



Rapporti ISTISAN

10/6



Epidemiologia e sanità pubblica

EpiSouth:

**Network for communicable diseases control
in Mediterranean countries and Balkans**

Collection of survey reports



ISSN 1123-3117

Edited by
the EpiSouth Coordination team

www.iss.it

ISTITUTO SUPERIORE DI SANITÀ

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2010, v, 91 p. Rapporti ISTISAN 10/6

Infectious diseases are potential threats with no geographical boundaries. Aside from a few, for which prevention is possible due to effective vaccinations, one of the most effective tool public health personnel can use to contain their spread is surveillance. However, in order to translate data into appropriate action, early detection of cases, dissemination of information, and a cross-border, harmonic and prompt response are crucial. The countries of the Mediterranean area have common sea borders in the remarkable ecosystem of the Mediterranean Sea and, as a result, they also share common public health problems. The EpiSouth project consists in a co-operative initiative covering the Mediterranean and the Balkans areas. The main aim is to create a framework of collaboration on epidemiological issues in order to improve communicable diseases surveillance, communication and training among countries in that area. The present document contains the reports of the studies and assessments carried out by the project during its implementation period (2007-2010).

Key words: Communicable diseases; Surveillance; Survey; Networking

Istituto Superiore di Sanità

EpiSouth: Rete per il controllo delle malattie infettive nei Paesi del Mediterraneo e dei Balcani. Raccolta di rapporti di indagini.

A cura di EpiSouth Coordination Team

2010, v, 91 p. Rapporti ISTISAN 10/6 (in inglese)

Le malattie infettive sono potenziali minacce che non hanno confini geografici. La sorveglianza è l'unico strumento disponibile per contenere la diffusione delle malattie, in particolare laddove non sia disponibile un vaccino valido ed efficace. Per tradurre i dati di sorveglianza in un'azione appropriata, la diffusione delle informazioni è cruciale così quanto una rapida azione congiunta al presentarsi di nuovi casi. I Paesi che si affacciano sul Mediterraneo e quelli dei Balcani hanno in comune un ecosistema molto peculiare e, di conseguenza, condividono problemi di sanità pubblica. Il progetto EpiSouth consiste in un'iniziativa di co-operazione tra i Paesi di quest'area. L'obiettivo principale è quello di creare una collaborazione su problemi epidemiologici al fine di migliorare la sorveglianza delle malattie infettive, la comunicazione e la formazione tra i Paesi. Il presente documento contiene le relazioni degli studi e delle indagini condotte nell'ambito del progetto durante il suo periodo di attuazione (2007-2010).

Parole chiave: Malattie trasmissibili; Sorveglianza; Indagine; Rete

The EpiSouth Coordination Team is composed by: Valeria Alfonsi, Maria Grazia Dente, Massimo Fabiani, Gloria Nacca, Alessia Ranghiasi, Flavia Riccardo, and Silvia Declich (Centro Nazionale di Epidemiologia, Sorveglianza e Promozione della Salute, Istituto Superiore di Sanità).

This project receives funding from the European Commission (DG SANCO).

The financial support of EC EuropeAid and DG Enlargement through the TAIEX facility and of the Italian Ministry of Health through the EpiMed Project is also acknowledged.

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Citare questo documento come segue:

EpiSouth Coordination Team (Ed.). *EpiSouth: Network for communicable diseases control in Mediterranean countries and Balkans. Collection of survey reports*. Roma: Istituto Superiore di Sanità; 2010. (Rapporti ISTISAN 10/6).

Presidente dell'Istituto Superiore di Sanità e Direttore responsabile: *Enrico Garaci*
Registro della Stampa - Tribunale di Roma n. 131/88 del 1° marzo 1988

Redazione: *Paola De Castro, Sara Modigliani e Sandra Salinetti*
La responsabilità dei dati scientifici e tecnici è dei singoli autori.

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PRESENTATION

Infectious diseases are potential threats that have no geographical boundaries. Aside from a few for which prevention is possible due to effective vaccinations, one of the most effective tool that public health personnel can use to contain their spread is surveillance. However, in order to translate data into appropriate action, early detection of cases, dissemination of information, and a cross-border, harmonic and prompt response are crucial. The countries of the Mediterranean area have common sea borders in the remarkable ecosystem of the Mediterranean Sea and, as a result, they also share common public health problems.

During meetings held in 2004 in Athens and Venice, experts from Bulgaria, Greece, France and Italy designed a co-operative initiative covering the Mediterranean and the Balkans similar to that developed by the EpiNorth Project in Northern Europe. Spain soon joined this initiative. In the occasion of the Year of the Mediterranean (2005), this project, called EpiSouth, was proposed to the countries in this area and to the European Commission for funding. In addition the project received funding from the Italian Ministry of Health through the EpiMed Project.

The project started officially on the 1st of October 2006

The activities were started with 9 European Union (EU) countries (Italy, Spain, France, Bulgaria, Greece, Cyprus, Malta, Romania and Slovenia), but has rapidly expanded to include more countries of the Mediterranean and the Balkans. Following the 1st Project Meeting (Rome – March 28-30, 2007) and the 2nd Project Meeting (Athens – December 10-12, 2007), several countries from the Balkans, North Africa and Middle East joined the project together with representatives of the European Commission - Directorate General for Health and Consumer Protection (EC-DG SANCO), the European Centre for Disease Prevention and Control (ECDC), and the World Health Organization (WHO). The 3th Project Meeting was held in Sofia (Bulgaria) on 30 March-1 April 2009.

Until March 2010, the EpiSouth Network counts 26 countries, which have appointed a total of 65 Country Focal Points (30 from EU-countries and 35 from non-EU countries) plus 7 representatives from International Organisations (Appendix A).

Although the on-going project is expected to terminate on 30th of June 2010, the activities of EpiSouth Network will continue with EpiSouth Plus, the project approved and jointly financed by EC-DG SANCO, the Directorate General for Aid Cooperation (DG AIDCO),

The general objective of EpiSouth is to create a framework of collaboration on epidemiological issues in order to improve communicable diseases surveillance, communication and training among countries in the Mediterranean and the Balkans (EpiSouth network, see Appendix A).

Several areas of activity and specific objectives were identified and were developed through eight specific Work Packages (WPs), as follow:

- WP1 - *Co-ordination of the project* (lead by the Istituto Superiore di Sanità, Italy) with the main objective of guaranteeing a high quality performance of the project.
- WP2 - *Dissemination of the project* (lead by the the Istituto Superiore di Sanità, Italy) with the main objective of disseminating the information produced by EpiSouth within the participating countries and to those who need to know through an *ad hoc* created website (www.episouth.org) and an electronic bulletin.
- WP3 - *Evaluation of the project* (lead by the Azienda Ospedaliera di Padova, Italy) with the main objective of evaluating the project and its achievements in terms of milestones, deliverables, and indicators.

- WP4 - *Network of public health institutions* (lead by the Azienda Ospedaliera di Padova, Italy) with the main objective of facilitating the networking process and activities among participants in order to strengthen solidarity and cohesion.
- WP5 - *Training in field/applied epidemiology* (lead by the Instituto de Salud Carlos III, Spain) with the main objective of strengthening the early response capacity of participating countries to health threats and infectious disease spread.
- WP6 - *Cross-border epidemic intelligence* (lead by the Institut de Veille Sanitaire, France) with the main objective of establishing a common platform on epidemic intelligence where participating countries may find broad internationally as well as regionally focused information.
- WP7 - *Vaccine-preventable diseases and migrant populations* (lead by the National Centre of Infectious and Parasitic Diseases, Bulgaria) with the main objective of assessing the access to immunisation and exchanging information on cases/outbreaks of vaccine-preventable diseases of migrant populations.
- WP8 - *Epidemiology and preparedness to cross-border emerging zoonoses* (lead by the Hellenic Centre for Diseases Control & Prevention, Greece) with the main objective of providing a platform for the communication Of Human Public Health (HPH) and Veterinary Public Health (VPH) officials, describing risk assessment methods and providing a mechanism for exchanging information between HPH and VPH.

The leaders of each WP are reported in Appendix B.

The three WPs, WP6 - *Cross-border epidemic intelligence*, WP7 - *Vaccine preventable diseases and migrants* and WP8 - *Cross-border emerging zoonoses*, constitute the technical pillars on which the project activities have been developed through the Network of participating countries; the two WPs, WP4 - *Networking* and WP5 - *Training*, work on networking and technical capacity building in order to provide the skills needed to critically develop the vertical WPs. The evaluation of the project is carried out by the dedicated WP3 and it is transversal to all other WPs.

The EpiSouth Steering Committee provides guidance on key issues and is composed by the six WP leaders plus ECDC, European Commission-Directorate General for Health and Consumer Protection, Unit SANCO C3-Health Threats (EC-SANCO C3), WHO Regional Office for Europe (WHO EURO), WHO Eastern Mediterranean Regional Office (WHO EMRO) and WHO HeadQuarter (WHO HQ) representatives as observers. All WHO entities and ECDC agreed also to give input in the WPs activities.

The participation of the countries and the International Organisations to the project foresees three different levels of active involvement:

- *Focal Points (FPs)*
Each Country has identified and appointed two relevant persons who act as FP of the EpiSouth Network and who convey all the communication/information to the relevant officers in their respective countries/organisations. Each FP directly interacts with the project coordinator as well as with all the other FPs of the EpiSouth Network.
- *Collaboration in the Work Packages Steering Teams (WPSTs)*
In order to facilitate and enhance the work, each Country/International Organisation actively collaborates in one or two WP Steering Teams, which is in charge for identifying

the countries' needs, developing the tools and the conducive project environment in accordance with the specific objective and requirements of the related WP.

– *Participation in Work Packages' activities*

Each participating country takes part in the activities of one up to all the WPs in accordance with their needs and interests. The participation in the activities of WPs not chosen can be requested by the country in the coming years.

The added value of EpiSouth Network strategy was well highlighted by the words of the welcome speech of the President of Hellenic Centre for Diseases Control and Prevention at the 2nd Project Meeting (Athens, 10-12 December 2007):

... The importance of the EpiSouth project lies in its potential to strengthen human capacity and resources in the area it covers; an area which is characterized by particular features, composing a special socio-economic context, rather different from that of the North Europe area. It is a project that could bridge the existing geographical inequality and gap between the North and the South, concerning methods of collecting and disseminating epidemiological information. Therefore its added value goes beyond the creation of just another supranational or worldwide network...

INTRODUCTION

The present collection contains the reports of the studies and assessment surveys produced by the EpiSouth project during its implementation from 2007 to 2010.

The reports help to understand need assessments and activities that were conducted in the framework of each project work package (including complexity due to the number of partners involved, their variability, etc.). In addition, the reports provide information and data specifically related to the Mediterranean and Balkan countries on issues that are critical for ensuring proper control of communicable diseases in this peculiar geographical area.

The collection includes five reports:

1. *Training needs assessment in countries participating in the EpiSouth Project*

As the EpiSouth Network comprises several countries with important variability among their health systems, a training needs assessment was considered necessary to appropriately design the specific yearly training modules planned by the project. A dedicated questionnaire was designed to identify the common training needs in surveillance and early warning of all countries participating in the EpiSouth project. Based on this assessment, the contents of WP5 training modules were defined to ensure substantial support to the improvement and reinforcement of cross-border epidemiological surveillance in the Mediterranean region and to help in defining consensus to operate. The report presents the results of this assessment carried out as part of WP5 activities, also including recommendations to address the needs identified through the assessment.

2. *Cross-border epidemic intelligence evaluation*

This report presents the results from the questionnaire on countries' needs and expectations in relation to cross-border epidemic intelligence activities to be developed by WP6. This preliminary assessment on how monitoring of international health crises is organised, coordinated and managed in each country was performed in order to calibrate the international and regional cross-border epidemic intelligence activities according to the EpiSouth community needs.

3. *Assessment of countries migration status profile and vaccination access of mobile population*

This report, carried out in the WP7 framework, presents a picture of the current situation regarding migration health, with focus on the risk of dissemination of Vaccine Preventable Diseases (VPD). In addition, it explores problems with VPD control in migrant populations and discusses successful practices that could be introduced or adopted in the participating countries. Disclosure of the strengths and weaknesses of the current national systems for the prevention and control of communicable diseases among migrant people is the basis for the elaboration of practical guidance in this area.

4. *Selection of zoonoses of priority in the EpiSouth countries*

This report presents the results of the dedicated questionnaire developed by WP8 and used as a complementary tool for the selection of the list of priority zoonotic diseases in the EpiSouth region. As close co-dependence of animals and humans is found around the Mediterranean, implying an extensive catalogue of cross-border emerging zoonoses, it was necessary to focus on zoonoses considered as a priority by all the involved

countries. In fact, on the basis of the defined priority list, efforts have been made to enhance the collaboration between HPH and VPH officials, considered as a critical aspect to improve zoonoses surveillance.

5. *Monitoring of the network development*

The mandate of the WP3 is to evaluate the project in terms of respect of the scheduled milestones and deliverables, achievements of the stated project indicators, both for quantitative and qualitative aspects and active participation of both associated and collaborating countries. In order to accomplish the goals, the WP3 carried out several activities (development of the evaluation plan and evaluation questionnaires of the overall project and WPs, implementation of monitoring sheets sent to WPs leaders for compilation). The data collected have been analysed, interpreted and discussed in the report.

TRAINING NEEDS ASSESSMENT IN COUNTRIES PARTICIPATING IN THE EPISOUTH PROJECT

Camelia Savulescu, Nathalie El Omeiri, Concepcion Martin de Pando, Fernando Simon Soria, and the WP5 Steering Team* on behalf of the EpiSouth Network
Centro Nacional de Epidemiología, Instituto de Salud Carlos III, Madrid, Spain

Background

The Instituto de Salud Carlos III, Spain, through the Centro Nacional de Epidemiología (CNE, the National Centre for Epidemiology) and the Escuela Nacional de Sanidad (ENS, the National School of Public Health), was designated as the leading partner for the training work package (WP5). During the first meeting of the EpiSouth project in Rome in March 2007, a Steering Team was formed with representatives of Algeria, Lebanon, Morocco, Romania, Serbia and Turkey to oversee the activities developed under this work package in order to reach expected results. The specific objectives of Work Package 5 (WP5 – Training in field/applied epidemiology) include:

- strengthening the early response capacity of participating countries to health threats and infectious diseases spread by organizing short-term training courses and seminars.
- promoting participation in already existing European training courses.

Main outputs of WP5 include three training modules with related teaching material, and a directory of training courses and fellowships of interest to the project. Since the EpiSouth network comprises 22 countries with important socio-economic and health systems differences, a training needs assessment was considered necessary to identify common training needs within the framework of the project. This assessment was not meant to evaluate surveillance systems in participating countries or national training programmes in Epidemiology, but to explore directions in which training provided through the project would help countries fill in gaps in their surveillance related activities.

This report presents the results of the training needs assessment carried out as part of WP5 activities of the EpiSouth project. It also includes recommendations to address the needs identified through the assessment.

Methods

A survey was carried out in June-July 2007 among the 22 countries participating at that time in the EpiSouth project by means of a self-administered questionnaire sent by email to institutions in charge of surveillance at national level.

The objective of this survey was to identify common training needs perceived in surveillance and early warning among the Public Health Institutions from the countries participating in the EpiSouth project in order to ensure consensus and necessary support for surveillance activities.

* WP5 Steering Team: A. Boughoufalah, D. Hannoun (Algeria), N. Ghosn, A. Khouri, (Lebanon), M. Youbi (Morocco), A. Pistol, F. Popovici, A. Stanescu (Romania), G. Loncarevic, D. Simic (Serbia), A. Gozalan, V. Buyurgan (Turkey).

Target group

We invited senior professionals or decision makers from the Ministries of Health or national public health institutions in charge of epidemiological surveillance at central level to fill in the questionnaire or to designate the appropriate person for this task.

Questionnaire

The questionnaire (Annex 1) is comprised of 45 questions, grouped into 5 sections. We used mainly close ended and contingency questions, but there was the possibility to add comments through open ended questions. Matrix questions were used for obtaining information on specific training areas under a “Skills and competency” section, in order to prioritize listed training topics according to their perceived need and importance for the different institutions.

The five sections of the questionnaire were: Introduction, Professional identification data, Organization and structure, Skills and competencies, Proposals for improvement.

The “Skills and competencies” section, the main part of the questionnaire, was organized into four parts: Access to training, Training areas, Dissemination of results and Collaboration with neighbouring countries and international organizations. The training area part of this section consisted of tables with questions on surveillance, outbreak investigation, risk assessment and tools used in surveillance activities including a total of 20 training topics.

This approach allowed for prioritizing the training topics of interest for EpiSouth participating countries. However, further activities such as site visits and in-depth interviews would be necessary to complete the picture of surveillance training needs in the region.

Analysis

A database was created and analysed using EpiInfo for Windows, version 3.3.2. Missing values were excluded from the analysis.

We used the median ranks for comparing variables and mean ranks only for differentiation purposes in case of equal score in the prioritisation of training topics, as described below.

For prioritising training topics in the third section (Skills and Competencies), a unique score was computed using the following variables:

- perceived need of training in that topic;
- rank of perceived importance of the topic;
- existent skills at the central level to perform related task;
- availability of the related activity in the participant unit/team.

The score was calculated summing up ranks of variables: perceived need (recoded from 1-4, 4 being the most needed), perceived importance of the training (recoded from 1-3, 3 being the most important), activity performed in the team/unit (recoded 1 for “yes” and 2 for “no”) and sufficient skills in the team to perform the topic related tasks (recoded 1 for “yes” and 2 for “no”).

This estimation method gave more weight to the first two variables. In order to minimize the effect of missing values, the mean score for each topic was used in prioritizing. In case of an equal score, topics were ranked according to the perceived training need and then according to the mean rank of perceived importance of the topic.

The four training areas (Surveillance, Outbreak investigation, Risk assessment and Tools) were also ordered using the mean of the specific topic mean scores included in the area.

Results

As regards response rate, twenty-one questionnaires from 19 participating countries out of 22 were returned and validated, reaching a 86% response rate, after multiple reminders sent to participants.

Professional identification data

We received one questionnaire per country, except for two countries which returned two questionnaires filled in by different institutions (epidemiology and infectious disease departments). Twelve questionnaires (57%) were completed by designated representatives from national communicable diseases centres or institutes. Nine (43%) were filled in by representatives of Ministries of Health through departments of Epidemiology or communicable diseases in the participating countries. Most of the respondents (62%) were senior professionals having more than 10 years of experience in the participant institutions and more than half of them (62%) had been in their current position for over 4 years.

Organization and structure

Participants were requested to return flowcharts in the organization and structure section. The diagrams and information obtained were insufficient to draw relevant conclusions besides a high diversity of the systems in number of decision levels and hierarchy, integration of laboratory and other institutions in the system, information systems and technical resources. However the returned flowcharts provided basic information to be used in planning workshops within modules. The number of professionals working in public health surveillance at the central level (possible target audience for training under the EpiSouth project) varied widely among institutions. Figure 1 shows the corresponding results.

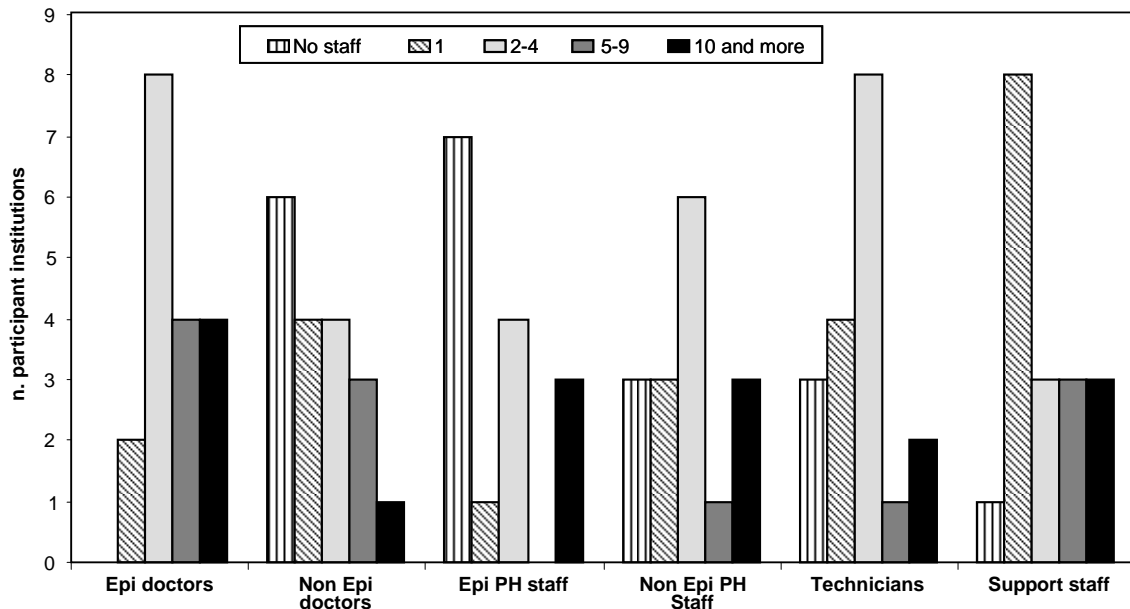


Figure 1. EpiSouth 2007: participating institutions by number and type of professional staff

A total number of 779 professionals work at the central level in the responding countries but 70% of them are concentrated in 4 countries. Out of 127 medical doctors epidemiologists working in the respondent institutions, 74 (58.2%) work in four countries reporting each one 10 or more medical doctors working at the central level. In 11 respondent institutions, less than five medical doctors' epidemiologists work at the central level.

Six respondents (32%) reported not having any non-epidemiologist medical doctors at the central level. Ten (47%) stated that 5 or less non-epidemiologist doctors work in their units. Only one respondent reported more than 10 non-epidemiologist doctors, an expected result since that institution includes an infectious diseases clinic. Even though a total number of 243 public health professionals (non-doctors) with training in epidemiology were reported by respondents, the majority (93%) is concentrated in three countries. In 7 out of 16 responding to this question, no public health professionals are trained as epidemiologists at the central level. Nine out of 17 respondents reported less than 5 non-epidemiologist public health professionals at central level, only three countries having 10 or more.

The 779 professionals are distributed as follows: 127 medical doctors epidemiologists; 59 non-epidemiologists medical doctors; 243 non-epidemiologist public health professionals; 136 technicians (statisticians, information technology staff, etc.) and 165 support (administrative support, etc.). Three respondent institutions (15.7%) have no statisticians and/or information technology staff working at the central level, 14 (73.6%) have 5 or less. Eight institutions (40%) reported having only one person as support staff at central level and three respondents (15.7%) reported 10 or more.

Regarding coordination of epidemiological surveillance activities among different institutions involved in public health, 90% of respondents reported having such a coordination in their countries. Two respondents stated it is in progress. Nineteen out of 20 responses mentioned coordination at the technical level, only 10 respondents reporting coordination at the political level in their countries.

Regarding the organization of early warning and outbreak response in participating countries, one team deals with both early warning and response to outbreaks in 66% (14) of respondent countries, whereas in 33% (7) separate teams handle those activities. Sixty-two percent of the respondent institutions mentioned another institution with an equivalent level of decision making capacity involved in surveillance, early warning and response. Eight participants (38%) stated that only one institution is involved in decision making for surveillance and early warning and response in the country.

As of June 2007, eighteen respondent countries (95%) have designated the International Health Regulations (2005) focal points. In two countries, it is still in progress. Most of the International Health Regulations (IHR) focal points was established within Ministries of Health (12 out of 19), the others being located at national public health institutes or other institutions.

Most of the countries already have protocols for mandatory notifiable diseases under surveillance: 47% (9) of them for all diseases and 47% (9) for some of them. Only one country reported being in the process of developing such surveillance protocols.

Skills and competencies

Access to training

In 17 out of the 18 respondent countries, a course in disease surveillance and/or epidemiology is offered besides the basic curriculum in public health/epidemiology in medical schools. One country reported not having any course offered in surveillance or epidemiology apart from that basic curriculum. Among the 17 responding countries, 13 offer introductory

courses in diseases surveillance. In seven countries, advanced courses are offered. In 14 countries a master level degree in public health with emphasis in epidemiology is available. A 2-3 years field Epidemiology training programme exists in five countries. In three countries, a course in field Epidemiology is offered with duration of 1-4 weeks.

In 68% (13) of responding countries, 75-100% of the surveillance personnel at the central level, excluding support staff, received training in surveillance along the course of their professional career. In 4 countries (21%), only 26-49% of the personnel received training in surveillance and in two countries, less than 25% did. Combining the availability of training courses and personnel having received training in the past two years among the participating countries, we found that 78% of the countries have advanced courses but only 42% of working professionals in the surveillance institutions have had access to those courses in the past two years.

Out of the 5 countries with Field Epidemiology Training Programs (FETPs) of more than 1 year duration only in one of them have more than 50% of the personnel working in surveillance at national level been trained. On the other hand, we found that one country with no available advanced courses has trained part of its personnel (<25%). Figure 2 presents the percentage of surveillance personnel who received training in the last two years according to the participants in our survey. Results show that in most countries that percentage is less than 25%.

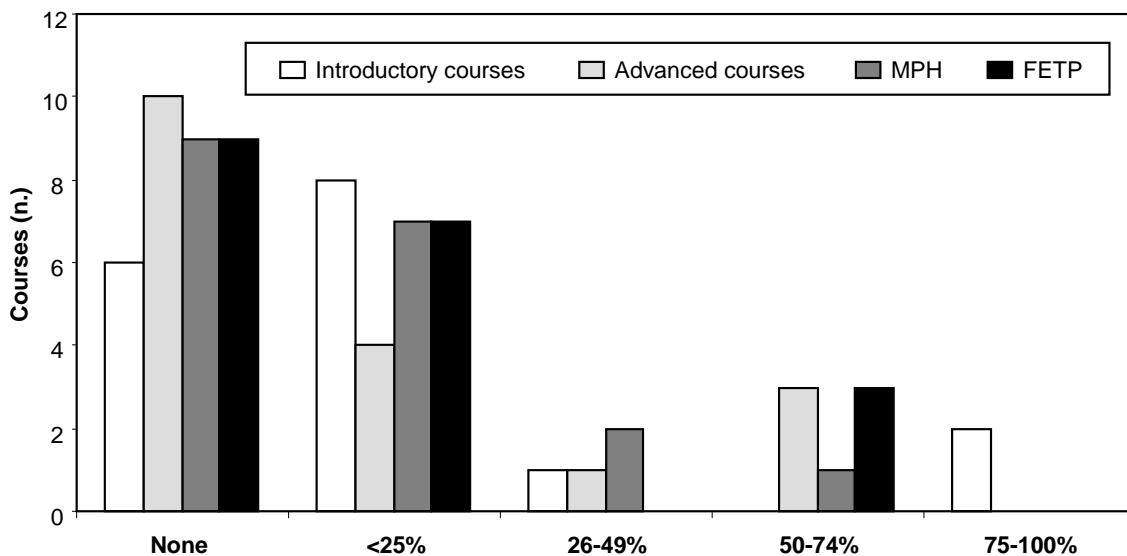


Figure 2. EpiSouth 2007: surveillance personnel (%) receiving training in surveillance in the last two years in the participating countries

The majority of the institutions responding (81%) deliver training in surveillance. One country is currently in the process of starting a training program. Half of respondent institutions (52%) developed training programs for their staff. One country is in the process of preparing such a program for its own personnel. Regarding the training needs for IHR (2005) implementation, 17 out of 19 (89%) respondents expressed the need for training in implementation of the newly revised IHR. Among those respondents, 12 are designated as focal points for the revised IHR.

Training areas

For the first training area Surveillance, results are summarized in Table 1. Data collection, Processing and management (Information system) and Time Series Analysis (TSA) were perceived as the most important among the topics listed under this area (median rank =1 and 2 respectively). The other topics: Spatial analysis, Evaluation of surveillance systems, and Conduct a population survey were considered less important (a median rank = 3 for all three topics). Most of the respondents (>75%) considers that there are members in their teams with sufficient skills to perform these tasks. In general, these surveillance activities are performed in respondent institutions in >90% for TSA and Data collection and management and in >65% for the other three topics. Training is perceived as needed (median rank = 2) in all topics listed under this training area (Table 1).

Table 1. EpiSouth 2007: training needs in surveillance

Topic	Perceived importance <i>median rank*</i>	Sufficient skills to perform the task <i>n. (%)</i>	Activities performed by the team <i>n. (%)</i>	Training need <i>median rank**</i>
Temporal analysis	2	Yes: 17 (81) No: 4 (19)	Yes: 19 (91) No: 2 (9)	2
Spatial analysis	3	Yes: 17 (81) No: 4 (19)	Yes: 14 (67) No: 7 (33)	2
Evaluation of surveillance systems	3	Yes: 14 (70) No: 6 (30)	Yes: 15 (75) No: 5 (25)	2
Conduct of population survey	3	Yes: 16 (76) No: 5 (24)	Yes: 14 (67) No: 7 (33)	2
Data collection, processing and management	1	Yes: 21 (100) No: 0 (0)	Yes: 20 (95) No: 1(5)	2

* From 1 (the most important) to 5 (the least important)

**From 0 (not at all) to 3 (very much needed)

Results corresponding to the Outbreak investigation area are displayed in Table 2. Coordination and conducting an outbreak investigation were considered the most important (median rank = 2 and 1 respectively). Design a questionnaire and conduct descriptive data analysis were perceived of medium importance (median rank =3). Advanced analysis such as conduct analytical studies and multivariate data analysis were considered less important. (median rank = 5). In >95% of respondent institutions, there are sufficient skills for conducting and coordinating an outbreak investigation, designing a questionnaire and conducting descriptive data analysis. The mentioned activities are performed by more than 80% of respondent institutions. Conducting an analytical study can be performed in 75% of institutions, but only 62% carry it out regularly. The more advanced data analysis such as multivariate analysis using regression is known and performed only in 38% of respondent institutions.

Despite these findings, training is perceived as needed for questionnaire design, to conduct an outbreak investigation, analytical studies and multivariate data analysis (median rank = 2) and less needed for coordination of an outbreak investigation and descriptive data analysis (median rank = 1).

Table 2. EpiSouth 2007: training needs in outbreak investigation activities

Activity	Perceived importance <i>median rank*</i>	Sufficient skills to perform the task <i>n. (%)</i>	Activities performed by the team <i>n. (%)</i>	Training need <i>median rank**</i>
Coordinate an outbreak investigation	2	Yes: 20 (95) No: 1 (5)	Yes: 17 (81) No: 4 (19)	1
Conduct an outbreak investigation	1	Yes: 21 (100) No: 0 (0)	Yes: 19 (91) No: 2 (9)	2
Design a questionnaire	3	Yes: 21 (100) No: 0 (0)	Yes: 20 (95) No: 1 (5)	2
Conduct descriptive data analysis	3	Yes: 20 (95) No: 1 (5)	Yes: 19 (91) No: 2 (9)	1
Conduct analytical studies	5	Yes: 15 (75) No: 5 (25)	Yes: 13 (62) No: 8 (38)	2
Conduct multivariate data analysis using regression	5	Yes: 8 (38) No: 13 (62)	Yes: 8 (38) No: 13 (62)	2

* From 1 (the most important) to 5 (the least important)

**From 0 (not at all) to 3 (very much needed)

Table 3 summarizes participant opinions on topics covered by the Risk assessment area. Infectious Diseases dynamics and control is the topic perceived as the most important in this section (median rank = 1) followed by Quantitative risk assessment and epidemic intelligence (median rank = 2).

Table 3. EpiSouth 2007: training needs in risk assessment

Activity	Perceived importance <i>median rank*</i>	Sufficient skills to perform the task <i>n. (%)</i>	Activities performed by the team <i>n. (%)</i>	Training need <i>median rank**</i>
Infectious diseases dynamics and control	1	Yes: 19 (91) No: 2 (9)	Yes: 16 (80) No: 4 (20)	2
Quantitative risk assessment	2	Yes: 10 (48) No: 11 (52)	Yes: 8 (38) No: 13 (62)	2
Dispersion of environmental risk	5	Yes: 3 (15) No: 17 (85)	Yes: 2 (10) No: 18 (90)	2
Epidemic intelligence	2	Yes: 14 (67) No: 7 (33)	Yes: 12 (57) No: 9 (43)	2
International health regulations instrument (annex 2 of IHR)	4	Yes: 11 (52) No: 10 (48)	Yes: 9 (43) No: 12 (58)	2

* From 1 (the most important) to 5 (the least important)

**From 0 (not at all) to 3 (very much needed)

Activities related to infectious diseases dynamic and control are performed in 80% of institutions and 91% consider having sufficient skills in this area. Even though epidemic intelligence is performed in 57% of respondent institutions and 67% of them present sufficient

skills in their teams, only 38% of institutions carry out quantitative risk assessments and 43% use the annex 2 of the revised IHR (2005).

Further training is considered necessary for all listed topics (median rank = 2 for all of them).

Table 4 shows the results for the Tools area. The use of software for statistical analysis and creation of a relational database were considered important tools for surveillance among respondents. The use of mapping software and access and use of online public health related information were perceived as less important (median rank = 2 and 3 respectively).

Table 4. EpiSouth 2007: training needs in tools for surveillance activities

Activity tool	Perceived importance <i>median rank*</i>	Sufficient skills to perform the task <i>n. (%)</i>	Activities performed by the team <i>n. (%)</i>	Training need <i>median rank**</i>
Use of software for statistical analysis	2	Yes: 19 (91) No: 2 (9)	Yes: 18 (86) No: 3 (14)	2
Create and customize relational database	2	Yes: 14 (67) No: 7 (33)	Yes: 12 (57) No: 9 (43)	2
Use a mapping software	3	Yes: 17 (81) No: 4 (19)	Yes: 15 (71) No: 6 (29)	2
Access and use of online public health related information	3	Yes: 19 (91) No: 2 (9)	Yes: 19 (91) No: 2 (9)	2

* From 1 (the most important) to 5 (the least important)

**From 0 (not at all) to 3 (very much needed)

All activities are performed in the majority of respondent institutions. More than 67% of them consider their teams are sufficiently skilled. Nevertheless, respondents considered that further training is needed in all topics listed in this section (median rank = 2 for all of them). Regarding the statistical packages used, most of the respondents (15 out 21) reported the use of EpiInfo, followed by SPSS (10), STATA (7) and SAS (4). Other statistical packages mentioned were: Epidata, Excell, Statistica, Sat Scan, R.

As graphical packages, Excel is the most widely used (13 participants). Other visual packages mentioned were: ArcView, EpiInfo, Health Mapper and Photoshop. One institution reported using its own application as statistical and graphical packages.

Prioritisation of training topics

As previously described in the methodology section, a unique score was used to prioritise training topics.

Table 5 lists training topics according to the priority given upon computing that score.

Considering the mean of the mean scores by training area, the risk assessment area ranked first in prioritisation (mean of the mean scores = 8.25), followed by surveillance (7.49), outbreak investigation (7.41) and tools (7.40).

Priority topics per area were: all topics for the spatial analysis for the surveillance area, conducting multivariate data analysis for outbreak investigation, creating and customizing relational databases for tools.

Table 5. EpiSouth 2007: training topics according to priorities given by participants

Training topic	Mean score	Perceived training need	Perceived importance of the topic
		<i>mean rank</i>	<i>mean rank</i>
Quantitative risk assessment	8.73		
Dispersion of environmental risk	8.52		
Epidemic Intelligence	8.31		
Create and customize relational database	7.94*		
Infectious diseases dynamics and control	7.94*	2	
Conduct multivariate data analysis using regression	7.84		
IHR instrument (annex 2 of IHR)	7.79		
Use of software for statistical analysis	7.68		
Conduct an outbreak investigation	7.63		
Spatial analysis	7.526*	1.9	2.8
Evaluation of surveillance systems	7.526*	1.9	2.7
Conduct of population survey	7.526*	1.8	
Coordinate an outbreak investigation	7.5		
Use a mapping software	7.47		
Data collection, processing and management	7.47		
Temporal analysis	7.42		
Conduct analytical studies	7.38		
Design a questionnaire	7.21		
Conduct descriptive analysis	6.94		
Access and use of online public health related information	6.52		

*When more than one topic had the same mean score, the order was established using first the initial mean rank of perceived training need in descending order. In case of further equality, the mean rank of initial perceived importance of the topic was used in ascending order.

Dissemination of results

Regarding the dissemination of the information related to outbreak investigation at national level, 52% of respondents stated they communicate results most of the time or always by publication of scientific articles or other communications (i.e., media, conferences).

Two countries regularly report outbreak findings at international level. Seventy-one percent of respondents stated that they communicate information on outbreaks at international level sometimes, while 19% of respondents never do it.

Findings or lessons learned from outbreaks are introduced into Epidemiology curricula by 43% of respondents while in 14% of them this activity is in progress.

All participants but one disseminate surveillance reports to public health professionals. Dissemination of surveillance reports to politicians is done by 76% of participants, to media by 62% and to the general public by 52%.

In general, reports produced by participating institutions (routine surveillance information or outbreak investigation reports) generate changes in general procedures (for 71% of respondents), response protocols (for 71%) or control measures (for 81%), but less in public health legislation (52%).

Collaboration with neighbouring countries and international organizations

The existence of bilateral agreements for cross-border surveillance is mentioned by 40% of respondents. An “in progress activity” is reported by 10% institutions. A bilateral system was considered useful for urgent information exchange regarding crossborder epidemiological threats by 43% of respondents. All respondents stated reporting surveillance data to World Health Organization (WHO) by their respective institutions and 9 (47%) report to European Centre for Disease Prevention and Control (ECDC) and designated surveillance networks, reflecting the EU members among EpiSouth members. Other institutions to which respondents report surveillance data are the European Food Safety Authority (EFSA), Food and Agriculture Organization (FAO) and the United Nations Children’s Fund (UNICEF).

Proposal for improvement

Most participants in this survey feel that training under the EpiSouth project may improve cross-border surveillance and early warning in the region. Suggestions included improving the networking, exchanging experience and common surveillance tools/methods with neighbouring countries. Harmonized training could lead to aligned surveillance methodology and facilitate the cooperation and comparisons between countries.

They also believe that the project could promote the access to information and surveillance tools while promoting further training at the subregional level for countries sharing common problems. Moreover, this training would also help improve surveillance at the national level.

According to respondents, EPIET (European Programme on Intervention Epidemiology Training) is an example of a good training in applied Epidemiology and organization of EPIET-like training courses was suggested for improving the training under the EpiSouth project. Other suggestions included planning courses in outbreak investigation, advanced statistical methods, and antimicrobial resistance. One respondent proposed that training needs assessment be systematic rather than sporadic.

Discussion

Emergence and re-emergence of some infectious diseases, bioterrorism threats and the development of technical capacity in the last 20 years led to advances in surveillance methodology and activities. Adoption of the newly revised International Health Regulation (IHR 2005) since June 2005 and its entry into force in June 2007 highlight the importance of adapting surveillance systems to those changes.

Most of the respondents in our survey were senior professionals working for many years in their institutions and leading departments in the past years. We assume that they have faced the advances in disease surveillance including early warning in recent years, thus their answers to our questionnaire represent expert opinion in this field.

The survey identified the target audience for training under the EpiSouth project. In general, services are understaffed at central level and need trained professionals. Nevertheless, related findings should be carefully interpreted considering differences in size and population of countries, their organization, structure and development of the surveillance systems but also availability of and regular participation in advanced courses. Assessing the reasons behind this situation could be interesting for further activities.

The limited staff mentioned above could explain the lack of involvement of these structures in training activities of their own personnel.

The results of the training topics prioritisation show that most needed are quantitative risk assessment, modelling to assess dispersion of environmental risks, epidemic intelligence, advanced data analysis. However, these findings could be biased by the increased promotion of these topics by international and supranational institutions or by the formulation of questions in our questionnaire and their understanding. Although the questionnaire has been pretested, during data analysis we observed that some answers clearly reflected a misunderstanding of some questions.

Results of outbreak investigations and surveillance reports seem to be well disseminated at the national level, targeting politicians, public health professionals, media and the general public. Sometimes information is also disseminated at international level.

Unfortunately, corresponding lessons learned are seldom included in Epidemiology curricula, only sometimes resulting in changes in public health legislation.

A special attention has been given to the newly revised IHR (2005), many institutions represented in the survey being also IHR national focal points. Most of the participants feel that training is needed in IHR (2005) implementation in general and more specifically in the use of its decision instrument (annex 2 of IHR). Other IHR related training topics also ranked high in the prioritisation such as quantitative risk assessment and epidemic intelligence.

The first EpiSouth training module took place in September 2007. It included a workshop on different aspects of surveillance systems in the Mediterranean region and the Balkans and an introduction to time and space analysis of surveillance data. Thirty-three participants from 18 countries attended the module and evaluated it well in general. Contact with facilitators and the relevance of topics were very much appreciated. Flowcharts returned along with the questionnaires of this assessment were very useful for the preparation of the first module.

Additional trainings requested by participants in this module were consistent with the findings of the present needs assessment (global and cross-border surveillance, advanced data analysis). Other topics were mentioned as well: basic epidemiology/surveillance (outbreak investigation, vaccine preventable diseases, etc.).

Conclusion and recommendations

WP5 of the EpiSouth project (Training in field/applied epidemiology) is meant to help filling some gaps in training related to specific disease surveillance topics of interest for the development of the EpiSouth network. Together with other activities, the project carries out three training modules and therefore a limited number of training topics can be directly tackled by this work package. A training needs assessment proved useful to identify training topics of major interest to be included in the training modules (2 and 3) (Table 6).

Table 6. Proposed training topics for EpiSouth modules after 2007

Module	Topics of interest	Complementary topics	Dates
Module 2	Epidemic intelligence Risk assessment IHR decision instrument	Infectious diseases dynamics and control Environmental Epi	June 2008
Module 3	Multivariate data analysis Data modelling/Regression	Relational databases Statistical software	2009

The topics identified constitute the latest step in the epidemiological training process and require a good understanding of other topics included in the assessment. Short refreshment of some basic knowledge of interest can be added to the agenda of the training modules. Nevertheless, establishing an accurate profile and an adequate selection of candidates will be key issues for the success of the next two training modules.

Although the training modules will include specific topics of interest for the EpiSouth network, country-specific training programmes for most countries participating in EpiSouth seem to be needed.

The capacity and quality of a network depends on the capacities of its members.

The EpiSouth project is not meant for implementing training at national level, however, WP5 could play a “hub” role by facilitating/promoting the preparation of adapted and feasible training plans and programmes at national level and by mobilising its resources for attracting the interest of potential donors in funding training programmes in the EpiSouth area.

Given the objectives and geographical area of EpiSouth and more specifically of WP5, in addition to the training topics of interest prioritised through this assessment, we identified a need for coordinating activities with major public health institutions and organizations working on these topics at regional level such as WHO (EURO, EMRO and Lyon Office) and ECDC.

Future training activities shared or prepared together with these institutions could reinforce not only coordination in training but also the coordination and complementarities between networks.

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ANNEX 1

Training needs assessment questionnaire

TRAINING NEEDS ASSESSMENT**A. Introduction**

The following questionnaire aims at identifying the common training needs in surveillance and early warning of all countries participating in the Episouth project. Based on this needs assessment, the contents of Work Package 5 training modules will be defined, in order to ensure substantial support to the improvement and reinforcement of cross-border epidemiological surveillance in the Mediterranean region and to help define consensus to operate.

This assessment does not, in any way, intend to evaluate the countries surveillance systems in themselves but rather to draw conclusions as to what would be the common training needs. In addition to this, it is important that answers reflect the actual needs for improving cross-border communicable diseases surveillance and response of the system and not national needs. From that perspective, the questionnaire targets central and intermediate levels and the person providing answers should be the person in charge of surveillance at country level or anyone this person may consider appropriate.

Information collected through the questionnaires will be confidential and only overall results will be communicated. The use of individual country data will be subject to countries approval.

Feel free to add in comments to any section in the space provided for that purpose, at the end of the questionnaire or added as a separate page.

Please read the questions below carefully, fill in the fields with text or numbers according to the questions and tick boxes where required, choosing the answer(s) that best corresponds to your opinion. We would also appreciate that you do not leave questions unanswered. Remember there are no "correct" or "incorrect" answers.

EPISOUTH NEEDS ASSESSMENT-WP5**B. Professional Identification Data**

The following data relate to the person filling in the questionnaire.

1. First Name Last Name
2. Current position
3. Name of the Institution /department
4. For how long have you been working in this institution? *(Please, tick only one box)*
 From 0 to 3 years ; From 4 to 7 years ; From 8 to 10 years ; More than 10 years
5. For how long have you had your current position? *(Please, tick only one box)*
 From 0 to 3 years ; From 4 to 7 years ; From 8 to 10 years ; More than 10 years

C. Organization and Structure

6. Draw the Flow Chart of Surveillance and Early Warning Systems in your country. *(Please add as a separate page).*

7. How many people work in Public Health Surveillance at the central level? *(Consider the categories mutually exclusive)*

- 7a. Medical Doctors Epidemiologists
- 7b. Non-Epidemiologists Medical Doctors
- 7c. Public Health professional Epidemiologists
- 7d. Non-Epidemiologists Public Health Professionals
(e.g. nurses, laboratory technicians..)
- 7e. Technicians (e.g. Statisticians, Information Technology staff)
- 7f. Support (e.g. Administrative staff...)

8. Is there any coordination for epidemiological surveillance among various institutions involved in public health? (for e.g. Food safety, Ministry of agriculture, etc..)

YES / NO / UNKNOWN / IN PROCESS .

8.a. If YES, at what level? Technical Political Others Specify

9. Do you have distinct teams, one dealing with Early Warning and one dealing with Response to outbreaks?

YES / NO / UNKNOWN

10. Besides your institution, is there another institution involved in surveillance, early warning and response with an equivalent level of decision-making?

YES / NO / UNKNOWN

11. Has the focal point been established for implementing the new recommendations of the International Health Regulations?

YES NO UNKNOWN IN PROCESS

11.a. If YES, where is it based (i.e. in what institution)?

12. Does the system have surveillance protocols for mandatory communicable diseases? *(Tick only one option)*

YES for all

YES for some of them
 NO
 UNKNOWN
 IN PROCESS

D. Skills and Competencies

Access to Training

13. Beside what is given in basic public health/Epidemiology curricula in your country, are there other trainings/courses in diseases surveillance and/or Epidemiology available?

YES / NO / UNKNOWN

If YES, what is the level of these trainings/courses? (*Tick one or more*)

- Introductory course in surveillance (1 or 2 weeks)
- *Advanced course in surveillance (3 or more weeks)
(Also taking into account the content of the course)
- Master level degree in Public Health with emphasis in Epidemiology
- Field Epidemiology Training Programme
- If YES, duration of the programme

14. How many of the personnel involved in surveillance activities in your unit, except support staff, have ever received training in surveillance? (*Tick only one option*)

None < 25% 26% – 49% 50% – 74% 75% - 100%

15. How many of the personnel involved in surveillance activities in your unit, except support staff, have received training in surveillance during the past two years?

	None	< 25%	26%-49%	50%-74%	75%-100%
-Introductory course in surveillance (1 or 2 weeks)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-Advanced course in surveillance (3 or more weeks)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
-Master level degree in Public Health-emphasis in Epidemiology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Field Epidemiology Training Programme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
- Other, specify <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

16. Does your institution deliver training in diseases surveillance and Epidemiology?

YES / NO / UNKNOWN / IN PROCESS

17. Has your institution developed any specific training programme in Epidemiology targeting its own personnel?

YES / NO / UNKNOWN / IN PROCESS

18. If your institution is the National Focal Point for the International Health Regulations, would you need training in implementing the new IHR?

YES / NO

Training Areas

Here below are four different tables to complete on surveillance, outbreak investigation, risk assessment and tools. In the headings are the questions you must answer concerning a series of methodologies/activities displayed in the left column. Please, tick the boxes that best correspond to your opinion.

Surveillance

	29. Please rank the following activities/methodologies according to their perceived importance for surveillance (1 being the most important to 4 the least important)	30. In your opinion, are there individuals, in your surveillance unit, with sufficient skills to perform these tasks?	31. Are these activities performed by your team?	32. Is any basic or refreshment training needed for your team to be able to perform these activities? (0 Not at all; 1 Not really needed; 2 Needed; 3 Very Much needed)
Temporal analysis	1	YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Spatial analysis	1	YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Evaluation of a Surveillance system	1	YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Conduct a population survey	1	YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Data collection, processing and management (Information systems)	1	YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>

Comments:

Outbreak investigation

	33. Please rank the following activities/methodologies according to their perceived importance for outbreak investigation (1 being the most important to 6, the least important)	34. In your opinion, are there individuals in your surveillance unit with sufficient training to carry out these activities?	35. Are these activities performed by the team?	36. Is any basic or refreshment training needed for your team to be able to perform these activities? (0 Not at all; 1 Not really needed; 2 Needed; 3 Very Much needed)
Coordinate an outbreak investigation		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Conduct an outbreak investigation		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Design a questionnaire		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Conduct descriptive data analysis		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Conduct analytical studies		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Conduct multivariate data analysis using linear or logistic regression		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>

Comments:

Risk Assessment

	37. Please rank the following activities/methodologies according to their perceived importance for risk assessment (1 being the most important to 5, the least important)	38. In your opinion, are there individuals, in your surveillance unit, with sufficient skills to carry out these activities?	39. Are these methodologies/ activities performed by the team?	40. Is any basic or refreshment training needed for your team to be able to perform these activities? (0 Not at all; 1 Not really needed; 2 Needed; 3 Very Much needed)
Infectious Disease Dynamics & control		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Quantitative Risk Assessment		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Dispersion* of environmental risks		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Epidemic Intelligence		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
International Health Regulations Decisions Instrument (Annex 2 IHR)		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>

* Estimation and modelling of atmospheric, water, soil dispersion of toxic substances, pollutants a other environmental risks.

Comments:

Tools

	41. Please rank the following tools according to their perceived utility (from 1 the most important to 4, the least)	42. In your opinion, are there people in your surveillance unit, with sufficient skills to perform these methodologies/ activities?	43. Is this methods/ methodologies/ activities used by your team?	44. Is any introduction or update needed in your team to be able to use it? (0 Not at all; 1 Not really needed; 2 Needed; 3 Very Much needed)
Use of Software for statistical analysis		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Create and customize relational databases		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Use a mapping software		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>
Access and use of online public health related information		YES <input type="checkbox"/> / NO <input type="checkbox"/>	YES <input type="checkbox"/> / NO <input type="checkbox"/>	0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/>

Comments:

45. Which are the statistical packages usually used by your team?

46. Which are the graphical packages usually used by your team?

Dissemination of results

47. Upon outbreak investigation, do the findings result in publication of scientific articles or communications (to the general public, media, in scientific conferences...)?

At national level: Never / Sometimes / Most of the time / Always

At International level: Never / Sometimes / Most of the time / Always

48. Are findings and/or lessons learned from those investigations adapted and introduced into Epidemiology curricula?

YES / NO / UNKNOWN / IN PROCESS

49. Does your surveillance system generate routine reports targeting the following specific audiences:

49.a. Public health professionals YES / NO

49.b. Politicians YES / NO

49.c. Media YES / NO

49.d. General Public YES / NO

50. Have reports produced by your institution, whether routine surveillance or outbreak investigation reports, generated changes in

50.a. General Procedures YES / NO

50.b. Response protocols YES / NO

50.c. Control measures YES / NO

50.d. Public health legislation YES / NO

Collaboration with neighbouring countries& international organizations

51. Are there agreements with neighbouring countries to share cross-border surveillance information?

YES / NO / UNKNOWN / IN PROCESS

52. Does a bilateral system take charge of informing urgently neighbouring countries of cross-border epidemiological threats?

YES / NO / UNKNOWN / IN PROCESS

53. Do you report surveillance data to any international organisation such as

WHO YES / NO / IN PROCESS

53.a. To other organisations, please specify

E. Proposals for improvement

(No restrictions on text length)

54. In what way can the training work package 5 of the Episouth project contribute to improving cross-border surveillance and early warning in the region?

55. Other comments relating to training in Epidemiology in your country or other suggestions for the training Work Package of the Episouth Project

CROSS-BORDER EPIDEMIC INTELLIGENCE: COUNTRIES NEEDS AND EXPECTATIONS

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Background

In an environment where circulation of goods and people is constantly increasing, the epidemic risk is also growing. To fulfil their public health mission, states must not only exert a continuous monitoring of their population's health, but also set up a capacity to identify any medical risk emerging internationally. The SARS (Severe Acute Respiratory Syndrome) outbreak in 2003 illustrated the nature and the possible dimension of these new threats.

EpiSouth Work Package 6 (WP6 – Cross-border epidemic intelligence) aims at establishing a common platform on “epidemic intelligence” where participating countries may find broad internationally and regionally focused information. That will contribute to the strengthening of early warning capacities at Mediterranean level, the EpiSouth dedicated WP will be divided in 2 specific components:

1. *International epidemic intelligence*

(i.e. the monitoring of health events of international importance)

Epidemic Intelligence (EI) will be performed through the identification of informal signals. After a specific selection, validation and analysis processes, genuine alerts will be identified and disseminated to EpiSouth Community. International EI will focus on:

- countries/regions outside EpiSouth area;
- major health crisis (e.g. avian influenza, etc.);
- regional neighbouring countries of EpiSouth participating countries (e.g. Sub-Saharan Africa, Middle East).

2. *Regional cross-border issue*

Aside from international EI, participating countries should be able to share alerts generated by their national early warning system. To allow this necessary information dissemination, a secure web-platform will be implemented to allow rapid circulation of information (mailing list) as well as offering a space for discussion. The information shared – national alerts of common interest for EpiSouth community – will relay only on official information originating from EpiSouth participating countries or partners (e.g. World Health Organization, WHO; European Centre for Disease Prevention and Control, ECDC, etc.). Regional cross-border issues will focus on:

- countries/regions inside EpiSouth area;
- secure exchanges of health related information within the restrictive group of EpiSouth participating countries;

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For some EpiSouth participating countries, EI might somewhat be a new and a complex concept. Thus, design and implementation should be addressed in a stepwise manner.

In order to adapt the international EI and regional Cross-Border (EI-CB) to the EpiSouth community needs, a preliminary assessment of how monitoring of international health crises is organised, coordinated and managed in each country had to be performed. A questionnaire for WP6 needs and expectations was filled in by the participant countries.

Objective

The designed questionnaire aimed at providing a global overview on existing systems rather than collecting exhaustive data regarding EI-CB. The results will be used to set up a basis and to allow more in-depth discussions on specific subjects such as criteria for epidemic intelligence, coverage area, etc. The questionnaire has been divided in two separate parts:

1. International EI (i.e. the monitoring of health threats occurring outside EpiSouth area);
2. CB issues (i.e. the possibility to exchange health related information within EpiSouth countries).

Methods

A preliminary evaluation of the questionnaire and a first assessment of EI-CB activities were performed with the members of the WP6 - Steering Team (WP6-ST). All different geographical areas (Balkans, Europe, North Africa and Middle-East) are represented in the WP6-ST. This convenience sample would provide an overview for the whole EpiSouth area.

The 1st version of the questionnaire was elaborated and sent to the WP6-ST in July 2007.

A teleconference organised in October 2007 with the WP6-ST provided the opportunity to validate the EI-CB questionnaire and to comment the preliminary results and indications obtained from the questionnaires compiled by the WP6-ST members.

In November 2007, the EI-CB final questionnaire (Annex 1) and the preliminary results were shared with all the other participant countries, inviting them to integrate and validate the process of cross-border epidemic intelligence evaluation: in particular those countries, which considered that the distributed results were not representative of their own situation or considered that they could have added additional information not mentioned, were kindly and strongly encouraged to compile their own questionnaires and send them back.

Results

A total of 10 questionnaires were received and analysed anonymously.

A descriptive analysis was performed in order to provide global results using frequencies and proportions. For certain questions, similar answers were grouped in the analysis to provide a good synthesis of the results (e.g. expectations from WP6, definition of epidemic intelligence, list of countries of interest and diseases of interest, etc.).

International EI

All countries that participated to the survey perceived that emerging diseases are significant health issues, and for 70% (7/10) are very important. For half of countries, no human resources are dedicated to international alerts.

All countries have developed epidemic intelligence related activities, and for 90% (9/10) a specific unit is in charge of an active monitoring of internationally occurring health crises. However a specific methodology and criteria have been formalised by only 40% (4/10) of the responding countries and 30% (3/10) have not defined procedure to verify or validate information originating from non official sources.

Various sources of information are used by all countries including WHO (100%) other Ministries of Health (80%) but also non-official sources of information such as media (80%) and Internet (90%) (Figure 1).

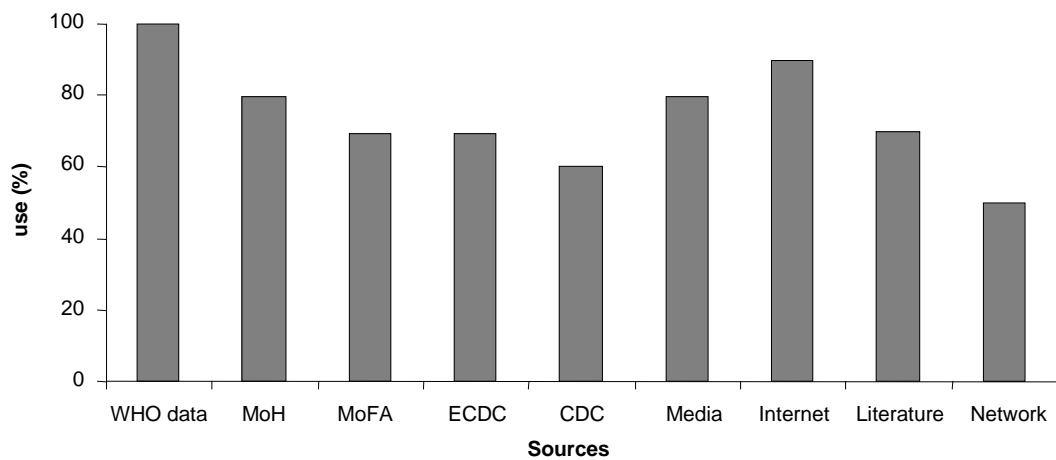


Figure 1. EpiSouth 2007: sources used for the follow-up of international alerts

Overall the understanding of international epidemic intelligence is rather homogenous throughout the responding countries both in terms of expected outcomes and area of interest (Figure 2).

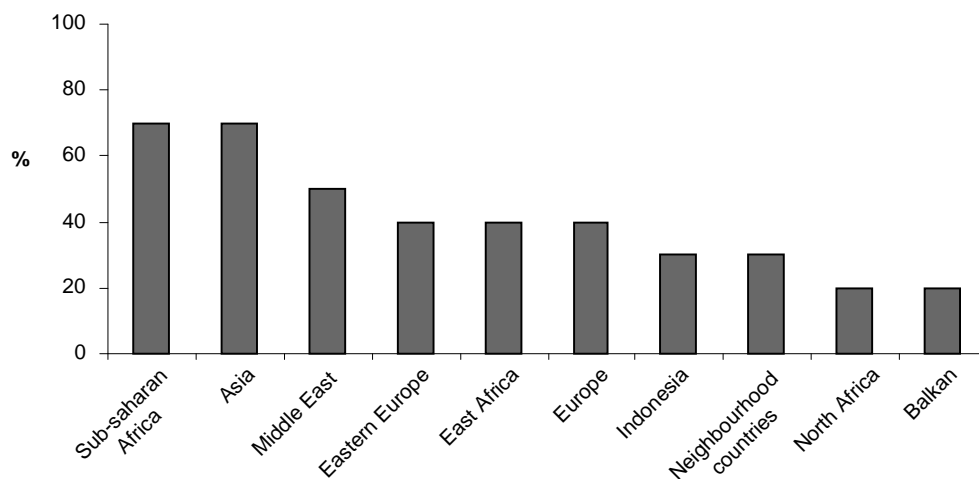


Figure 2. Geographical areas of interest

Concerning the criteria for the international surveillance process, health crisis are considered those that:

- affect our country and territories;
- expatriate populations, migrants;
- involve tourist areas and/or countries of interest (closed relationship);
- are new and unusual events;
- have worldwide extension.

Concerning the definition of “International health events monitoring” the main key words mentioned are:

- detect and monitor health treats;
- real time monitoring their temporal and spatial spread;
- may affect our populations;
- collecting, sorting and analysing information;
- ongoing surveillance for preventive measures;
- “timely” data analysis and risk assessment.

The agreement is on continuous detection process on new/unusual health events showing a risk of international spread for useful and timely adequate control measures.

The most appropriate supports for dissemination of EpiSouth EI outputs are reported in Table 1.

Table 1. EpiSouth 2007: most appropriate support for dissemination of EpiSouth EI outputs*

Kind of support	N.	%
Paper	1	10
Mail (mailing list)	4	40
Electronic bulletin	7	70
Alert messages	7	70
PDF newsletter	3	30
Website support	6	60
Not known	0	0

* The diffusion of alerts through the website and the production of an electronic bulletin for epidemic intelligence outputs were in majority suggested.

The most repeated expectations from “international health events monitoring” are

- time and money efficient method;
- identification of genuine health threats as quickly as possible;
- information of relevant health threat as early as possible;
- timely information for risk assessment and control;
- prevent the spread of disease and importation of cases;
- follow-up (national level);
- exchange information and ameliorate capacities;
- sharing up of resources;
- support for national surveillance systems;
- collaboration among the different countries;
- be informed other countries responses (for Mediterranean area).

Most countries have developed retro-information procedures while privileging electronic supports: electronic bulletin (7/10); website (6/10) and alert messages through mailing list (7/10).

Regional CB

Regarding CB epidemic prone disease surveillance, all countries (10/10) have specific alert procedures. However, only 3 (30%) follow international procedures for surveillance as 64% have their own.

Half countries express potential difficulties to share sensitive data and declare possible restrictions, specifically for unpublished data (5/10).

Partnership and collaboration with a supranational network including neighbouring countries is done by 100% of countries, reflecting the interest from participant countries to integrate international network and showing their input in surveillance network in their region.

Discussion

The analysis of the questionnaire shows a common understanding of the perceived importance posed by emerging health threats throughout EpiSouth catchment area. Some differences were observed according to countries; however, these differences appeared to be related to historical structure of the surveillance systems (e.g., availability of adequate resources) rather than different perception of epidemic intelligence.

The perception of countries and areas perceived as potential sources of health threats and areas or countries of interest is very much linked to countries specificities (e.g. geographical location, history, origin of the migrants, etc.) and was therefore quite different. In regard to the number of EpiSouth countries, it will be very difficult to cover all individual country's needs. However, answers provided a base that determines a common denominator.

The analysis (although the number of questionnaires received is not exhaustive) provided a solid base to elaborate the EpiSouth international epidemic intelligence criteria both in terms of geographic coverage and type of health events potentially concerned. After validation by the WP6-ST, this draft criteria list elaborated with the result of the questionnaire was sent to all EpiSouth participating countries. EI-CB criteria were discussed, fine-tuned and adopted by all participant in the yearly meeting held in Athens in December 2007.

Another survey performed on epidemiological training needs (through the WP5) has shown that most of participating countries expect that EpiSouth training may improve cross-border surveillance and early warning in the region, in terms of: networking, exchange of experience and common surveillance methods with neighbouring countries.

According to this survey, the project could promote the access to information and surveillance tools.

Regarding regional cross-border issues, most of the countries apply either national or international guidelines to report potential cross-border epidemic prone disease events.

In regards to the implementation of a data platform exchange, 50% (5/10) of the reporting countries foresee possible difficulties or restriction regarding information sharing. Although no specific restrictions were mentioned, this point needs to be taken into consideration. It was anticipated that sharing of genuinely sensitive data could be problematic. Therefore, in order to prevent confusion, it was decided to clearly distinguish (including in terms of timeframe) the implementation of international epidemic intelligence (focussing on countries outside EpiSouth) and regional cross-border issues (information sharing within EpiSouth countries) in order to prevent confusion. Likewise a special attention will be placed in avoiding unnecessary duplication in integrating in EpiSouth platform the information already collected by International Organisation namely WHO and ECDC.

Conclusion

The results of this survey provide valuable information for the design of international EI tools as well as cross-border epidemic intelligence platform.

In fact, although questionnaire were filled in by a relatively small number of countries, the results and indications obtained were shared with all the countries which found the evaluation results in line and comparable to the situation in their own countries.

They concretely contributed to the elaboration of EI criteria selected, the selection of the most appropriate type of communication support, etc.

They also underlined the importance expressed by participating countries to EI-CB issues. Those results are concordant to conclusions drawn by WP5 team following the training priorities survey during which epidemic Intelligence tools and analysis were expressed by several countries.

The expectations from the WP6 work expressed by each participant countries, the definition of International epidemic intelligence comfort the common goal of all countries and the final aim and outputs of this WP. It is important to succeed in founding a consensus for the 4 geographic areas of EpiSouth, in order to satisfy all expectations and to be efficient and fruitful regarding their sensitive issues.

Epidemic Intelligence activities are not possible and feasible without the contribution and trust of all participants.

This survey was the first step of the participating process that allow WP6 steering team and all the EpiSouth countries to actively contribute to the design and the implementation of EI-CB platform tailored to EpiSouth need.

Following the adoption of epidemic intelligence criteria in December 2007 in Athens, electronic EpiSouth Weekly Epidemiological Bulletin has been developed and currently going through a pilot phase.

Likewise, a platform that will allow EpiSouth countries to share health related information is under development and

Pilot version should be available for testing during the summer 2008.

Acknowledgements

We would like to acknowledge all the participants who have filled in the questionnaires and the others who have enriched the evaluation with their comments and observation and, in particular, the great contribution of the WP6 steering team members.

ANNEX 1

WP6 Questionnaire

**EpiSouth: “Cross-border Epidemic Intelligence”
“WP6 - Short Questionnaire**

Dear Colleague,

We thank you very much for your collaboration in the workpackage 6. You will be able to provide your input while integrating the WP6 country participant. As an EpiSouth participating country, we kindly invite you to answer the questions below regarding international surveillance and cross-border epidemic intelligence.

The questionnaire does not aim to be exhaustive on these particular subjects but we hope that your answers will better inform cross-border Epidemic Intelligence needs and expectations.

The questionnaire is divided in 2 parts:

- I. Health events monitoring system: for international surveillance
- II. Cross-border epidemic intelligence

If you feel you are not the best person to answer the questionnaire, please forward it along as necessary. You can send your completed questionnaire to f.belghiti@invs.sante.fr or by fax (+33 1 41 79 68 65).

Sincere thanks.

P. Barboza and F. Ait-Belghiti on behalf of the WP6 steering team.
International and tropical Department / InVS

Country _____

Name of reporter _____

Position _____

Institution \ Department _____

Date completed _____

I. INTERNATIONAL SURVEILLANCE (= outside EpiSouth area)

In order to well understand the objectives of our questions, let's imagine the following scenario:
*“We are in a context of an **infectious disease** – occurring in a foreign country – with a **potential impact for your country**. Example: official confirmation this week of 200 of SARS cases in China among which 50 that have already left back to their countries.”*
 What would be your country reaction in term of risk management, follow-up, data research, data validation and dissemination, human resources allowed to the alert...?

1. **How, in your country, is perceived the risk posed by emerging diseases and/or international health threats?**
 Very important Medium importance Low importance
 Not a priority I do not know

2. **Which organisation – in your country – would be in charge to deal with an alert linked to an international health threat?**
 Public health institute Ministry of Health Ministry of foreign affairs
 Laboratories (NRL) Experts specific research unit
 I don't know Other Ministry Other: _____

3. **Do you have specific human resources dedicated to the follow-up of these international alerts?**
 No, no specific human resources I do not know

Yes.
If yes, Please specify who and where the resource is located:

4. **How could you describe your activities related to international alerts in general?**
 As active: you are doing searches on regular basis using different tools, network and communications
 As more "passive": you usually wait for official announcements (WHO, Ministry of Health, etc.)
 No specific monitoring of international health threats
5. **Once a genuine international health threat that can affect your country has been officially notified: Is there a specific person / unit (civil or military) in charge of the monitoring of this event?**
 Yes,
 one team for all country
 several units in different regions
 one person only
 a transversal unit (infectious disease or international team, eg.)
 No, no designated person / unit
 I don't know
6. **What are the sources used for the follow up of these international health threats?**
 WHO data ECDC CDC Media
 Ministry of Health Ministry of foreign affairs Network Internet
 Literature I don't know Other: _
7. **What kind of tools do you use for the follow up of these international health threats?**
 Internet (Google etc.) specific information bulletin Specific software
 Specific databases WHO I don't know
8. **Do you have any criteria / methodology to perform epidemic surveillance at international level?**
 Yes, official criteria, published in national guidelines
 Yes, unofficial criteria widely used in the country
 No, fixed criteria but international surveillance is done
 No, no monitoring performed
 I don't know
 Further comments

9. **If you have defined criteria for the selection of relevant health threats, please list them.**

10. **Do you have any defined process for the validation of information originating from non-official sources?**
 I don't know
 No
 Yes. Please describe:

11. Is your country already included in a specific international surveillance network (EU surveillance networks, SEE: South-Eastern Europe network, other)?

- I don't know
- No
- Yes. Please precise or specify names:

12. What is your definition of international Health events monitoring?

Comment

13. How do you think information should be disseminated within the EpiSouth community?

Comment (frequency, recipients, etc.)

14. What kind of support would be the most appropriate for the dissemination of EpiSouth epidemic intelligence outputs?

- | | | |
|---|---|--|
| <input type="checkbox"/> Paper | <input type="checkbox"/> Mail (with mailing list) | <input type="checkbox"/> Electronic bulletin |
| <input type="checkbox"/> Alert messages | <input type="checkbox"/> .PDF newsletter | <input type="checkbox"/> Website support |
| <input type="checkbox"/> I don't know | | |

15. What are your main expectations from the international health events monitoring?

At National level?

At Mediterranean community level?

Continent? Specific area (EMRO, EU, Asia, Africa, etc.)

Priority diseases?

16. From which countries/area (e.g. Sub-Saharan Africa, Middle-East, etc) are coming most of the international health threats that have affected your country?

List of countries/area

List of diseases (related to the countries/area referred above)?

17. Beside these area listed above, is there any country or area for which you have a specific interest or concern?

List of countries or region

Please state the reasons of interest or concerns?

II. CROSS-BORDER EPIDEMIC INTELLIGENCE (= within "EpiSouth community")

18. Could you provide the list of priority disease for you countries (could be attached in an other file) in terms of:

- i) Regular surveillance (list 1)
 - ii) Epidemic prone diseases (list 2)
 - iii) Emerging disease of importance in your country (list 3)
- Comment:

In every country, any communicable diseases surveillance systems are usually composed by different tools and each of these tools a specific objective:

- Monthly quarterly or yearly collection of data aiming to identify changes in epidemiological patterns (e.g. respiratory track infections, vaccine preventable diseases) etc.
- System of modifiable disease, early warning system for the monitoring of epidemic prone disease. The following questions would focus of these aspects

**** Regarding epidemic prone disease ****

19. How could you describe your epidemic prone disease surveillance system in terms of :

Exhaustivity

- Fully exhaustive (all health units at national level report data on a regular basis)
- Sentinel system only
- Mixed (both exhaustive and sentinel according to diseases)
- No specific epidemic prone disease surveillance (e.g. surveillance included in the regular surveillance) I don't know

comments: _____

Reactivity

- Immediate notification (e.g. compulsory modifiable diseases)
- Daily data collection
- Weekly data collection
- Monthly data collection
- other specify: _____
- I don't know

Geographic Coverage / Completeness of data and diseases

- Full National coverage (all diseases and all provinces)
- National data (all diseases and all provinces) with partial completeness
- Complete data for some diseases all provinces
- Partial data: for some diseases and all provinces
- Partial data: for all diseases and some provinces
- Partial data: for some diseases and some provinces

- Other. Please specify: _____
- I don't know

20. Could you describe tools and frequency of data collection for epidemic prone disease surveillance?

Which Frequency:

- Daily Weekly Monthly Yearly I don't know

At which Geographic level data are collected:

- District Departmental Regional National I don't know

Type of data:

- Numeric paper (fax, mail) electronic telephone I don't know

21. Is there a specific alert procedure? Do you follow specific guidelines?

- No I don't know
 Yes, national Yes, international
 Yes, a standard one. Please precise: _____

22. Could you describe your data collection and data circulation within the country? Please precise your procedures if necessary (an attached file could be provided if necessary).

[Surveillance -> Declaration -> Centralisation -> Coordination -> Information dissemination]

Comment

23. How do you validate the data collected? Please describe simply the procedure.

Comment

24. Do you have procedures for data dissemination?

- I don't know
 No procedures, no dissemination
 Yes. Please precise:

Validation:

Severity of the situation:

Geographic coverage:

- District Provincial Regional National
Frequency:
 Daily Weekly Monthly Yearly

Latest update (year):

25. Is there already any partnership with a neighbouring country or another institution (network surveillance, etc.)?

- No, no partnership
 Yes, at international level. Please precise: _____
 Yes, at national / local level. Please precise the geographic coverage: _____
 I don't know

26. Could you describe the collaboration you have with national reference laboratories, other institutes or regional public health centres?

- Frequency:

Type of exchange:

Role and responsibilities:

Number of regional centres:

27. For which demand your national reference laboratories are requested?

Comment:

28. In a context of data platform exchange, could it be possible that some specific data would be difficult to share or provide (within the Episouth community) regarding your government or institute policy or restrictions?

- I don't know
- No, no specific restriction
- Yes. Please precise:
Comment:

**If you consider that other information could be useful for our WP6 steering group,
Please do not hesitate to add your comment in another page or any relevant document**

ASSESSMENT OF COUNTRIES MIGRATION STATUS PROFILE AND VACCINATION ACCESS OF MOBILE POPULATION

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Background

Migration and health is a very serious global problem. Many international institutions and projects carry out studies and try to clarify step by step the very complex link between migration and migrants' health. The project intends to provide a picture of Vaccine Preventable Diseases (VPD, i.e. tuberculosis, polio, measles, diphtheria, tetanus, pertussis, hepatitis B, rubella) among migrants in the project countries. This is deemed critical and helpful for improving the infectious disease control among migrating populations and contributing for the better health of migrating children and their families

Therefore the objectives of Work Package 7 (WP7 – Vaccine-preventable diseases and migrant populations) were set:

1. to assess the access to immunisation of migrant population and immigrants;
2. to collect data and exchange information on cases/outbreaks of VPD in this target group;
3. to provide an overview of existing programmes for monitoring and improving migrant populations immunisation coverage and to formulate recommendations.

The aim of the survey is to present a general up to date picture on the situation in the EpiSouth countries regarding the migration profile and to serve as a tool to reach the first and the third objective of WP7.

Methods

A survey among EpiSouth participating countries was performed using the structured questionnaire “Assessment of countries migration status profile and vaccination access of mobile population”. The draft questionnaire “Vaccine preventable diseases and migrant population” was developed and was distributed to all the WP7 - Steering Team (ST) partners in order to ensure conducting of a pilot survey for assessment of the access of migrant population to immunizations. This preliminary study was performed among the seven WP7-ST countries

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and then the study was conducted among all the project participants using a revised questionnaire aimed at better understanding the process not only within EU countries but within non-EU countries as well.

In June 2008, in order to ensure enough time for collecting the required information (3 months in advance), the Word version of the questionnaire was sent to all 26 participating countries by e-mail.

In the meantime, the final version of the online questionnaire was developed and tested. The online questionnaire was uploaded and opened for compilation in the late September 2008. Data collection lasted until January 2009.

The questionnaire (Annex 1) contains a short introduction, special sections with Abbreviations and Glossary, and is divided into 5 sections that consist of 39 questions, designed for gathering information on countries' specificities related to: the immunization program and its implementation; the migrant population (type and size); methods for monitoring and assessment of vaccination coverage; availability of specific programs aimed at ensuring high vaccination coverage of migrant population; monitoring and surveillance of VPD in general and migrant populations in particular.

Because of the complexity of the process of migration, the discussions about the possible definition for migrants, especially for the project purposes, took a lot of time. Obviously, for the good execution of the project we have to concentrate around one possible group of migrants. However, the problem of migration and Communicable Diseases (CD) control and immunizations is very sensitive in most countries and we cannot reach a consensus on which group of migrants to choose and study during the project. For this reason, different migrants' groups were considered in the survey.

We assume that most of the Country Focal Points (FPs) need to have definitions about the migration and different migrants groups. To this purpose, we prepared and attached to the questionnaire a simple glossary to help the FPs in correctly compiling the questionnaire.

As for migrants' definition, a discussion about the list of CD and VPD that have to be included in the study took place. After this, we decided to consider the classic VPD which are included in the Expanded Programme for Immunization of the World Health Organization (WHO).

Results

We received information from 22 out of 26 EpiSouth participating countries.

The online questionnaire was compiled by all 9 EU EpiSouth countries and by 6 non-EU countries. Five non-EU countries compiled the Word version of the questionnaire which is slightly different from that made available online. Two countries sent only the very first preliminary questionnaire which was used during the pilot study.

Finally, 4 countries (2 from Balkans, 1 from Middle East and 1 from North Africa) did not respond to the questionnaire.

The results from each section the questionnaire are presented separately in the following paragraphs.

Immunisation programme implementation: general population

Information obtained through questions included in this section, aims to explore the organization of immunization systems of participating countries. We asked about the principles

of National Immunization Programme (NIP), separately for children and for adults; if vaccines and their administration are free of charge for population or not, and which is the budget source; which classic Expanded Program on Immunisation (EPI) vaccines (antigens) are included in the NIP; and which Health Care Workers (HCW) or institutions are responsible for immunizations.

Immunizations against poliomyelitis, diphtheria, tetanus, pertussis, measles and hepatitis B are included in the immunization schedules of almost all countries. Tuberculosis (TB) is not in the immunization schedule of 6 EpiSouth countries (Table 1). Vaccines against mumps, hepatitis A, pneumococcal, meningococcal diseases, chickenpox (varicella) and human papilloma virus (HPV) are mandatory in some countries and recommended in others.

Table 1. EpiSouth 2008: procedure for immunisation of the general population - for children

Topic	Yes	No	NA
Vaccines are included into the NIP for children poliomyelitis, diphtheria, tetanus, pertussis, measles and hepatitis B, TB vaccine (BCG)	16	6*	0
Vaccines for children are included into the NIP free of charge	18	2	2
Vaccine administration is free of charge for children**	18	2	2
Responsible for immunisations of children in your country			
<i>general practitioner</i>	12	7	3
<i>vaccination center</i>	13	7	2
<i>other</i>	14	6	2

NA: No Answer; * only TB. ** the source of budget: Ministry of Health fund usually the NIPs; In some countries National Health Insurance (NHIF) and state budget fund the vaccine administration.

Actually here appears a point for discussion about the understanding which vaccines are in the NIP – mandatory only, or all available in the country, including the recommended vaccines.

A wide range of other vaccines not included into NIP are offered to the adults free of charge (Influenza vaccine in two countries) or partially paid, or in full by the vaccinees (Table 2): vaccines against hepatitis B, hepatitis A, TB, typhoid fever, rabies; meningococcal vaccine, pneumococcal vaccine, etc.

Table 2. EpiSouth 2008: procedure for immunisation of the general population - for adults

Topic	Yes	No	NA
NIP for adults in the country	14	6	2
Vaccines included into the NIP for adults			
<i>poliomyelitis</i>	2	18	2
<i>measles</i>	1	19	2
<i>diphtheria</i>	8	12	2
<i>tetanus</i>	10	10	2
<i>pertussis</i>	0	20	2
<i>hepatitis B</i>	5	15	2
<i>TB vaccine (BCG)*</i>	1	19	2
<i>rubella</i>	2	18	2
Vaccines for adults, included into the NIP free of charge	13	2	7
Vaccine administrations free of charge for adults*	12	3	7
Responsible for immunisations of children in your country			
<i>general practitioner</i>	14	2	6
<i>vaccination center</i>	14	3	5
<i>other</i>	11	5	6

NA: No Answer; *the source of budget for those which are free of charge are: National Health Insurance, employer (for occupational risk groups) or Ministry of Health

Vaccines for people at occupational risk or other risk groups are offered in some countries free of charge.

As regard how to collect and where it is possible to find useful information about the immunization schedule, it comes out that 18 countries update the website of WHO. Actually we consider that this is the result of a possible mistake/misunderstanding because at the WHO web page all countries are presented with available information about immunizations. Furthermore, the web pages of national institutions such as Ministry of Health and the National Centres/Institutes responsible for Public health, or National Institutes dealing with communicable diseases, serve as an additional source of information about the immunization policy of countries, especially if they are designed not only in the national language but in other internationally accepted language too. In our study 12 countries present information regarding their national immunization schedule on the web page of their own or other national institution while 10 countries do not have this information available in the national website (Table 3). This allows making some preliminary working conclusions about the possible individual immunity of members of the vulnerable migrating population.

Table 3. EpiSouth 2008: information concerning national immunisation schedule

Topic	Yes	No	NA
Information concerning your national immunisation schedule is up to date on the following <i>web pages</i>			
http://www.who.int/immunization_monitoring/en/globalsummary/scheduleselect.cfm	18	4	0
http://www.euvac.net/graphics/euvac/vaccination/vaccination.html	13	9	0
Information concerning your national immunisation schedule is available on the web page of your institution	12	10	0
Information concerning your national immunisation schedule is available on the web page of a national institution?	11	10	1

NA: No Answer

Moreover the web addresses of most of the institutions involved in the project survey were collected and created a list of web pages (Annex 2), which could support the work of partners in case of necessity. It has to be recommended to periodically update this list.

Immunisation programme implementation: mobile population

In this section Country FPs (CFPs) are asked about: the presence of any specific regulation which supports immunizations of migrants and of nomadic population in the respective country; the existence of specific programs which help/facilitate the access of immigrants and nomadic population to the immunization service in the respective country; official Requirements from legal migrants as evidence of their personal immunization history; the institutions/organizations which support immunizations of illegal immigrants in the respective country; the organization process of immunizations of children from legal and illegal migrants' families, as well as immunizations of adult migrants (responsible institutions, payment of vaccines & vaccine administration, and budget source, Health Care Systems (HCS) and HCW involved in the process); the monitoring of immunization coverage of mobile population, immigrants, country specific nomads; the existence of information about completeness of immunization status of migrant children and about the immunization coverage among migrants by age groups.

Question about specific regulation supporting immunizations of immigrant population is general and does not define which immigrants it is related to (if legal or illegal). Few countries

have mentioned the existence of laws, regulations oriented to both groups. In particular: one country requires mandatory immunizations for new legal immigrants, before being allowed to stay in the country. Another country has Government Vaccination Plan and specific ad hoc government decrees. A third country has mentioned that there are some specific regulations about immigrant's vaccination but nothing is described. Half of participants gave negative answer to this question (Table 4).

Table 4. EpiSouth 2008: immunisation programme implementation in mobile population

Topic	Yes	No	NA
Presence of any specific regulation supporting immunisations of immigrant population in the country	11	11	0
Presence of any specific regulation supporting immunisations of nomadic population in the country	2	18	2
Presence of any specific program/approach for the immigrant population in the country facilitating their access and acceptance of immunisations (Example: trained mediators supporting health care system)	12	8	2
Presence of any specific program/approach for the nomadic population in the country facilitating their access and acceptance of immunisations <i>traditionally nomadic population in Europe (Roma people)</i>	9	12	1
<i>other nomadic population (country specific)</i>	6	13	3
Personal Immunisation Record* obligatory required by the country health authorities from people belonging to the following <i>legal</i> migrant groups			
<i>workers</i>	6	15	1
<i>students</i>	8	13	1
<i>children</i>	12	9	1
<i>other</i>	8	13	1
Organizations supporting immunisations of <i>illegal</i> migrants			
<i>Ministry of Health and National Immunisation Programme</i>	17	5	0
<i>Red Cross</i>	5	17	0
<i>United Nations</i>	4	18	0
<i>Non-governmental organizations (NGOs)</i>	8	14	0
<i>Other</i>	2	20	0

NA: No Answer; * document for the person's immunisation status

Actually 20 countries do not answer or answered "no" on the question about specific regulation for immunizations of nomadic population in the respective country. Only 4 countries give short information about the immunization approach to country specific nomad population. However, 12 participants notice that in their countries are introduced specially oriented vaccination activities and are performed some programs towards ensuring acceptance of immunizations and facilitating the access of immigrant population in the country. It has to be mentioned that a serious variety exists according to the presence of specific regulation which arranges immunization of immigrants within the participating countries. In addition, in some countries involved in the project, a range of programs are obviously implemented and work. Exchange of ideas and experience of good working & successful practices could help participating countries. As regard the access of country specific nomad population to immunization, supported by special programs it is evident that Roma population which is typical for the Balkan geographic region has a real, regulated access to immunizations but practically as a result of different social, behavioral and traditional reasons do not accept completely vaccinations, and in almost all EU and non-EU countries in the Balkan peninsula special approaches are introduced in order to reach this minority and ensure children's

immunization coverage. The Personal Immunization Record (PIR) is one useful document which could help for clarifying the vaccination immunity of legal migrants and consequent steps for their VPD prevention during their stay abroad. In this study, only 6 countries (27%) require from workers such type of document. The percentage of countries which requires PIR from children of legal migrants is slightly higher – 12 countries (57%) (see Table 4).

About the source of budget for immunizations of migrants, 16 countries have specified the Ministry of Health and NIP as a source of the budget for immunizations of legal migrants, as the same rules are applied to legal migrants and to the local population. The alternative source is the National Health Insurance (if their parents have such insurance). Fourteen countries have indicated the Ministry of health and NIP as a source of the budget for immunizations of illegal migrants. Alternative sources for some countries are Red Cross, Non-Governmental Organization (NGOs), and Ministry of Internal Affairs. Fifteen countries have shown the Ministry of health and NIP as a source of the budget for immunizations of nomadic population, as the same rules are applied to the local population; National health insurance (basic programme).

About the free of charge immunizations for migrants' children, 13 countries reported Ministry of health as a source of funds for legal migrants and the National Health Insurance funds this activity in 4 countries. For nomads' children, Ministry of health and the National Health Insurance mostly fund vaccine administration. In some countries Red Cross and NGOs support immunizations.

About the free of charge immunizations for adult migrants, 45% of participants report that tetanus vaccination is accessible for all migrants and other vaccines as hepatitis B vaccine, hepatitis A vaccine, typhoid fever, etc., could be proposed to some risk groups and will be paid by national health insurance or by employer

About the organization of immunization service for migrants, most countries informed that the approach combines routine health care system with an outreach system and other variants as catch-up campaigns, mobile teams, outreach system for asylum seekers, ad hoc strategies aimed at increasing awareness and access to the health system (Table 5).

Table 5. EpiSouth 2008: organization process of immunizations

Topic	Yes	No	NA
Vaccines included into NIP free of charge for children from the families of the following migrant groups			
<i>Immigrant whose stay is legal</i>	19	3	0
<i>Immigrant whose stay is illegal</i>	15	7	0
<i>Nomadic population</i>	19	3	0
Vaccine administration free of charge for children from the following migrant groups			
<i>Immigrant whose stay is legal</i>	18	4	0
<i>Immigrant whose stay is illegal</i>	14	8	0
<i>Nomadic population</i>	18	4	0
Vaccines and immunisation for adult's migrant groups free of charge	10	10	2
Method of organization the immunisation service for migrants in the country			
<i>As a part of the routine health care system</i>	19	3	0
<i>As an outreach system</i>	10	12	0
<i>Other</i>	4	18	0
Responsible for immunisations of immigrant population in the country			
<i>General practitioner</i>	14	7	1
<i>Vaccination Centre</i>	14	7	1
<i>Other</i>	11	10	1

NA: No Answer

About the structures involved in the immunization service, general practitioners and vaccination centres are the basic providers of immunizations in 14 countries; in 11 countries, other providers are public health departments in the District/s, Institute of Public Health; paediatricians, school medicine doctors, epidemiologists; Health Centres/Institutions specifically dealing with immigrants; international organizations and NGOs, etc. (see Table 5).

It is shown in Table 6 that nearly 91% of countries participating to the study do not monitor separately the immunization coverage of migrants/mobile or nomad people. The number of immunized from these groups is included in the total figures of immunized in the country. Only 2 countries have mentioned some experience in immunization coverage monitoring among migrating children. It is not possible to calculate the immunization coverage of migrating populations and make conclusions about their individual or herd vaccine immunity and whether they are prevented against VPD or are susceptible. Six countries reported they do not include the number of vaccinated children from mobile groups into the total number of immunised children and only one of them has information about the number of immigrant children, fully immunised with EPI antigens.

Table 6. EpiSouth 2008: monitoring of immunization coverage of mobile population, immigrants, country specific nomads

Topic	Yes	No	NA
Immunisation coverage of:			
Mobile population monitored separately from the national	1	19	2
Immigrants' children monitored separately from the national	2	20	0
Nomadic populations' children monitored separately from the national			
<i>traditionally nomadic population in Europe (Roma people)</i>	2	18	2
<i>other nomadic population (country specific)</i>	1	19	2
Children belonging to mobile groups included into the total immunised children	16	6	0

Twelve countries give an estimation of immunization coverage of children $\geq 80\%$ and 4 countries do not answer. Obviously this is a rough estimation derived from the total immunization coverage of children in the respective country. The absence of monitoring and/or specially designed surveys does not allow to have specific estimation for migrant children in most of the countries.

It was mentioned that migrant children are included in the general vaccination coverage figures. Only 2 countries assume that immunization coverage in migrants under 2 years of age is better than in other age groups, and 3 respond for better immunization coverage in the school age. All 5 countries reported the worse immunization coverage in adult and elderly migrants.

Mobile groups' access to immunization programmes

In this section CFP are asked about: the presence of information for access of migrants to immunizations and equality of the service for native people and migrants; observations about migrants taking advantage of the right to be immunized and official evidence about that (publications or studies); no documented but empiric observations about less immunized population groups in the country and the reasons for their lower immunization coverage.

Ten countries have information about the access to immunizations of migrant population. The access to the immunisation service is equal for people of native origin and for migrants in 18/22 countries.

It has to be noticed the variety about the access to immunizations of migrants. It seems in many countries, the access of migrant children to EPI vaccines is ensured and free of charge.

Studies among legal migrants showed still some barriers (lack of awareness, language).

The illegal status plays a negative role because of the fear for identification. Studies showed several barriers (lack of awareness, fear because of the illegal status, language barrier).

One country reported to have information suggesting that Roma children experience some obstacles in achieving immunizations. Studies conducted in another country suggest that despite the access to immunization is ensured by law, Roma population do not benefit this right and immunization coverage is pretty low in some areas. Finally studies conducted in other countries showed several barriers (lack of awareness, fear for their illegal status, language), many refusals, and a vaccine coverage of Roma children significantly lower than the national immunization coverage.

Four countries provide reference publications for these findings.

Thirteen out of 22 countries do consider that despite the lack of official information/data, some population groups are less covered by immunisation than the rest of the population and these are mostly illegal migrants and Roma people in Europe.

The main reasons pointed are, lack of trust in authorities, lack of information about immunizations and limited access to health care.

CD surveillance: VPD and outbreaks

This section aim to investigate on: institutions and HCW responsible for CD surveillance (at different level); the place of VPD surveillance in the national CDS and the list of VPD included in the system; specific surveillance for VPD in mobile population; information about VPD outbreak/s among the mobile population (since 2006) and if a national/local outbreak is a result of outbreak which has begun among mobile groups; the legislative possibility for official exchange of immunization history personal data between countries and relationships between CDS systems of the possible collaborating countries.

Twenty countries responded and explained in short the institutions – main actors involved in the national CD /VPD surveillance. Despite the local differences, the three-step system is in place: primary level (general practitioners, paediatricians, field epidemiologists, family physicians, hospitals and health care centres), middle level (district and regional – mostly departments/institutions of public health or other country specific structures having similar functions) and upper level (national: Ministries of Health and National Institutes of Public Health or National Centres for Disease Control).

VPD surveillance is included in the National CDS in 20 countries (2 CFP did not respond). Surveillance of classic VPD as polio, measles, diphtheria, tetanus, pertussis, rubella and hepatitis B are included in the national CDS in 20 countries, TB surveillance is in place in 17 countries. Other VPD for which vaccinations are recently introduced in the immunization programmes or are recommended but not mandatory, are in the CDS of very few countries: Hib infections (7 countries), hepatitis A (3 countries), mumps (11 countries), meningococcal (5 countries) and pneumococcal (2 countries) infections, varicella (3 countries).

Specific VPD system for mobile population is reported by 2 CFPs only.

Since the beginning of 2006, information about VPD outbreaks among mobile population in the respective country is reported by 11 countries. For 10 countries the source of information is the national CDS or reports of WHO, or information from UNRWA.

Local/national VPD outbreaks occurred in 7 countries as a result of outbreaks started in mobile population. Information about these outbreaks could be found mainly in the country surveillance system archives but these are not published in scientific journals.

The question about the possible exchange of information about the personal immunization data is related to the Legislation of the respective country and how far it allows (in case of necessity) submission of such data to an other country. This is related to situations where, such data are officially required by the Ministry of Health (MoH) of one country to the MoH of another.

Here, comments from one country are interesting, which have mentioned that according to Legislation, personal data can only be provided for public health reasons and these data must always be handled with confidentiality; similar is the comment from another country – that this exchange would be possible if is restricted to a confidential area.

Mobile population figures

This section aims at investigating on: the profile of mobile population in the respective country; the profile of legal immigrants and visitors, and which group presents the biggest part of migrants; the information related to the statistical data for migrants in the respective country.

As regards legal migration, as it was assumed that the CFP can collect more easily information about statistical data for legal migration and health service of the respective group in their country, and the information can help to exchange good practices, in this section of the questionnaire we asked about some most frequent migrants grouped as follows: asylum seekers and refugees, family reunification immigrants, worker immigrants, seasonal labor immigrants, tourists and students. Twenty-one CFP reported legal migration in their countries. Most of them reported that most of legal migrants are tourists and short term visitors (11 countries) while students and worker immigrants constitute a negligible quota of legal migration.

The presence of illegal migrants is reported by 14 CFP.

12 countries report traditionally nomadic population in Europe (Roma people) and 10 countries report country specific nomadic population.

It is evident that there is a great variety regarding the official statistical information and especially the type of this information and how far it can serve for the purposes of the VPD prevention or how much it help in organizing immunization service of illegal migrants and nomadic population. Information is available for 7 countries, which provided figures for one year between 2001 and 2007 (Table 8).

Table 8. EpiSouth 2008: availability of statistical data for migrants in the respective country

Topic	Yes	No	NA
Presence of national official information (number of persons) about			
<i>legal Immigrants</i>	15	3	4
<i>illegal Immigrants</i>	5	14	3
<i>nomadic population</i>	7	11	4
The national statistic collect information on			
<i>country of origin of legal immigrants entering in the country</i>	15	4	3
<i>country of origin of illegal immigrants entering in the country</i>	7	13	2
Identifying immigrants in the statistical data			
<i>as immigrant</i>	6	13	3
<i>on country of birth</i>	8	11	3
<i>on country of citizenship</i>	16	3	3
Presence of statistical data about age and sex of mobile population	7	12	3

Discussion

The countries participating in this survey represent diverse contexts of immigration and levels of integration of migrants.

Legal and illegal migration is present everywhere in the region and in different proportions. European countries are those most affected by immigration. Internally displaced persons are living in countries in Balkans and Middle East and are of great concern for the public health services including CD surveillance and prevention. Roma population is specific for the Balkans and EU countries (predominantly settled at one place or as nomads travelling within the respective country or abroad, mostly in EU countries, with or without documents). Other country specific nomads are noticed in North African and Middle East.

The organization and delivery of medical services is a national competence and therefore differs among countries. All classic EPI vaccines (poliomyelitis, diphtheria, tetanus, pertussis, measles, rubella and hepatitis B) are included in the immunization schedules of almost all countries. Vaccines against mumps, hepatitis A, pneumococcal, meningococcal diseases, chickenpox (varicella) and human papilloma virus are mandatory in some countries and recommended in others.

We consider that it is important to administer the EPI/WHO recommended vaccines and also the cost for their administration. If they are free of charge for the population, it could help very much in ensuring immunizations of vulnerable persons from hard-to-reach-groups. In most participating countries their costs are funded by the Ministry of Health/ NIP or Health Insurance (National Health Insurance Fund, NHIF). Immunizations are administered by GP, vaccination centres, private doctors or public health specialists (medical doctors, epidemiologists). Few vaccines for adults, mainly tetanus and diphtheria vaccines, are included into NIP in more than a half of participating countries and probably can be given free to migrants if needed.

Correct and updated information about the immunizations for the general population is an important tool which helps public health experts in ensuring relevant vaccine prevention of legal migrants.

54% of countries support specific approach for immunizations of immigrants (children and/or adults), and 41% support specific approach for immunizations of nomadic populations. Official documents/immunization certificates are not uniformly required as a part of documentation of the legal migrants, and no universal approach was found in the EpiSouth region. In the country of migration, immunizations of legal migrants are performed according to the rules for the native population. Migrants' immunizations are not monitored separately (i.e. the figures are included into the national immunization coverage).

Immunizations of illegal migrants are supported by the MoH/NIP and alternatively by international organizations (IOM: International Organization for Migration; WHO/UNICEF United Nations Children's Fund; Red Cross) or NGOs.

Immunizations of Roma population (settled and nomads) are performed according to the rules adopted for the native population and are not monitored separately (i.e. the figures are included in the national immunization coverage).

Immunizations of other country specific nomads are also performed according to the rules adopted for the native population or through the procedures followed by the supporting international organizations or NGOs.

The lack of separate information about the immunizations of migrant children (numbers) does not allow to calculate the proportion of fully immunized persons by vaccine antigens or to present group-specific immunization coverage. Anyway, it is reported roughly to be $\geq 80\%$ in 12 out of 22 countries).

No information is available for migrants' immunizations by age groups. It is supposed that children up to 2 years are better immunized but no data from routine surveillance can be presented as evidence.

Almost 50% of countries have information available about the mobile groups' access to immunizations, mainly on principle that the legislations does not allow the opposite (i.e. migrants have the right of equal access to the health care including preventive medicine and immunizations). On the other hand there are some rules in place which ensure free immunizations of the migrants' children. Another point is that migrants have the same rights of access to immunization service as the people of native origin.

Following the last assertion most migrants, despite their age, purpose of stay, legal status, can benefit the opportunity to be immunized according to the requirements of the relevant immunization schedule. A little part of illegal migrants do not take this advantage because of fear of identification, lack of awareness, lack of information about the responsible structures, language barriers, etc.

The information about the acceptance of proposed immunization service among illegal immigrants is insufficient. Studies conducted in specific countries can give a flavor for the local picture but could not serve to represent the whole EpiSouth region.

Asylum seekers and refugees are migrants whose access to health care including immunization is regulated and it is expected that they are fully immunized.

Some studies showed that Roma population has low immunization coverage of NIP vaccines despite the full and free access to immunizations.

Despite the lack of official information, 13/22 countries consider that some population groups are less covered by immunization than others, especially illegal migrants, Roma people and some country specific nomads. The main reasons for the lower immunization coverage within these groups are the lack of information about immunizations, lack of trust in authorities, limited access to health care and financial constrains, and language barriers.

The VPD are under surveillance as other infectious diseases. Public health structures are involved in the surveillance process in almost all countries in a very similar manner and, except for two countries, VPD in mobile populations are not monitored separately.

The national surveillance system is pointed as a source of information for VPD outbreaks in migrants in 10 countries only.

Scientific publications in journals or on the WEB are insufficient, very rare and do not contribute to increase the knowledge on this topic. We just mention few WHO reports of epidemiological investigation & control of some VPD outbreaks which rose in Balkans after 2006.

Data about the type of migrants and their country of origin could be found in the national statistic reports but not available in specific way for the public health purposes.

Information about sex of migrants is not sufficient. We assume that the mother and child health and protection is the main objective but, in general, we accept that immunizations have to be done to all people that are not immunized/protected independently on gender.

Conclusions

A huge diversity in the migration process within the EpiSouth region exists.

No specific evidence for the influence of migration on VPD is found, possibly because official information is not available, except for few studies supported by WHO/UNICEF in some countries.

Relevant strengths are found and can be presented as follows:

- Well structured public health services are in place in participating countries.
- NIP are developed and established.
- Vaccines and immunizations are free of charge for children.
- Official sources of information for immunization schedules are: international WHO internet database, EU/ECDC projects (VENICE and EUVAC.NET) and official websites of national public health institutions and MoH.
- Political willing for equality of migrants' access to the health care is declared at the international level; in the same context the access to the immunization service is brought as international rule and should be applied in all countries.

Relevant weaknesses are found and can be presented as follows:

- Lack of uniform and appropriate definitions (for migrants) in the process of data collection and for surveillance purposes.
- Lack of information for ~50% of participating countries about specific regulations supporting immunizations of immigrant population in the country because no regulations exist for some immigrating groups in the country (in addition, more than 50% of countries do not have specific regulations supporting nomadic populations in their own countries).
- Lack of structured/regular monitoring of epidemiological data related to migrant groups (VPD incidence; vaccinations).
- No sufficient information about vaccinations of legal migrants.
- No correct information about vaccinations of illegal migrants.
- Difficulties for immunizations of Roma populations.
- Difficulties for immunizations of internally displaced people.
- No specifically trained public health/social workers staff in some countries.
- Lack of experience in dealing with migrants.
- Insufficient collaboration with other governmental structures, agencies, institutions.

Acknowledgements

The WP7-ST would like to thank all CFP and members of the WP for their contribution to this report, and to members of WP1 and WP2 for their contribution in the process of development of the online version of the questionnaire. The contributions made by all participants of each participating countries in providing, collecting, collating and validating the information used for this report and the time generously provided by each person in answering the questionnaire are greatly appreciated.

We would like to acknowledge all the CFP who have filled in the questionnaires making possible this survey: Silvia Bino, Amel Boughoufalah, Ravlija Jelena, Nadezhda Vladimirova, Borislav Aleraj, Chryso Gregoriadou, Fatima Ait- Belghiti, Kassiani Gkolfinopoulou, Emilia Anis, Maria Grazia Dente, Raja Saleh Haddadin, Naser Ramadani, Nada Ghosn, Anna Maria Fenech Magrin, Mohamed Youbi, Bassam Madi, Adriana Pistol, Goranka Loncarevic, Veronica Ucar, Concepcion Martin de Pando, Mondher Bejaoui, Vedat Buyurgan.

ANNEX 1

WP7 Questionnaire Assessment of countries migration status profile & vaccination access of migrant population

This questionnaire aims at identifying and charactering the population groups who are less covered by the national immunisation programmes than the rest of the population in countries participating in the EpiSouth project, with a specific attention to mobile population

This assessment does not, in any way, intend to infringe the countries confidentiality in this area but it is important that the answers reflect the actual knowledge in this matter and the needs for improving cross-border communication and response in the future.

The data and information will be used only for the purpose of the project without any stigmatization.

Information collected through the questionnaires will be confidential and only overall results will be communicated. The use of individual country data will be subject to country approval.

Please, tick off the boxes where required. More than one option is possible for some questions.

Do not leave any cell blank on the questionnaire.

Please add your comments in the space provided for that purpose.

Glossary

Migrant: person moving from one place of residence to another

International migrant: person who changes his or her country of usual residence

Nomad: Person without a fixed place of residence who moves from one site to another (internal or international migrant)

Mobile population: person moving from one place to another (including migrant and nomad)

Refugee: person granted refugee status either before arrival or upon arrival in the receiving country. Refugee status can be granted on the basis of the 1951 Convention and the 1967 Protocol relating to the Status of Refugees or pertinent regional instruments

Asylum: Asylum is a form of protection given by a State on its territory based on the principle of "nonrefoulement" and internationally and nationally recognized refugee rights. It is granted to a person who is unable to seek protection in its country of citizenship and /or residence in particular for fear of being persecuted for reasons of race, religion, nationality, membership of particular social group or political opinion

Asylum seeker (refugee claimant): person whose application for asylum (under the 1951 Refugee Convention) is pending in the asylum procedure or who are otherwise registered as asylum-seekers

Seasonal Labour migration: is very common in agricultural cycles; it is arranged with farmers to provide the necessary help at the seasonal time, often with foreign nationals whose employment opportunities are more limited in their home areas

Legal immigrant: immigrant whose stay is legal in the hosted country

Illegal immigrant: immigrant whose stay is illegal in the hosted country

Visitors (from abroad to the country): Person admitted for short stays for purposes of leisure, recreation, holidays; visits to friends or relatives; business or professional activities not remunerated from within the receiving country; health treatment; or religious pilgrimages. Visitors include excursionists, tourists and business travelers.

Based on: Recommendations on Statistics of International Migration, Revision 1 United Nations, New York, 1998

http://unstats.un.org/unsd/publication/SeriesM/SeriesM_58rev1E.pdf

Abbreviations

CD	Communicable disease
CDS	Communicable disease surveillance
CFP	Country focal point
EPI	Expanded Programme on Immunizations
EPI Antigens	TB, Polio, Measles, Diphtheria, Tetanus, Pertussis, Hepatitis B, Rubella
HCS	Health care systems
HCW	Health care workers
IC	Immunisation coverage
IOM	International Organization of Migration
MoH	Ministry of health
NGO	Non-Governmental Organization
NHIF	National health insurance Fund
NIP	National Immunization Programme
PIR	Personal immunization record
ST	Steering team
TB	Tuberculosis
UN	United Nations
UNRWA	United Nations Relief and Works Agency
VPD	Vaccine-preventable disease
WP	Work package
WHO	World Health Organization

Identification of the EpiSouth Focal Point filling in the questionnaire

First name: _____

Last name: _____

Email: _____

Country: _____

SECTION 1 - IMMUNISATION PROGRAMME IMPLEMENTATION: general population

1. Procedure for immunisation of the general population in your country

1.1 For children

A) Which antigens are included into the NIP for children?

<input type="checkbox"/> TB	<input type="checkbox"/> Polio	<input type="checkbox"/> Measles
<input type="checkbox"/> Diphtheria	<input type="checkbox"/> Tetanus	<input type="checkbox"/> Pertussis
<input type="checkbox"/> Hepatitis B	<input type="checkbox"/> Rubella	<input type="checkbox"/> Other

If other, specify (max 100 chars) _____

B) Are the vaccines for children, included into the NIP free of charge?

Yes No

C) Is vaccine administration free of charge for children?

Yes No

If yes, specify the source of budget (max 100 chars) _____

D) Who is responsible for immunisations of children in your country?

<input type="checkbox"/> General practitioner	<input type="checkbox"/> Vaccination Centre	<input type="checkbox"/> Other
---	---	--------------------------------

If other, specify (max 100 chars) _____

1.2 For adults

A) Is there NIP for adults in your country?

Yes No

If yes, which antigens are included into the NIP for adults?

- | | | |
|--------------------------------------|----------------------------------|------------------------------------|
| <input type="checkbox"/> TB | <input type="checkbox"/> Polio | <input type="checkbox"/> Measles |
| <input type="checkbox"/> Diphtheria | <input type="checkbox"/> Tetanus | <input type="checkbox"/> Pertussis |
| <input type="checkbox"/> Hepatitis B | <input type="checkbox"/> Rubella | <input type="checkbox"/> Other |

If other, specify (max 100 chars)

.....

B) Are the vaccines for adults, included into the NIP free of charge?

Yes No

C) Is vaccine administrations free of charge for adults?

Yes No

If yes, specify the source of budget (max 100 chars)

.....

D) Who is responsible for immunisations of adults in your country?

- | | | |
|---|---|--------------------------------|
| <input type="checkbox"/> General practitioner | <input type="checkbox"/> Vaccination Centre | <input type="checkbox"/> Other |
|---|---|--------------------------------|

If other, specify (max 100 chars)

.....

2. Is the information concerning your national immunisation schedule up to date on the following *web pages*?

http://www.who.int/immunization_monitoring/en/globalsummary/scheduleselect.cfm

Yes No

<http://www.euvac.net/graphics/euvac/vaccination/vaccination.html>

Yes No

3. Is the information concerning your national immunisation schedule available on the web page of your institution?

Yes No

If Yes, please provide the web address (max 100 chars)

.....

4. Is the information concerning your national immunisation schedule available on the web page of a national institution?

Yes No

If Yes, please provide the web address (max 100 chars)

.....

SECTION 2 - IMMUNISATION PROGRAMME IMPLEMENTATION: mobile population

5. Do you have any specific regulation supporting immunisations of immigrant population in your country?

Yes No

If Yes, could you describe it shortly? (max 200 chars)

.....

6. Do you have any specific regulation supporting immunisations of nomadic population in your country?

Yes No

If Yes, could you describe it shortly? (max 200 chars)

.....

7. Do you have any specific program/approach for the immigrant population in your country facilitating their access and acceptance of immunisations?
(Example: trained mediators supporting health care system)

Yes No

If Yes, could you describe it shortly? (max 200 chars)

.....

8. Do you have any specific program/approach for the nomadic population in your country facilitating their access and acceptance of immunisations?

-Traditionally nomadic population in Europe (Roma people)

Yes No

If Yes, could you describe it shortly? (max 200 chars)

.....

-Other nomadic population (country specific)

Yes No

If Yes, could you describe it shortly? (max 200 chars)

.....

9. Is Personal Immunisation Record (document for the person's immunisation status) obligatory required by the health authorities in your country from people belonging to the following *legal* migrant groups?

If other, specify (max 100 chars)

10. Which one of the following organizations supports immunisations of *illegal* migrants?

If other, specify (max 100 chars)

11. Are vaccines included into NIP free of charge for children from the families of the following migrant groups in your country?

- Immigrant whose stay is legal

If Yes, specify the source of the budget (max 100 chars)

- Immigrant whose stay is illegal

If Yes, specify the source of the budget (max 100 chars)

- Nomadic population

If Yes, specify the source of the budget (max 100 chars)

12. Is vaccine administration free of charge for children from the following migrant groups in your country?

- Immigrant whose stay is legal

If Yes, specify the source of the budget (max 100 chars)

- Immigrant whose stay is illegal

If Yes, specify the source of the budget (max 100 chars)

- Nomadic population

If Yes, specify the source of the budget (max 100 chars)

13. Are vaccines and immunisation free of charge for adult's migrant groups in your country?

If Yes, specify the antigens

If other, specify (max 100 chars)

If Yes, specify the source of the budget (max 100 chars)

14. How is organized the immunisation service for migrants in your country?

If other, specify (max 100 chars)

15. Who is responsible for immunisations of immigrant population in your country?

Workers Students

Children (family members of the above mentioned) Other

Ministry of Health and National Immunisation Programme Red Cross

United Nations NGOs

Other

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No

TB Polio Measles

Diphtheria Tetanus Pertussis

Hepatitis B Rubella Other

As a part of the routine health care system

As an outreach system

Other

General Vaccination Centre Other

	practitioner		
		
If other, specify (max 100 chars)			
16. Do you monitor the immunisation coverage of the mobile population in your country, separately from the national immunisation coverage?	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
17. Do you monitor the immunisation coverage of immigrants' children in your country, separately from the national immunisation coverage?	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
18. Do you monitor the immunisation coverage of nomadic populations' children in your country, separately from the national immunisation coverage?			
-Traditionally nomadic population in Europe (Roma people)	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
-Other nomadic population (country specific)	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
19. Is the number of vaccinated children belonging to mobile groups included into the total number of immunised children?	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
If No, do you have information about the number of children belonging to immigrant groups, fully immunised with EPI antigens?	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
If Yes, please estimate the immunisation coverage of children belonging to immigrant groups	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
20. Is there information about the number of fully immunised migrant children by each of the EPI antigens (BCG, Polio, Measles, Diphtheria, Tetanus, Pertussis, Hepatitis B and Rubella)?	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
If Yes, please give more details (max 200 chars)		
21. Do you have any observations or information about the immunisation coverage among the migrant population by age target groups?	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
If Yes, please indicate which age group(s) is (are) better covered	<input type="checkbox"/>	Up to 2 ys of age	<input type="checkbox"/>
	<input type="checkbox"/>	Adults	<input type="checkbox"/>
			<input type="checkbox"/>
			Elderly
SECTION 3 - MOBILE GROUPS' ACCESS TO IMMUNISATION PROGRAMMES			
22. Do you have any information about the access to immunisations of migrant population in your country?	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
Please give details if available (max 200 chars)		
23. Is the access to the immunisation service equal for people of native origin and for migrants?	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
24. Are there any observations or information in your country that some migrant populations do not take advantage of the right / opportunity to be protected by immunisations?			
-Immigrant whose stay is legal	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
If Yes, specify (max 100 chars)		
-Immigrant whose stay is illegal	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
If Yes, specify (max 100 chars)		
-Traditionally nomadic population in Europe (Roma people)	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
If Yes, specify (max 100 chars)		
- Other nomadic population (country specific)	Yes	<input type="checkbox"/>	No <input type="checkbox"/>
If Yes, specify (max 100 chars)		

25. Could you present some publications or studies linked to this matter? Yes No

If Yes, list the references (max 4000 chars)

26. If official information/data is not available, do you consider that some population groups are less covered by immunisation than the rest of the population in your country? Yes No

27. If yes, which population group/s do you consider to be less covered by immunisation than the rest of the population in your country?

If Other, please specify (max 100 chars)

28. If appropriate, what do you consider to be the main reasons for the lower immunisation coverage in the populations groups mentioned above?

If Other, please specify (max 100 chars)

SECTION 4 - CD SURVEILLANCE: VPD and OUTBREAKS

29. Who (which institution/organization) is responsible for CD surveillance in your country? *Please specify institution and responsible public health specialists*

-At primary level (max 1000 chars)

-At regional/sub-national level (max 1000 chars)

-At national level (max 1000 chars)

30. Is the VPD surveillance included into the National CDS system? Yes No

If Yes, please list the VPD included

If other, specify (max 100 chars)

If No, is there some VPD subject of specific monitoring? *Please describe* (max 200 chars)

31. Is there a specific surveillance for VPD in mobile population in your country? *If Yes, please list institution/organization, responsible for VPD surveillance in migrant population in your country* Yes No

-At primary level (max 1000 chars)

-At regional/sub-national level (max 1000 chars)

-At national level (max 1000 chars)

32. Do you have any information about VPD outbreaks among mobile population in your country since the beginning of 2006? Yes No

<p>If Yes, please specify the source of information</p> <p>If other, specify (max 100 chars)</p>	<p><input type="checkbox"/> National Surveillance System</p> <p><input type="checkbox"/> Web site</p> <p><input type="checkbox"/> Scientific journal</p> <p><input type="checkbox"/> Other</p> <p>.....</p>
<p>33. Do you have any information about local/national VPD outbreaks occurred as a result of outbreak started in mobile population in your country since the beginning of 2006?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>If Yes, please specify the source of information</p> <p>If other, specify (max 100 chars)</p>	<p><input type="checkbox"/> National Surveillance System</p> <p><input type="checkbox"/> Web site</p> <p><input type="checkbox"/> Scientific journal</p> <p><input type="checkbox"/> Other</p> <p>.....</p>
<p>34. Does the Legislation in your country allow (in case of necessity) submission of personal data about the immunisation status of your citizens to other country, officially requiring such data?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>If Yes, can the responsible institution/organization provide this information to the CD Surveillance System of the other country, investigating a VPD outbreak?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>Comments (max 4000 chars)</p> <p>.....</p> <p>.....</p>	
<p>SECTION 5 - MOBILE POPULATION FIGURES</p>	
<p>35. Do you have any mobile population in your country?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>35.a - Immigrants or visitors whose stay is legal</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>Could you specify?</p> <p>If others, specify (max 100 chars)</p> <p>Among them, which one of the groups is the biggest in your country?</p>	<p><input type="checkbox"/> Asylum seekers and Refugees</p> <p><input type="checkbox"/> Family reunification immigrants</p> <p><input type="checkbox"/> Tourists and short term visitors</p> <p><input type="checkbox"/> Others</p> <p><input type="checkbox"/> Worker immigrants</p> <p><input type="checkbox"/> Seasonal Labour immigrants</p> <p><input type="checkbox"/> Students</p> <p>.....</p> <p>.....</p>
<p>35.b - Immigrants or visitors whose stay is illegal</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>If Yes, specify (max 100 chars)</p>	
<p>35.c - Traditionally nomadic population in Europe (Roma people)</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>35.d - Other nomadic population (country specific)</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>-Other</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>
<p>36. Is there any national official information (number of persons) about:</p>	
<p>-Legal immigrants</p> <p>Does the national statistics distinguish</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p> <p><input type="checkbox"/> Asylum seekers and Refugees</p> <p><input type="checkbox"/> Family reunification immigrants</p> <p><input type="checkbox"/> Worker immigrants</p> <p><input type="checkbox"/> Seasonal Labour immigrants</p>

Tourists and short term visitors
 Students

Others

If others, specify (max 100 chars)

-Illegal immigrants

-Nomadic populations

37. Does the national statistic collect information on

- Country of origin of legal immigrants entering in your country

If Yes, specify countries (max 100 chars)

- Country of origin of illegal immigrants entering in your country

If Yes, specify countries (max 100 chars)

38. How are immigrants identified in the statistical data?

As immigrant
 On country of birth
 On country of citizenship

39. Is there any statistical data about age and sex of mobile population in your country?

Yes No

ANNEX 2**Web addresses of national institutions in EpiSouth countries
where information about national immunization schedule is presented**

Country	Web address
Bulgaria	http:// www.ncipd.org http:// www.mh.gouvernement.bg
Croatia	http:// www.hzjz.hr
Cyprus	http:// www.moh.gov.cy
France	http:// www.invs.sante.fr
Greece	http:// www.mohaw.gr
Israel	http:// www.health.gov.il
Italy	http:// www.ministerosalute.it
Jordan	http:// www.moh.gov.jo http:// www.dcd.gov.jo
Malta	http:// www.sahha.gov.mt
Romania	http:// www.cpcbt.ispb.r
Slovenia	http:// www.ivz.si
Spain	http:// www.isciii.es/htdocs/epidemiologia/epi
Tunisia	http:// www.santetunisie.rns.tn
Turkey	http:// www.saglik.gov.tr

SELECTION OF ZONOSSES OF PRIORITY IN THE EPISOUTH COUNTRIES

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Background

The Work Package 8 (WP8 – Epidemiology and preparedness to cross-border emerging zoonoses) concerns Epidemiology and preparedness to cross-border emerging zoonotic infections. This will be achieved also by strengthening the collaboration among stakeholders at both international and national level. To facilitate this process WP8 aims at providing a platform for the communication of human public health (HPH) and veterinary public health (VPH) officials, with accurate contacts.

Furthermore, it is useful to identify needs regarding human capacity and resources in Balkan countries and non EU-countries facing the Mediterranean Sea. As of today, none of the existing European projects covers simultaneously all the Mediterranean countries and the Balkans, which are regions with particular socio-economic problems. The EpiSouth project is the only and crucial framework to collect information and strengthen human capacity and resources in this area.

The international public health intelligence aims at the timely detection and control of emerging pathogens and outbreaks. Epidemic intelligence, that is not readily available in the EpiSouth area, comes as a complement to regular monitoring of national surveillance, and it is based on already collected and circulating information, in order to sort out, verify, analyze and eventually timely disseminate information. EpiSouth has not the mandate to conduct an exhaustive epidemiologic data collection at international level but rather it represents a platform where data, information etc. can be shared on voluntary basis.

As close co-dependence of animals and humans is found around the Mediterranean, implying an extensive catalogue of cross-border emerging zoonoses, we attempted a selection of five zoonoses with a potentially emerging framework, in order to collect the accurate contacts of HPH and VPH officials. However, this list of zoonoses will be expanded in the future.

* WP8 Steering Team: S. Bino, E. Kakarriqi (Albania), O. Kalakouta (Cyprus), S. AbouAlazem, E. Ali (Egypt), Z. Milenkovic, Z. Karadzovski (FYROM), G. Putoto (Italy), R.S. Haddadin, S.S.F. Hussein (Jordan), N. Ramadan, A. Kalaveshi (Kosovo UNSCR 1244), Y. Al Amour, M. Karim (Syria), M. Bejaoui (Tunisia).

Methods and criteria

For the above purpose, as discussed during the first project meeting held in Rome (March 28-30, 2007), a questionnaire was developed by WP8, in collaboration with WP8 Steering Team (WP8-ST), as a complementary tool for the selection of zoonoses of priority (Annex 1). This assessment was conducted in July 2007.

The questionnaire includes the following internationally accepted indices defining emergence of zoonoses:

- increased incidence in humans;
- spread of the disease in novel geographic areas;
- detection of the pathogen in novel animal species.

Additionally, surveillance needs of the countries were taken into consideration:

- absence of Surveillance Systems (human or zoonotic);
- necessity for improvement of intersectoral collaboration (between HPH and VPH) in each distinct endemic country.

The eligibility criterion was: “three or more countries provided a positive answer for the corresponding pathogen and the corresponding question”.

The pathogens with at least four eligibility criteria were selected.

Results

Among the 22 participating countries, 21 filled in the questionnaire. As regards the incidence trend of zoonoses in humans in participating countries (for the last five years), Table 1 shows the main results.

Table 1. EpiSouth 2007: incidence trend of zoonoses in humans for the last five years in participating countries (n. 21)*

Zoonoses	Human incidence			
	<i>decreasing</i>	<i>stable</i>	<i>increasing</i>	<i>no data (nd)</i>
Brucellosis	4	12	3	2
Campylobacteriosis	0	9	3	0
Crimean Congo haemorrhagic fever	1	8	1	10
Tickborne encephalitis	1	6	2	11
Echinococcosis	5	8	3	3
Rickettsioses	4	9	1	7
Hantavirus infection	2	7	0	11
Leishmaniasis	1	14	4	2
Listeriosis	2	9	2	7
Malaria	5	14	0	1
TB caused by Mycob. Bovis	3	9	0	8
Rabies	1	15	2	1
Trichinellosis	3	10	1	7
VTEC infection	0	9	1	9

* When countries did not provide any answer for a certain pathogen the sum of reports is less than 21

Table 2 shows the carriage rate estimation in animals (reservoirs/vectors) in participating countries for the last five years (i.e. number of countries reporting no animal reservoir surveillance, surveillance in outbreaks, surveillance once annually, or systematic sampling).

Table 2. EpiSouth 2007: carriage rate estimation in animals (reservoirs/vectors) for the last five years in participating countries (n. 21)*

Zoonoses	Animal reservoirs surveillance			
	<i>none</i>	<i>only in case of outbreaks</i>	<i>annually</i>	<i>systematic sampling</i>
Brucellosis	1	4	2	11
Campylobacteriosis	8	3	0	6
Crimean Congo haemorrhagic fever	15	0	1	0
Tickborne encephalitis	15	0	0	1
Echinococcosis	7	2	0	9
Rickettsioses	13	2	0	2
Hantavirus infection	14	3	0	1
Leishmaniasis	6	7	0	5
Listeriosis	1	3	0	7
Malaria	14	1	0	1
TB caused by Mycob. Bovis	3	1	1	13
Rabies	3	4	0	10
Trichinellosis	7	1	0	10
VTEC infection	12	1	0	3

* When countries did not provide any answer for a certain pathogen the sum of reports is less than 21

To gather information on the detection of the pathogens in novel animal species and the spread of the diseases in novel geographic areas, the questionnaire provided the results (i.e. number of countries reporting emergence of endemic agents in novel geographic areas or novel animal species affected) reported in Table 3.

Table 3. EpiSouth 2007: occurrence of endemic agents in novel geographic areas, and their detection in novel animal species in participating countries*

Zoonoses	Occurrence	Detection
	in novel geographic areas	in novel animal species
Brucellosis	5	3
Campylobacteriosis	1	1
Crimean Congo haemorrhagic fever	0	0
Tickborne encephalitis	1	1
Echinococcosis	1	1
Rickettsioses	1	0
Hantavirus infection	1	0
Leishmaniasis	5	3
Listeriosis	0	0
Malaria	2	2
TB caused by Mycob. Bovis	2	2
Rabies	4	4
Trichinellosis	1	2
VTEC infection	1	1
Others	Schistosomiasis, tularemia	Schistosomiasis, tularemia

* When countries did not provide any answer for a certain pathogen the sum of reports is less than 21

To assess the necessity for improvement of intersectoral collaboration between HPH and VPH, the questionnaire investigated the number of countries reporting high, intermediate and low necessity for improvement, or no need to improve intersectoral collaboration (Table 4).

Table 4. EpiSouth 2007: number of countries reporting high, intermediate, low or no need to improve intersectoral collaboration between HPH and VPH in participating countries*

Zoonoses	Need to improve of intersectoral collaboration			
	high	intermediate	low	absent
Brucellosis	10	6	4	1
Campylobacteriosis	3	10	5	3
Crimean Congo haemorrhagic fever	3	4	5	5
Tickborne encephalitis	3	6	3	7
Echinococcosis	9	6	5	1
Rickettsioses	3	9	7	1
Hantavirus infection	2	7	4	6
Leishmaniasis	9	8	3	1
Listeriosis	5	9	5	2
Malaria	3	3	6	7
TB caused by Mycob. Bovis	4	9	7	0
Rabies	10	3	4	3
Trichinellosis	7	4	4	5
VTEC infection	5	7	5	4

* When countries did not provide any answer for a certain pathogen the sum of reports is less than 21

All the results of the questionnaire are summarized in Table 5.

Table 5. EpiSouth 2007: pathogens and selection criteria*for priority zoonoses (in bold pathogens selected for priority)

Zoonoses	Increased incidence in humans	Surveillance system not available	Novel geographical areas in endemic countries	Novel animal species in endemic countries	Need to improve collaboration between HPH and VPH in endemic countries
Brucellosis			x	x	x
Campylobacteriosis	x	x			x
Crimean Congo HF		x			x
TBE		x			x
Echinococcosis	x	x			x
Rickettsioses		x			x
Hantavirus infection		x			
Leishmaniasis	x	x	x	x	x
Listeriosis		x			x
Malaria		x			x
TB (Mycob. Bovis)		x			x
Rabies		x	x	x	x
Trichinellosis		x			x
VTEC infection		x			x

* The selection criterion indicated as x is: "three or more countries provided a positive answer for the corresponding pathogen and the corresponding question"

Crimean Congo HF: (Crimean Congo haemorrhagic fever); TBE (Tickborne encephalitis)

It is evident that brucellosis and rabies fulfilled four criteria, leishmaniasis five, while campylobacteriosis met three criteria. Despite campylobacteriosis does not fulfil the four criteria, it is included in the zoonoses priority list considering that the lack of diagnostic facilities, both in the European and in the non-EU countries, is a limitation to the incidence rate reported from the majority of countries.

In addition, the recent climate changes and current emergence of Chikungunya in the European area indicate the public health importance of vector-borne, particularly the mosquito-borne infections. Consequently, at this initial phase of EpiSouth, also the West Nile Virus, will be included in the priority list of zoonoses, thus facilitating the future expansion of the project to other vector borne diseases.

The above mentioned criteria lead to the list of zoonotic diseases of interest:

- brucellosis;
- campylobacteriosis;
- leishmaniasis;
- rabies;
- West Nile virus.

The zoonoses selected cover at least two pathogens of public health importance for each participating country as well as a wide spectrum of diseases. The selected zoonoses will serve as a guide in the identification of as many officials and infrastructures as possible, and they will pose the background for the subsequent expansion of the program to numerous pathogens that will be monitored in the EpiSouth area.

Acknowledgements

We would like to acknowledge the enthusiastic participation and input of all Country Focal Points as well as of other colleagues from all EpiSouth countries: Teodora Georgieva (Bulgaria), Chrystallia Adjianastassioy (Cyprus), Véronique Vaillant (France), Michel Bellaiche (Israel), Marta Ciofi Degli Atti, Antonino Bella, Caterina Rizzo and Gaia Scavia (Italy), Luisa Sanchez Serrano (Spain), Ahmet Safran and Tumay Sehnaz Fatma (Turkey).

ANNEX 1

WP8 questionnaire for identifying zoonoses of priority

Questionnaire for identifying zoonoses of priority

▶ Name:Affiliation:

▶ Institution:Department:

▶ Address: Country:

..

▶ Tel – fax: E-mail:

..

Question 1:	Incidence trend in humans in your country (for the last five years)			
DISEASES	Decreasing	Stable	Increasing	Not available data
Brucellosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Campylobacteriosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crimean Congo Haemorrhagic Fever	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tickborne Encephalitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Echinococcosis (Hydatidosis)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rickettsioses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hantavirus infection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Leishmaniasis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Listeriosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Malaria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tuberculosis caused by Mycobact. bovis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rabies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trichinellosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VTEC infection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other1 (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other2 (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Question 2:	Surveillance system(s) of human cases in your country			
DISEASES	Surveillance System NOT available	Laboratory Surveillance System	Mandatory Notification System	Other (specify)
Brucellosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Campylobacteriosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Crimean Congo Haemorrhagic Fever	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Tickborne encephalitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Echinococcosis (Hydatidosis)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Rickettsioses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Hantavirus infection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Leishmaniasis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Listeriosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Malaria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Tuberculosis caused by Mycobact. bovis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Rabies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Trichinellosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
VTEC infection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Other1 (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Other2 (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Question 3:						
Carriage rate estimation in animals (reservoirs/vectors) in your country (for the last five years)						
Agent	No surveillance practices	Only in case of outbreaks	Once annually	Systematic sampling		
Brucella spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Campylobacter spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Crimean Congo Haemorrhagic Fever virus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Tickborne encephalitis virus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Echinococcus granulosus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Rickettsia spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Hantaviruses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Leishmania spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Listeria spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Plasmodium spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Mycobacterium bovis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Rabies virus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Trichinella spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
VTEC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Other1 (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Other2 (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Question 4:						
4a. For endemic agents, occurrence in NOVEL geographic areas in your country			4b. For endemic agents, detection in NOVEL animal species in your country			
Agent	Yes	No	Unknown	Yes	No	Unknown
Brucella spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Campylobacter spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Crimean Congo Haemorrhagic Fever virus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tickborne encephalitis virus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Echinococcus granulosus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rickettsia spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hantaviruses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Leishmania spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Listeria spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plasmodium spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mycobacterium bovis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rabies virus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trichinella spp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VTEC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other1 (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other2 (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Question 5:						
	Necessity for improvement of intersectoral collaboration in your country					
DISEASES	High	Intermediate	Low	No need		
Brucellosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Campylobacteriosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Crimean Congo Haemorrhagic Fever	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Tickborne encephalitis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Echinococcosis (Hydatidosis)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Rickettsioses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Hantavirus infection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Leishmaniasis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Listeriosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Malaria	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Tuberculosis caused by Mycobact. bovis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Rabies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Trichinellosis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
VTEC infection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Other1 (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Other2 (specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

Please a) make any additional comments regarding zoonoses priorities in your country and b) record the International Surveillance Networks in which your country participates in, specifying the relevant pathogens.

Comments (if any):

International Surveillance Networks (if any):

Thank you very much for your co-operation.

MONITORING OF THE NETWORK DEVELOPMENT

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Objectives and methods

The EpiSouth project “Network for Communicable Disease Control in Southern Europe and Mediterranean Countries” is under the European Commission - Directorate General for Health and Consumer Protection (EC-DG SANCO) Grant Agreement 2005206, which specifies completion and acceptance criteria to evaluate the project:

- deliverables on time and compliant to what was foreseen initially;
- respect of deadlines by all partners;
- measurable and satisfying results.

The Grant Agreement also spells out the mandate of the Work Package 3 (WP3 – Evaluation of the project) in the following terms:

To evaluate the project in terms of:

1. Respect of scheduled milestones and deliverables according to the project Work Packages (WPs);
2. Achievement of the stated project indicators, both for quantitative and qualitative aspects;
3. Active participation of both associated and collaborating countries in the project activities.*

Through the EpiSouth Evaluation plan several monitoring activities and tools were identified in order to systematically assess key operations and processes of the project with the aim to contribute to its success. The monitoring has focused its attention on Network building and effort produced by WP6, WP7 and WP8, fundamental to EpiSouth progress; and thus it has thus tried to answer to two specific questions: 1) how far is the project contributing to resources and information sharing among the Network’s members?, and 2) to what extent are WPs delivering their products and achieving their objectives?

In order to investigate such areas, several tools have been designed and submitted to various stakeholders, specifically:

- *Meeting evaluation tool*

Questionnaire, distributed to all participants at the end of the general Project Meetings in Rome, Athens and Sofia, which investigates what participants think and feel about general meetings organization, management and results incorporating also the main recommendations emerged from the Project Meetings.

* Participating countries after the 1st EpiSouth Meeting in Rome

- *Network development monitoring tool*
Questionnaire, distributed to all participants of the general meetings, which looks at issues such as participants understanding of project goals and perception of membership, i.e. communication openness, group cohesion, collaborative relationships, trust, involvement, participation, consensus and commitment among partners.
- *Overall project and WP1-WP5 and WP6-WP8 monitoring tool*
questionnaires compiled online concerning project management compiled by the Focal Points (FPs) about communication and networking, project organisation, project WPs relevance and future priority fields and activities.
- *Telephone interviews and questionnaire*
investigating more in depth the same above mentioned aspects with a group of FPs; telephone interviews investigating more in depth the same above mentioned aspects were carried out with a convenience sample of FPs
- *Monitoring sheets*
Sent to all WP leaders, these sheets allowed to determine progress for management and WP6, 7 and 8. In order to monitor the degree of completion of activities that each partner institution has the responsibility to carry out, WP3, in collaboration with the other management packages (WP1, 2 and 4), has drawn up forms which allow to compare what was planned with what was completed by each WP.

The following section go over the main points emerged from all the above mentioned tools, except the last one because the information collected through such instrument has been included in the 1st and 2nd interim technical implementation reports.

This monitoring report also briefly looks at the website utilization and the evolution of the Network.

EpiSouth Network development questionnaires

During the 3th EpiSouth Meeting held in Sofia on March 30 – April 1, 2009, a questionnaire investigating key aspects of Network development was distributed among the participants (Annex 1). This tool was also filled out during the two prior general meetings allowing a regular monitor of its advancement.

Results

31 participants (out of 60: 52%; compared to 57% and 37% in Athens and Rome respectively) completed the questionnaire but not every question was answered by all. The analysis distinguishes between different professional background or geographical areas, because many respondents did not identify themselves nor specified the region where they come from. The following comments first draw attention to each question; finally the conclusion attempts a general interpretation of the answers and suggests steps useful for the Network's development.

87% of respondents (85% in Athens and 86% in Rome) have a clear understanding of the Network's purpose. Only one (3%) still has some doubts, probably a newcomer (Table 1).

Table 1. Sofia meeting (2009): attitudes towards EpiSouth network's purpose

Score	N.	%
1 - I'm uncertain	0	0
2	1	3
3	3	10
4	11	35
5 - I'm clear	16	52

Similarly to Athens (83%), the great majority of respondents (81%) – a clear improvement compared to the project's beginning in Rome (68%) – thinks that EpiSouth goals were set in a participatory fashion. 19% feels that such goals are the result of a mix of interaction and up-bottom approaches. Nobody believes that goals were imposed on participants (Table 2).

Table 2. Sofia meeting (2009): attitudes towards EpiSouth network's goals

Score	N.	%
1 – Set from above	4	10
2	1	3
3	6	15
4	9	23
5 – Emerged through	19	49

77% of respondents (83% in Rome and 72% in Athens) are convinced they are full members of the Network, but still 13% feel they do not belong (Table 3).

Table 3. Sofia meeting (2009): attitudes towards EpiSouth network's membership

Score	N.	%
1 - I'm out	3	10
2	1	3
3	3	10
4	11	37
5 - I'm in	12	40

68% (56% and 75% in the previous meetings) of respondents feel that communication is direct, frank, no one perceives it as circumspect (Table 4).

Table 4. Sofia meeting (2009): perception of communication within the EpiSouth network

Score	N.	%
1 - Very cautious	0	0
2	0	0
3	9	29
4	13	42
5 - Very open	8	26

55% (77% and 82% in the previous meetings) think that feedback procedures are working properly. This is one of the few topics investigated where the score was worse compared to previous meetings. Possibly the increasing number of participants including professionals new

to EpiSouth and representing diverse institutions and the fact that the meeting focused much on the future explain this finding (Table 5).

Table 5. Sofia meeting (2009): evaluation of the EpiSouth mechanisms for getting feedback

Score	N.	%
1 - Poor	0	0
2	3	10
3	11	35
4	9	29
5 - Excellent	8	26

68% (65% and 84% in the previous meetings) are convinced that feedback is helpful (Table 6).

Table 6. Sofia meeting (2009): evaluation of the useful of feedback within the EpiSouth network

Score	N.	%
1 - Very little	0	0
2	3	10
3	7	23
4	13	42
5 - Considerable	8	26

67% (70% and 68% in the previous meetings) believe that involvement in the Network makes use of their capacities. 10% feel rather alienated in terms of skills utilization (Table 7).

Table 7. Sofia meeting (2009): evaluation of the use of EpiSouth network member's skills

Score	N.	%
1 - Poor use	0	0
2	3	10
3	7	23
4	14	47
5 - Good use	6	20

62% (83% and 55% in the previous meetings) think that the project's atmosphere provides significant help to members (Table 8).

Table 8. Sofia meeting (2009): evaluation of the supportive culture created by the EpiSouth network

Score	N.	%
1 - Little help for individuals	0	0
2	1	3
3	10	34
4	13	45
5 - Strong support for individuals	5	17

65% (70% and 80% in the previous meetings) feel that the relationship dimension is carefully dealt with by participants (Table 9).

Table 9. Sofia meeting (2009): evaluation of the effort in working on relationships with others within EpiSouth network

Score	N.	%
1 - Little effort	0	0
2	1	3
3	10	32
4	14	45
5 - High level of effort	6	20

63% (52% and 78% in the previous meetings) of respondents feel that cohesion is solid. 7% perceive some difficulty in this regard (Table 10).

Table 10. Sofia meeting (2009): evaluation of cohesion within EpiSouth network

Score	N.	%
1 - Low	0	0
2	2	7
3	9	30
4	16	53
5 - Optimal	3	10

71% (68% and 65% in the previous meetings) are convinced that disagreements are tackled overtly and effectively (Table 11).

Table 11. Sofia meeting (2009): evaluation of the conflict within EpiSouth network

Score	N.	%
1 - Difficult issues are avoided	0	0
2	1	3
3	8	26
4	10	32
5 - Problems are discussed openly and constructively	12	39

In the same way recorded during prior meetings, just above half (52%) think that all members have significant control over decisions. 19% (9 and 18%) are still convinced that power within the Network belongs to a limited group (Table 12).

Table 12. Sofia meeting (2009): evaluation of the influence on decisions within EpiSouth network

Score	N.	%
1 - By few members	1	3
2	5	16
3	9	29
4	8	26
5 - By all members	8	26

45% (65% and 61% in the previous meetings) believe that leadership distribution is balanced among members (Table 13).

Table 13. Sofia meeting (2009): evaluation of the distribution of leadership within EpiSouth network

Score	N.	%
1 - Limited	0	0
2	6	19
3	11	35
4	5	16
5 - Shared	9	29

74% (70% and 80% in the previous meetings) see big chances for ingenuity and advancement within the Network (Table 14).

Table 14. Sofia meeting (2009): evaluation of the capacity for creativity and growth within EpiSouth network

Score	N.	%
1 – Low	0	0
2	0	0
3	8	26
4	11	35
5 - High	12	39

61% (39% and 54% in the previous meetings) feel that risk taking is promoted. Participants think that their autonomy in exploring solutions to problems is expanding compared to earlier phases (Table 15).

Table 15. Sofia meeting (2009): evaluation of the risk taking within EpiSouth network

Score	N.	%
1 – Not encouraged	1	4
2	1	4
3	9	31
4	12	43
5 - Encouraged and supported	5	18

Participants also offered some comments and suggestions (similar to those already brought up during the telephone interviews and the small group discussion in Sofia) such as:

- dedicate enough time to communication and discussion.
- strengthen collaboration between participating countries from the 4 regions of the network with a major involvement of non-European countries as traditions have been already laid and elements of trust already exist.
- continue Network communications with feedback information.
- support Mediterranean public health.
- improve commitment of all parties offering technical support from EU countries to non-developed countries.
- involve higher authorities clarifying to the FPs rules and set of regulations supporting FPs work.
- Institutionalize EpiSouth Network: its conversion from a project to an institution with close collaboration with WHO (both Copenhagen and Geneva) and ECDC as well, instead of competing with them, in the important field of communicable diseases.

Conclusions

On the whole, answers of EpiSouth members to the questionnaire are positive and skeptical responses are rare. More specifically, comprehension of the Network purpose is excellent, most participants believe that goals were not imposed by a sub-group, their membership is established and communication is sufficiently forthright. Nevertheless just more than half of the participants considers appropriate the tools for feedback within the project and distribution of influence on decisions. Roughly two thirds of participants feel that their capacities are used through their involvement in the project, the project provides a mutually supportive climate and respectful relationships, conflict management is open and constructive and their autonomy in exploring solutions to problems is expanding compared to earlier phases. These features represent a firm base from which it will be possible to move further before the closing stage and, hopefully, during a new version of the project.

WP1-WP5 and WP6-WP8 online questionnaires

With the aim of monitoring EpiSouth management and activities carried out around subject matter, two questionnaires were designed and uploaded in the project website to allow online compilation to the project FPs: questionnaire about WP1-WP5 (horizontal WPs); questionnaire about WP6-WP8 (vertical WPs).

The following sections briefly analyze the replies showing the scores and offering a short comment. For both instruments, a 5-points Likert scale was used, from completely disagree to completely agree. Maximum score was 5 vs a minimum of 1.

Questionnaire about WP1-WP5

The set of questions about project management (WP1-WP5) was developed during the summer 2008 and got a response rate of 43%. Representatives from 15 countries out of the 26 involved filled out the questionnaire.

This questionnaire investigated several topics structured under the following headings: communication, coordinated responses, common policies, overall progress, project management and overall added value.

Participants consider EpiSouth contribution to communication as positive both within their region and on the overall. Sharing information represents a precondition for common action and is also a fundamental feature of a Network. In particular both the replays “The Network is improving exchange of information regarding communicable diseases among participating countries in the area where I work (i.e. Balkans, Middle East, Northern Africa, Southern Europe)” and “The Network is improving exchange of information regarding communicable diseases among most EpiSouth participating countries” reached a score of 3.9.

Not unexpectedly the lowest scores (3.2) concern the Network contribution toward improving coordinated responses to communicable diseases threats in the involved areas and in most of the Mediterranean area. At present, harmonized activities in the field of communicable diseases control can only represent an ideal and distant goal for the Mediterranean area. Nevertheless such scores are encouraging and presumably show that participants think the project has the potential to get to that crucial point.

Concerning common policies, answers reveal that EpiSouth has been successful in raising understanding about the importance of harmonization of strategic approaches to infectious

diseases surveillance and control not only among neighbouring nations but in the whole region (score 4.3).

The questionnaire investigated the overall progress of the project. The last score show that the project is doing very well in building reliable and collaborative relationships among public health professionals in most of the Mediterranean area (score 4.6). This is an extremely important achievement because it represents EpiSouth reason of being. It is good that communicable diseases surveillance systems' improvement within countries is considered positive but not excellent (score 3.5) because this was not one of EpiSouth deliberate aim.

Members think project management is valuable and trustworthy, and this is a prerequisite for its implementation, and that other cross-sectional positively contribute to its performance. In particular, the replay "The project is managed in an effective and transparent way respectful of all participant individuals and institutions (WP1)" reached a score of 4.7; "The website and the electronic bulletin represent effective communication tools for EpiSouth partners and beyond (WP2), score 4.3; "The monitoring and evaluation activities help in maintaining EpiSouth on track in terms of quality and timeliness (WP3), score 4.2; "The networking activities help the establishment and development of contacts among participating institutions (WP4), score 4.3;. "The training activities are relevant to the needs of participating countries and delivered with high quality (WP5), score 4.6.

Participants are convinced that being part of EpiSouth represents an important opportunity especially for the organization they work (score 4.6) and, more in general, for their nation (score 4.4).

Questionnaire about WP6-WP8

The questionnaire concerning WP6, WP7 and WP8 was forwarded during the winter 2009; the response rate was 31% including FPs from 11 nations out of 26. It concerned critical aspects of each technical packages; statements and relative scores are as follows.

Assessment of epidemic intelligence (WP6) in EpiSouth countries is an opportunity to improve their systems (score 3.9). E-web bulletin enhances and qualifies info sharing (score 4.3). WP6 members area has better work' efficiency not clear (score 4.3); the strategic document on cross-border epidemic intelligence will greatly contribute to surveillance systems integration (4.3).

Concerning the immunization of migrant populations (WP7) the results of the questionnaire will contribute to clarify the problem of access to vaccination by migrants (score 4.4). WP7 work is facilitating the establishment of an informal network of experts involved in VPDs (Vaccine Preventable Diseases) (score 4); WP7 members area has facilitated work' efficiency (score 3.8). Finally, the strategic document on VPDs will greatly contribute to integration of policies and programs about access to vaccination by migrants (score 4.3).

WP8 members area has facilitated work' efficiency (score 4); zoonosis selection questionnaire has been a useful and appropriate tool to identify priorities (score 4); the directory of Human Public Health (HPH) and Vaccine Public Health (VPH) officials will represent a useful tool for communication (score 4); the strategic documents on risk assessment methods for cross-border transmission of zoonosis will greatly contribute to integration of strategies and coordinated responses (score 4.2).

WP6, WP7 and WP8 Steering Teams are facilitating collaboration among countries, enhancing views sharing, ensuring sharable tools and outcomes WP6 (score 4.3), WP7 (score 4.7), WP8 (score 4.2).

Among technical work packages, training gets the highest score, though statements concerning different packages are not strictly comparable and possibly statistically equivalent.

All examined dimensions within each WPs appear to respond satisfactorily to members' expectations.

Some respondents also offered comments most of which are supportive of this initiative or raise similar issues put forward during the interviews and by the other investigation instruments used by EpiSouth:

- It is difficult to evaluate the progress of the project at this stage (1 year and half only).
- No coordinated responses to communicable diseases threats have been undertaken; therefore it is not possible to evaluate the improvement.
- It is necessary to establish coordination with other international partners to avoid misunderstanding and overlapping and also to strengthen each others to achieve the common, shared objectives.
- The Network is very useful, on improving surveillance system and epidemiological response in each country, and collaboration and exchange of information and experiences between EpiSouth countries. Future collaboration and sustainability of the EpiSouth Project are expected.
- The idea and notion of EpiSouth with all its packages is a noble idea but needs commitment from all member states to pursue more collaboration and cooperation.
- In Palestine the importance of this project has not already consolidated because of the delay in registration and political instability but future collaboration is welcome.
- The Network progress is already evident, as the countries are gradually informed about the needs regarding communicable diseases monitoring and timely public health interventions.
- The willingness of countries to participate as well as the interest of individuals to enter the Network prove the increased visibility of the Network.
- The repeated presentations describing the EpiSouth Network and scope, in multiple regional and international Public Health meetings, highlight the international interest in the EpiSouth targets.
- The strategic document on risk assessment methods for cross-border transmission of zoonoses is a very important document which will contribute to a better integration of surveillance strategies and coordinated response across participating countries. WP8 Steering Team is important and key factor for collaboration with ECDC and Ministries of health in other countries in European region (outside EpiSouth area in Europe) and other regions in EpiSouth area.
- All EpiSouth members must be committed to be proactive in tracing zoonotic diseases.
- WP8 must advocate for providing technical and logistic support for Member States who are having such difficulties with special focus on agrarian societies.
- Some problems and selected agents can be integrated into WP8 studies because of support knowledge for some issues, for example the vaccine production is important for Crimean-Congo hemorrhagic fever (CCHF).
- Enhanced cooperation and networking are expected as well as means of direct communication between HPH and VPH of different countries especially regarding dissemination of information (possibly in the form of forums). The participation of EU neighbouring countries is of great importance and we should find ways to keep the interest or enhance it. Introducing new areas not already covered by EU activities is very important to enhance all participants' interest.

Telephone interviews and questionnaire

Network construction and development is EpiSouth primary goal and also a pre-requisite to the accomplishment of vertical packages objectives. The Sofia Meeting represented an important step for the project because it was the last general meeting before its concluding convention. That meeting was also an opportunity to collect information on how the EpiSouth Network has evolved so far and how it could grow in the future. It was a chance to reveal challenges, opportunities and options for further progress directly through the voices of participants.

In order to identify key topics to be discussed more in depth during the Sofia meeting and better direct the attention of the group discussion on issues critical to the project success, a questionnaire was sent to all focal points and a convenience sample of EpiSouth focal points working for national institutions were individually interviewed by phone during the months of February-March 2009.

The questionnaire and the telephone interviews (Annex 2) covered topics related to network building, its results so far, and future perspectives. More specifically, topics relevant to Network development included:

- trust, cohesion and actual collaboration among participants;
- exchange of data, information and knowledge;
- strengthening of each other;
- development of solutions to common problems.

Although the time span of the EpiSouth project is necessarily constrained by administrative rules, it is important that EU Commission executives providing political and financial support, project managers, and members maintain a long term horizon and share a vision.

Therefore the questionnaire and the individual interviews also explored the future of EpiSouth. The topics covered by the two instruments (interviews and questionnaires) were similar. 24/56 (43%) eligible FPs from 21 countries (6 EU and 15 non-EU) either replied to the questionnaire or were interviewed.

The opinions and ideas collected through this exercise were presented to the Sophia meeting's participants with two aims: first to provide a feed back on what members think and second to offer food for thought to the small groups meetings. Further, the collected information contributes to monitor the project's performance and also design a future shared vision.

The professionals interviewed work in the WP6, WP7 and WP8, and are based in extra-European regions, i.e. North Africa, Middle East and Balkans. Exclusion criteria were:

- participants working for institutions acting as WP leaders;
- participants from international agencies.

Latter criteria were chosen in order to avoid biased answers from EpiSouth members who are either in a rather dominant position as persons in charge of WP or play a role outside national institutions.

The sample of FPs selected for the telephone interviews included the following countries and regions: North Africa (Algeria and Morocco); Middle-East (Egypt, Israel and Jordan); Balkans (Kosovo, Macedonia and Serbia); non WP leader and candidate countries (Romania and Turkey). Given that Macedonia and Serbia FPs were not available, Croatia was selected. Ten FPs from the following nine countries were interviewed: Algeria, Croatia, Egypt, Israel (2 FPs), Jordan, Kosovo, Morocco, Romania and Turkey.

As far as the questionnaire is concerned, a list of six questions was sent to all FPs. Twelve FPs from ten countries filled in the questionnaire: Palestine, Jordan, Cyprus, Tunisia, Slovenia, Turkey, Greece, Serbia, Syria and Romania.

Results

The comments (positive and negative) and suggestions about the key themes addressed by the interviews and the questionnaires are summarized as follows:

- *Expectations from joining EpiSouth*
 - Improve communication and cooperation with other institutions and epidemiologists.
 - Overcome difficulties in reaching migrant communities (gipsies) with immunization programs.
 - Have a better overall understanding of communicable diseases epidemiology in the region (area), to learn about and compare different strategies of analysis and control.
 - Create contacts for future collaboration.
- *Responsiveness*
 - Expectations are completely fulfilled.
 - Allow to establish professional contacts.
- *Sharing data and knowledge*
 - Improved communication on communicable diseases events with other countries, especially within same region.
 - Created communication channels indispensable when solutions to common problems are considered.
 - Improved knowledge about other nations' organizations and approaches to analysis and control.
 - Countries have different experiences and expertise in this area and this makes sharing data more difficult.
 - Possible duplications between EpiSouth Bulletin and ECDC.
 - Too much reliance on Bulletin in its recent format cannot guarantee that the information is always relevant, timely and an opportunity for learning.
 - Prioritize a set of diseases according to their frequency and severity; study and compare how data are collected in different countries.
 - Early warning systems should be developed at regional level.
 - Pages on selected infectious diseases epidemiology in all EpiSouth countries should be added weekly or monthly in the Bulletin.
 - Other networks should be linked to the website.
 - Exchange of information through the EI Bulletin is positive, but in general the exchange is insufficient.
 - Sharing of data among organizations is not so developed as at individual level.
- *Contribution to solutions*
 - Contribute significantly to charting needs and problems, e.g. survey on vaccination and migrant populations can become a source for identification of common areas for further collaboration.
 - Improve coordination within and among MoHs and other institutions.
 - Raise awareness about differences in population needs and health systems and the necessity to reduce variation.
 - No detailed discussion on how to improve surveillance.
 - No strengthening of preparedness to face a disaster or a large outbreak.
 - There is a "technical" level which is more involved than the "political" one.
 - The weak point is the implementation of the specific issues.

- Offer more frequent and specific training on implementation of prevention programs and national plans, possibly dedicated to provincial teams.
 - Organize more frequent and specific meetings on technical issues (e.g., zoonotic diseases, surveillance systems, legislation in various countries).
 - Ensure exchange of different experiences with examples of good practices.
 - Establish formal coordination between MoHs.
 - Adopt e-learning.
 - Offer technical assistance from strategic planning to intervention
 - Organize visits to exchange experiences after identifying specific needs.
 - Establish rapid response team at regional or EpiSouth levels.
 - Promote direct communication between HPH and VPH of different countries.
 - Advocate for financial aid in favour of people living in unstable environments like migrants.
- *Means and frequency of communication*
- Platform well designed and useful, but not used enough.
 - Platform really user-friendly and surely potentially able of facilitating the interaction.
 - Good frequency of communication.
 - No feedback about results of questionnaires.
 - E-mails are the most frequently used tool of communication, whereas the discussion forum potential is not much used.
 - Networking so far has been by exchange of knowledge and experience through a central point (WP leader) and in response to specific stimuli (reply to questionnaires mainly). Only EpiSouth meetings have been the point for actual exchange of information and knowledge.
 - Exchange is difficult in big meetings.
 - Promote multiple channels of communication such as forums and meetings bringing together a subset of countries.
 - Ensure that focal points communicate with each other at least twice a month using the website.
 - Create specific channels for epidemic alerts.
 - Prioritize a set of diseases according to their frequency and severity; study and compare how data are collected in different countries.
 - Provide regular updates of what each working group is doing instead of waiting for the annual meeting.
- *Working relationships between non-European and European members*
- EpiSouth pays attention to the non-EU countries.
 - Visits to other countries are helpful allowing intense dialogue and learning about other realities.
 - At the beginning it was a bit conservative, but now you can even communicate personally on specific issues.
 - Trust has started to take place.
 - Members feel close more and more through continual communication and participation at meetings; mutual understanding and willingness to help have reinforced relationships and built friendship
 - Relationships are very good; forming or building a unique organizational culture for EpiSouth countries is in progress.
 - Non-EU countries' attitude is rather passive as if they were waiting for some signal from EU nations before taking action.

- There should be no first and second class countries.
 - Working relationship between non-EU and European organizations and individuals is a little limited because some political, economic, cultural and ethnic reasons.
 - Non-EU countries are not involved as much as EU countries; there are visa problems.
 - Difficult to answer: there is an administrative issue because non-EU have no budget and a relationship dimension because it takes time to know each other and learn how to communicate.
 - Be more knowledgeable and flexible in dealing with each country taking into account its prevailing political and financial context.
 - Step up interaction among participants.
 - Share responsibilities and actively involve key persons.
 - Help all participants so that each one attains a minimum standard permitting accurate information exchange.
- *Project organization*
- A very democratic schema, enabling all countries to have a saying in matters of common interest, still offering the project a concrete organizational structure.
 - A very well organized project; the leaders of the project and the Steering Committee are really doing a great job.
 - Taking into account existing difficulties, it succeeded to a great extent.
 - Management rules are not enough known and clear.
 - Reinforce the role and participation of non-European countries in the project.
 - Include focal points at sub-national level (district, region) in every country
- *The Network future*
- Ideally, through the epidemic intelligence activities (WP6), public health issues of common interest for participating countries will be communicated real-time across the EpiSouth area, followed by the activation of established mechanisms of action and response regarding cross-border transmission, both for zoonoses (WP8) and vaccine preventable diseases (WP7).
 - Devise plans of action and responses as regarding cross border transmission of zoonosis and vaccine preventable diseases that are common to all EpiSouth countries.
 - Set up more specific courses on particular situations and topics (i.e. statistics) in each country or maybe each area.
 - Organize subject oriented meetings: zoonotic diseases, legislation on infectious diseases control in different countries.
 - Include other issues: influenza epi and pandemic surveillance.
 - Zoonosis: move from priorities identification to a plan of action about diseases, labs and VET
 - VPD & migrants: focus even on a single topic using an applied and workable approach.
 - Concentrate on priorities and keep the same topics in order to avoid dispersion of energies.
 - Deal with non-communicable diseases, especially cardio-vascular diseases, diabetes and cancer.
 - Clarify division of labour between EpiSouth Network and WHO, ECDC etc. in order to avoid overlapping.
 - Address more specific needs.
 - Expand access to public.
 - Develop e-training.

- Move towards more uniformity regarding public health aspects across all EpiSouth countries.
- Reinforce the collaboration with WHO, and other Networks (reference labs...)
- Create mechanisms of technical assistance to face threats
- Establish a regional laboratory Network.
- Prepare strategic documents and guidelines for different activities.
- Design a common curricula to be adapted by each country.
- Integrate with the European seroepidemiological surveillance Network (ESEN).
- Become like CDC/Atlanta which is present and helps everywhere in the world giving consultation, training, support to epidemics investigations particularly with dangerous, rare diseases, in large outbreaks and disasters.

Conclusions

Overall answers denote satisfaction with the project in terms of fulfilling the participant's expectations, allowing them to share information and knowledge and contributing to problem-solving on the field of public health and communicable disease epidemiology. Members commented positively on EpiSouth evolution towards a more flexible and open relationship between EU and non-EU countries that was possible thanks to an increased availability of funds to cover non EU-States during the duration of activities fostered by targeted fund raising.

In terms of process, trusting and helpful working relationships have been established but personal contacts should be formalized, i.e. institutionalized.

As far as content is concerned, successes were acknowledged for all WP6, WP7 and WP8, but sometimes they lacked focus on specific problems and solutions. Participants' effort should therefore be led toward subject matters, offering concrete solutions relevant to countries, sometimes organized through regional task forces with clear mandates and ample autonomy. At the same time, guidelines concerning analysis, systems and strategies should be devised and help with implementation should be provided. All the above should be supported through ad hoc training (e-learning) and on site visits.

Concerning project management, it is deemed valid by participants, even if there are still some inevitable tension between organizations, which launched the initiative and control the budget and those who do not. Feasible ways to involve more deeply non-EU participants in key decisions should be adopted (change roles from information to consultation to authority).

Analysis of the website utilization

A simple analysis of the website utilization provides valuable clues about the Network evolution. The number of accesses, defined as unique visitors, grew from 1.856 to 3.200 for the quarters from December 2007 – February 2008 to December 2008 – February 2009. During the same period, the number of unique visits increased from 3.363 to 4.730 and pages visited from 30.290 to 44.373. Web privacy policies make recognition of countries of origin impossible to identify for many contacts.

Conclusion

EpiSouth is two thirds through its implementation phase. The number of countries and institutions which have joined the Network is larger than anticipated, which represents a great success but also brings greater complexity. The answers to the several monitoring tools repeatedly filled out by participants converge in revealing that the EpiSouth Network has become stronger, answering to expectations of most members, and is managed effectively showing as well consideration toward participant individuals and organizations.

Acknowledgements

We would like to acknowledge all the participants who have filled in the questionnaires making possible this monitoring process of the Network development.

ANNEX 1

Monitoring tool of EpiSouth network development questionnaire

EpiSouth

WP3 Evaluation

Monitoring Tool of EpiSouth Network Development

This short questionnaire intends to assess how EpiSouth members feel about the Network's building progress. This survey will be distributed to the participants in a few occasions during the project's implementation in order to periodically monitor key dimensions of its advancement. The results will be used to improve the Network development and will be available to participants through the EpiSouth website.

Please declare if you are an EpiSouth member or an external participant.

EpiSouth member

External participant

If you wish so, feel free to identify yourself with your name or just with the area where you come from.

Please answer the following questions, circling the score which reflects your view:

For example, to question 1.

- *answer 1 if you are totally uncertain about the Network's purpose,*
- *answer 5 if you are totally clear about the Network's purpose,*
- *the other scores reflect in-between opinions.*

1. Network's purpose

I'm uncertain 1 2 3 4 5 I'm clear

2. Network's goals

Set from above 1 2 3 4 5 Emerged through interaction

3. Network's membership

I'm out 1 2 3 4 5 I'm in

4. Communication

Very cautious 1 2 3 4 5 Very open

5. Mechanisms for getting feedback

Poor 1 2 3 4 5 Excellent

6. Useful feedback

Very little 1 2 3 4 5 Considerable

7. Use of Network member's skills

Poor use 1 2 3 4 5 Good use

8. Support

Little help for individuals 1 2 3 4 5 Strong support for individuals

9. Working on relationships with others

Little effort 1 2 3 4 5 High level of effort

10. Cohesions

Low 1 2 3 4 5 Optimal

11. Conflict

Difficult issues are avoided 1 2 3 4 5 Problems are discussed openly and constructively

12. Influence on decisions

By few members 1 2 3 4 5 By all members

13. Distribution of leadership

Limited 1 2 3 4 5 Shared

14. Capacity for creativity and growth

Low 1 2 3 4 5 High

15. Risk taking

Not encouraged 1 2 3 4 5 Encouraged and supported

Please add any comment you consider relevant to how the Network is evolving and what can be done to enhance its progress. Also suggest any modification to this questionnaire you consider useful (e.g. adding questions, different spelling out).

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Thank you for your time.

ANNEX 2

Telephone interview and questionnaire

The set of questions for the telephone interviews was designed as follows:

Dear Dr

Thank you for agreeing to answer some questions about EpiSouth. The questions cover a wide range of issues, and we would like to know both your opinions and your suggestions on how to improve the performance of important dimensions of the project.

1. Which expectations did you have when your organization joined EpiSouth?
2. How far has EpiSouth fulfilled those expectations?
3. How far has EpiSouth contributed to raising awareness about the possibility of improving policies and practices regarding infectious diseases surveillance and control in your country? Do you have suggestions to improve these aspects?
4. How far has EpiSouth contributed to better sharing of data and knowledge across organizations in different nations?
5. Do you think the means and frequency of communication used by EpiSouth members are adequate for information sharing and learning? How would you describe the EpiSouth working relationship between non-European and European organizations and individuals?
6. Do you believe that EpiSouth is contributing toward or has the potential to play a role in the development of solutions to common problems in the field of infectious diseases epidemiology and control and, specifically training, epidemic intelligence, zoonosis, vaccine preventable diseases and migrants?
7. Do you think that the current project organization (Steering Committee, WP leaders, Focal Points, Steering Teams) is adequate to support the activities of the Network?
8. Do you think that the EpiSouth platform is of value for your work (user-friendly, good quantity and quality of relevant information, good interaction with other Network participants)?
9. How do you see the long term future of EpiSouth, let's say in ten years time? Ideally, how would you like the Network to evolve with respect to: training, epidemic intelligence, zoonosis, vaccine preventable diseases and migrants?
10. Would you like to add anything you feel would be important to discuss together with other EpiSouth colleagues during group interviews at the Sofia Conference?

Once again, thank you for sharing your ideas and spending time with us. We think your help will contribute to make EpiSouth a more valuable and successful project.

The questionnaire was composed by the following questions:

1. How far has EpiSouth contributed to better sharing of data and knowledge across organizations in different nations? Do you have any suggestions to improve this aspect?
2. Do you believe that EpiSouth is contributing toward or has the potential to play a role in the development of solutions to common problems in the field of infectious diseases epidemiology and control and, specifically training, epidemic intelligence, zoonosis, vaccine preventable diseases and migrants? Do you have any suggestions to improve this aspect?
3. Do you think that the current project organization (Steering Committee, WP leaders, Focal Points, Steering Teams) is adequate to support the activities of the Network? Do you have any suggestions to improve this aspect?
4. How would you describe the EpiSouth working relationship between non-European and European organizations and individuals? Do you have any suggestions to improve this aspect?
5. Do you think the means and frequency of communication used by EpiSouth members are adequate for information sharing and learning? Is the EpiSouth platform of value for your work (user-friendly, good quantity and quality of relevant information, good interaction with other Network participants)? Do you have any suggestions to improve this aspect?
6. How do you see the long term future of EpiSouth, let's say in five years time? Ideally, how would you like the Network to evolve with respect to: training, epidemic intelligence, zoonosis, vaccine preventable diseases and migrants and other topics you consider important?

APPENDIX A
EpiSouth network focal points

PARTICIPATING COUNTRIES

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Algeria

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APPENDIX B
EpiSouth WP leaders
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FUNDING INSTITUTIONS



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*Stampato da Tipografia Facciotti srl
Vicolo Pian Due Torri 74, 00146 Roma*

Roma, aprile-giugno 2010 (n. 2)