, Netherlands) Antenatal screening for HIV and syphilis, Bulgaria (Tonka Varleva, Bulgaria)
12:30-13:30	<i>Lunch buffet</i>

HIV surveillance in EU/EEA - Wednesday, 29 September 2010

13:30-16:00	Session V: HIV surveillance related projects Chairs: Caroline Semaille, Mika Salminen HIV resistance – EU public health value of HIV ARV surveillance (Osamah Hamouda, Germany) HIV testing guidance – state of the art (Johann Fontaine, ECDC) Framework for HIV incidence studies (Valerie Delpech, UK) Tuberculosis and HIV co-infection: challenges for improving surveillance (Emma Huitric, ECDC) Improving data quality in HIV surveillance (Giedrius Likatavicius, ECDC)
16:00-16:30	<i>Coffee break</i>
16:30-18:00	Session VI: HIV Working groups (part 1) HIV 1: HIV incidence – framework and pilot HIV 2: Improving data quality in HIV surveillance
19:30-21:30	<i>Dinner (abba Hotel restaurant)</i>

HIV surveillance in EU/EEA - Thursday, 30 September 2010

09:00-10:30	Session VII: HIV prevalence estimates Chairs: Marita van de Laar, Geoff Garnett Estimating the HIV undiagnosed fraction – minimum surveillance requirements (Andrew Phillips, UK) Overview of HIV estimates models (Ard van Sighem, Netherlands) ECDC HIV modelling project (Geoff Garnett, UK)
<i>10:30-11:00</i>	<i>Coffee break</i>
11:00-12:30	Session VIII: HIV Working groups (part 2) HIV 3. HIV modelling – undiagnosed fraction HIV 4. HIV testing guidance
<i>12:30-13:30</i>	<i>Lunch buffet</i>
13:30-15:00	Feedback plenary Chairs: Marita van de Laar, Mika Salminen Closure of the meeting

Annex 2: Participant list

Network participants

Country	Surname	Name	Meeting
Austria	Vinzelj-Horvath	Eva-Maria	STI
Belgium	Crucciti	Antonina	STI
Belgium	Sasse	Andre	HIV
Belgium	Verbrugge	Ruth	STI
Bulgaria	Gladnishka Hristova	Teodora	STI
Bulgaria	Yakimova	Tsvetana	STI/HIV
Bulgaria	Varleva	Tonka	STI/HIV
Cyprus	Hadjiloukas	Avgi	STI/HIV
Czech Republic	Zakoucka	Hana	STI/HIV
Denmark	Cowan	Susan	STI/HIV
Denmark	Hoffmann	Steen	STI
Estonia	Epshtein	Jevgenia	STI
Estonia	Rätsep	Merike	HIV
Finland	Hiltunen-Back	Eija	STI
Finland	Brummer-Korvenkontio	Henrikki	HIV
Finland	Liitsola	Kirsi	HIV
France	Semaille	Caroline	HIV
France	Goulet	Veronique	STI
France	Sednaoui	Patrice	STI
Germany	Kohl	Peter	STI
Germany	Hamouda	Osamah	STI/HIV
Greece	Nikolopoulos	Georgios	HIV
Greece	Konte	Vasileia	STI
Greece	Hadjivasiliou - Pappa	Maria	STI
Hungary	Dudás	Mária	STI/HIV
Hungary	Balla	Eszter	STI
Ireland	O'Hora	Aidan	STI/HIV
Italy	Stefanelli	Paola	STI
Italy	Suligoj	Barbara	STI/HIV
Latvia	Ozolins	Dzintars	STI
Latvia	Upmace	Inga	HIV
Latvia	Mavcutko	Violeta	STI
Lithuania	Čaplinskas	Saulius	STI/HIV
Lithuania	Caplinskiene	Irma	STI/HIV
Lithuania	Butylkina	Rita	STI/HIV

Luxembourg	Etienne	Valerie	HIV
Malta	Barbara	Christopher	STI/HIV
Malta	Maistre Melillo	Jacqueline	STI/HIV
Netherlands	van der Sande	Marianne	STI
Netherlands	Linde	Ineke	STI
Netherlands	Op de Coul	Eline	HIV
Norway	Skogen	Vegard	STI
Norway	Jakopanec	Irena	STI/HIV
Poland	Rosinska	Magdalena	STI/HIV
Portugal	Soares Ferreira	Joana	HIV
Portugal	Borrego	Maria José	STI
Portugal	Azevedo	Jacinta	STI
Romania	Mardarescu	Mariana	HIV
Romania	Gheorghiu	Viorica	STI
Romania	Coltan	Gabriel	HIV
Slovakia	Truska	Peter	STI/HIV
Slovenia	Bergant	Nejc	STI/HIV
Slovenia	Jeverica	Samo	STI
Spain	Diez Ruiz-Navarro	Mercedes	STI/HIV
Spain	Vázquez	Julio	STI
Sweden	Unemo	Magnus	STI
Sweden	Velicko	Inga	STI/HIV
Sweden	Fredlund	Hans	STI
UK	Eastick	Kirstine	STI
UK	Hughes	Gwenda	STI
UK	Delpech	Valerie	HIV

Consultants, guests and invited speakers

Country/Affiliation	Surname	Name
HPA	Ison	Catherine
HPA	Cole	Michelle
HPA	Quaye	Nerteley
HPA	Thornton	Alicia
EMCDDA	Wiessing	Lucas
Germany	Marcus	Ulrich
Germany	Schmidt	Axel
Greece	Papadogeorgaki	Eleni
Italy	Mirandola	Massimo
Netherlands	van Sighem	Ard

UK	Garnett	Geoffrey
UK	Phillips	Andrew

ECDC staff

Affiliation	Surname	Name
ECDC	van de Laar	Marita
ECDC	Salminen	Mika
ECDC	Likatavicius	Giedrius
ECDC	Bergroth	Tobias
ECDC	Noori	Teymur
ECDC	Fontaine	Johann
ECDC	Dinca	Irina
ECDC	De Leo	Luisa
ECDC	Shaukat	Asima
ECDC	Spiteri	Gianfranco
ECDC	Huitric	Emma

Meeting rapporteur

Affiliation	Surname	Name
WHCA	Rose	Tamsin