EPISOUTH PLUS REPORT 11/2014

THE EPISOUTH PLUS PROJECT

COLLECTION OF THE STRATEGIC DOCUMENTS

- ✓ WP4 - RECOMMENDATIONS FOR THE INSTITUTION AND CONSOLIDATION OF A LABORATORY NETWORK
- ✓ WP5 - TOOL FOR SUPPORTING COUNTRIES ON GENERIC EMERGENCY PREPAREDNESS PLANNING IN THE HEALTH SECTOR
- ✓ WP7 - COORDINATION OF EPIDEMIOLOGICAL SURVEILLANCE BETWEEN POINTS OF ENTRY AND THE NATIONAL HEALTH SYSTEM IN THE FRAMEWORK OF THE INTERNATIONAL HEALTH REGULATIONS 2005 IN THE EPISOUTH REGION

Edited by
Maria Grazia Dente, Massimo Fabiani, Gloria Nacca,
Alessia Ranghiasci and Silvia Declich

January 2014

Authors

Marie Roseline D. Belizaire Institute Carlos III, Madrid, Spain
Sabah Boufkhed Institut Pasteur, Paris, France
Rosa Cano Portero Institute Carlos III, Madrid, Spain
Silvia Declich Istituto Superiore di Sanità, Rome, Italy
Maria Grazia Dente Istituto Superiore di Sanità, Rome, Italy
Massimo Fabiani Istituto Superiore di Sanità, Rome, Italy
Handan Kalaycioglu Refik Saydam National Public Health Agency, Ankara, Turkey
Gülay Korukluoglu Refik Saydam National Public Health Agency, Ankara, Turkey
Concepcion Martín de Pando Institute Carlos III, Madrid, Spain
Pierre Nabeth World Health Organization HQ, Lyon, France
Gerardo Priotto World Health Organization HQ, Lyon, France
Flavia Riccardo Istituto Superiore di Sanità, Rome, Italy
Danijela Simic Institute of Public Health "Dr Milan Jovanovic Batut", Belgrade, Serbia
Fernando Simón Soria Ministry of Health, Social Services and equality (MSIII), Madrid, Spain
Vinciane Sizaire Institute Carlos III, Madrid, Spain
Kathleen Victoir Institut Pasteur, Paris, France

With the kind support of WP4, WP5, WP7 Steering Team Members

Table of contents

FOREWARD

I would like to express my deep and complete appreciation for the EpiSouth Plus and EpiSouth Projects, funded by the European Commission (DGSANCO and EuropeAid and DG Enlargement) and the Italian Ministry of Health, and for their seven years of activity.

Now that this experience is at its end, let me refer to some of its added values from the view point of the Italian Ministry of Health. What was relevant and in a way unique of EpiSouth was its ability to create and consolidate a network of 27 countries in a complex area such as the Mediterranean, involving in partnership and collaboration international actors such as the European Commission, the ECDC, two WHO Regional Offices (for Europe and for Eastern Mediterranean) and the WHO Headquarters, in particular the Global Capacities Alert and Response Department.

The vision of Italy, that is placed in the very centre of the Mediterranean, is that networks in this region finalized at controlling public health threats are very much needed and valued. The list of participating Countries provides clear evidence of the magnitude and relevance of EpiSouth. I am pleased to underline the role the Italian Ministry of Health played in enabling this project to acquire this Mediterranean dimension, thanks to our decision to fund the participation of non-EU Countries since the start in 2006.

An emblematic example of the strong commitment and motivation of all EpiSouth participating countries, the EpiSouth simulation exercise (SE) was the culmination of a capacity building process that started in 2006 and finally enabled the network to jointly engage in a complex and ambitious international and multi-sectoral exercise. As presented in its external evaluation, aside its tremendous added value *per se*, the SE was considered a very successful training tool in testing national core capacities and identifying opportunities for improvement in emergency preparedness and response. More importantly, this project as a whole and the SE specifically were an ideal laboratory to test, assess and share strategies to facilitate the implementation of the International Health Regulations.

EpiSouth leaves a lot behind: a trusted network of colleagues, a Mediterranean Laboratory Network that will continue to work thanks to EC DEVCO funding, a culture of Epidemic Intelligence that will benefit of the dedicated EPIS for EpiSouth platform now managed by ECDC. Its research will enrich forthcoming international tools such as the WHO global guidance on coordination of surveillance between Points of Entry and National Health Systems and the comprehensive EpiSouth EPREP tool that, designed on the basis of the needs of participating countries, will be particularly useful for EU countries that are now facing the challenge posed by the recently approved decision no 1082/2013/EU on serious cross-border threats to health.

I am therefore sure that the precious work carried out so far by this network will be the starting point of new initiatives and collaborations among all the interested parties.

Daniela Rodorigo
Director General
Directorate-General for Communication and European and international relations
Ministry of Health, Rome Italy

PREFACE

It is with great pleasure that I present the outputs of the Episouth Network for the Control of Public Health Threats and other bio-security risks in the Mediterranean Region and Balkans (EpiSouth Plus Project). EpiSouth Plus was funded by the European Commission and the Italian Ministry of Health and coordinated by the Italian Institute of Health (ISS).

Having attracted and actively involved 27 countries bordering the Mediterranean Sea, both within and beyond the European Union, EpiSouth is a unique and relevant voice in Public Health. This unprecedented regional approach has led to the production of a common Tool for Preparedness Planning, a Strategic Document for the establishment of a Mediterranean Laboratory Network and a Strategic Document on Coordination of Surveillance between Points of Entry and the National Health Systems in the framework of the International Health Regulations (IHR). The development of this shared policy guidance was possible thanks to a solid framework of scientific collaboration involving all concerned Ministries of Health and National Institutes of Public Health as well as the World Health Organization and the Institute Pasteur.

The technical and networking components of EpiSouth had also an important and unplanned spill-over impact on the development of national know-how, leading to the implementation of new activities within participating countries. National added value was particularly reported in the field of preparedness and event-based surveillance, in the development of capacity in laboratory diagnosis and bio-security, and in surveillance at Points of Entry in the framework of IHR, as stressed by the countries that participated in the EpiSouth Plus National Situation Analysis on coordination of surveillance between Points of Entry and National Health Systems (The ENSA Study). Aside benefitting as a participating country, the involvement of the ISS as project coordinator and co-leader of several work packages was also an opportunity to strengthen the technical, administrative and coordination capacity of the Epidemiology of Communicable Diseases Unit within the National Centre for Epidemiology, Surveillance and Health Promotion of the ISS.

This formal yet flexible public health network has been able to produce outputs that span beyond the boundaries set by the EU and by WHO regions encompassing an area that, although administratively divided, constitutes a single ecological and epidemiological niche. In a time frame of just over three years, EpiSouth Plus has provided possible models and solutions to existing and documented gaps in the detection, reporting and response to public health threats and other bio-security risks in the Mediterranean Region. I am sure these insights will be useful to national development in the Region and contribute to the international policy discourse on health threat preparedness and response.

Stefania Salmaso
Director
National Center for Epidemiology, Surveillance and Health Promotion
Istituto Superiore di Sanità, Rome, Italy

THE EPISOUTH NETWORK

EPISOUTH PROJECT (2006-10)

In occasion of the Year of the Mediterranean (2005), a number of countries that share the Mediterranean ecosystem and that have potentially common public health problems, agreed to develop the project "EpiSouth", whose aim was to create a framework of collaboration on epidemiological issues in order to improve communicable diseases surveillance, communication and training in the Mediterranean region and South-East Europe.

EpiSouth started in October 2006 with the financial support of the EU DG-SANCO together with the Italian Ministry of Health (MoH). When it terminated in June 2010, it had established a network of 27 countries (9 EU and 17 non-EU countries plus 1 candidate to enlargement country). It was therefore the biggest inter-country collaborative effort in the Mediterranean region.

EPISOUTH PLUS PROJECT (2010-13)

This initial project was followed by a second project called "Episouth Plus", from 15 October, 2010 to 14 January, 2014. Episouth Plus implied a shift of the network's activities to a wider approach.
Building on the knowledge of regional gaps and needs identified during the EpiSouth Project, the goal of the EpiSouth Plus Project was to contribute to the control of public health threats and other bio-security risks in the Mediterranean region and South-East Europe. The project aimed at enhancing and strengthening the preparedness to common health threats and bio-security risks at national and regional levels, in the countries of the EpiSouth Network, in the framework of the International Health Regulations (2005) (IHR) implementation.

The reinforcement of relations of trust in the region was an instrument in the scope of Project's implementation, as the achievement of the objective required a solid framework of collaboration and information exchange among the 27 participating countries. To this purpose, Focal Points from each participating country were appointed and asked for active involvement and collaboration in the project's activities.
The project was organized in seven Work Packages (WP), jointly co-led by EU and non-EU countries. In each WP, two WP co-leaders were guided by a WP Steering Team.

The Steering Committee constituted by all WP co-leaders, and the Project General Assembly constituted by all participants, were responsible for the general strategic decisions. Finally, an Advisory Board, constituted by representatives of the collaborating institutions and external experts, provided support for the revision of relevant documents and recommendations.

Apart from three transversal WPs (i.e., WP1-Coordination; WP2-Dissemination; WP3- Evaluation) the project's activities were articulated in four WPs:

1) Establishment of a Mediterranean Regional Laboratories Network to facilitate common threats detection in the countries involved (WP4).

2) Promotion of common procedures in Generic Preparedness and Risk Management Plans among the countries involved (WP5).

3) Enhancement of Mediterranean Early Warning Systems (EWS) and cross-border Epidemic Intelligence allowing alerts and Epidemic Intelligence information sharing among EpiSouth countries and, development of interoperability with other European early warning platforms, especially EWRS, as forecasted by the current EU legislation (WP6).

4) Facilitation of IHR implementation through the production of a strategic document, with guidelines, based on specific assessments describing how national plans/legislations can interact with IHR requirements (WP7).

WP4 - EPISOUTH PLUS STRATEGIC DOCUMENT

THE EPISOUTH PLUS PROJECT

Kathleen Victoir[1], Sabah Boufkhed[1], Handan Kalaycioglu[2], Gülay Korukluoglu[2]

[1] Institut Pasteur, Paris, France

[2] Refik Saydam National Public Health Agency, Ankara, Turkey

January 2014

Contents

1. Work Package 4 – setting up a laboratory Network

- GOAL

The goal of the work package 4 is to contribute to the control of public health threats in the Mediterranean region and South-East Europe by establishing a Regional Laboratories Network.

- OBJECTIVE

The main objective of the work package is to facilitate common threats detection by the establishment of a Regional Laboratories Network based on available resources in Mediterranean and South East Europe by mapping them, assessing their diagnostic and confirmation capacity, facilitating rapid access to laboratory facilities, strengthening the human and technical capacity of participating countries interacting with their public health institutions and officials based at the national reference laboratories.

- RESULTS

The EpiSouth plus project, through its WP4, has succeeded in creating the Mediterranean Regional Laboratory Network (MRLN). This project has enabled the heads of laboratory from all over the Mediterranean rim to meet, collaborate and exchange information, for the first time. Thanks to this project, the heads of laboratory had the opportunity to train one of the staff of their laboratory to the laboratory diagnosis of Dengue and West Nile virus and to develop and strengthen their biosafety skills and practices. Trust and collaboration have been built throughout these two last years and the laboratories have expressed a great interest in continuing to further collaborate and develop the activities of the MRLN in the upcoming years. EpiSouth is the only network enabling all the Mediterranean area to get together and to work in partnership. The role of the EpiSouth plus project is central in the establishment and maintenance of multisectoral collaboration (i.e. veterinary and entomology) on the filed around the Mediterranean rim.

2. Process and tools needed to set up a Laboratory Network

2.1 IDENTIFICATION AND SELECTION OF THE LABORATORIES

- Description of profile of the needed laboratories included in a first questionnaire (annex I)

The WP4 prepared a short questionnaire to assess the “basic” laboratory capacities and to support the selection of the labs to involve in the MRLN. This questionnaire was sent to the EpiSouth national focal points (FPs) who forwarded it to the concerned Laboratory(ies) (human fields) of their countries. The laboratories should have been national references for Dengue and /or West Nile, or a Virology unit which has the best possible expertise on diagnosis and identification of these pathogens or related viruses if no specific reference laboratory exists in the country.

Points addressed were:

- treatment of human and/or animal samples

- reference level of the laboratory (regional, national, district,…)

- number of samples treated

- information on the infrastructure (Biosafety level, PCR facilities, waste management, …)

- main scope of activity (virology, bacteriology, immunology, molecular biology,…)

- frequency and way of reporting to authorities, international bodies

- existence of laboratory SOPs

- database management

- technologies available for pathogen detection and identification

- organisation of the laboratory

- quality management

- training level of the personnel

- Procedure of constitution of an expert comity

An expert meeting (international experts of the field of interest, WHO, ECDC, OIE and Countries representatives) was organised to identify selection criteria of the different laboratories and make links with the existing networks of laboratories to avoid overlapping and duplications. An inventory of the existing diagnosis or reference laboratories/disease/country was possible for each selected country partially by internet survey, WHO available information and complementary questionnaires. Minimal requirements amongst the above mentioned points were set by an expert committee. This expert committee was constituted of specialists of the different identified diseases and corresponding pathogens in terms of laboratory diagnosis and pathogen identification, clinicians, and quality control and public health specialists.

In the case of EpiSouth plus the following experts were called to take part in the expert comity for selection of laboratories for the network:

Representative of ENIVD (European Network for emerging viruses), representative of ECDC, representative of EBSA biosafety, representative for WHO biosafety, representative(s) of national reference laboratories from Spain, Turkey and Greece.

2.2 IDENTIFICATION OF NEEDS

- Assessment document of laboratories

Two questionnaires have been used for the assessment of the selected laboratories. The selection questionnaire and a follow up questionnaire have been filled by the heads of laboratory.

The second questionnaire concentrated on the following topics:

- Organisation of lab staff
- Laboratory instruments and equipment
- Tests and diagnostic capacity
- Equipment maintenance
- Specific SOPs on QC, handling of samples (including labelling and storage)
- Specific questions on the use of databases and
- IHR compliance
- Decontamination procedures and use of safety equipment

- Inventory to identify transport bottlenecks for transport of material for identified Laboratories

Transport of samples and reagents is very often a problem within and with the EU. Therefore a questionnaire has been distributed to identify some specific bottlenecks such as:

- Existence of an expedition service
- Use of a customs clearance agent
- SOPs for export and import of goods an samples
- Availability of packaging material
- Contact person at major airline companies
- Which courier companies are available

It has to be explored if some regional services can be mutualised (use of courier companies, sharing of SOPs, …)

- Meeting with heads of laboratories

One meeting/year of the heads of laboratories is recommended to update on pathogen situation, identification of needs, feedback on organised activities, network building.

3. Points to take into consideration when organising a training/course

3.1 AVAILABLE COURSE FACILITIES

3.1.1. Infrastructure

The minimal infrastructure needed to organize a course/training is:

a) to have a laboratory sufficiently big to host all participants

b) to have at least one or two safety cabinets for biosafety applications

c) to have a computer room available for participants

3.1.2. Authorisation for the course

Check before if the country legislation allows to perform the course in the country, what are the legal restrictions to train on the chosen subjects and pathogens.

3.4. IDENTIFICATION OF PARTICIPANTS: OUTLINE OF PROFILE

The trainee profile should be set with the heads of laboratory.

For the EpiSouth plus courses it was determined in the following way:

- permanent staff
- actively working at the bench in the laboratory
- speaking English and at best French
- person who could provide training when coming back to his/her lab.

3.5 COURSE MATERIALS AND TIMING

3.5.1. General format of the course

The general format of the course was a five-day course.
The approach was to give a general scientific background of the pathogen including, clinical symptoms, the animal and vector general information. The aim is that participants understand all factors of the context of the disease while practical and theoretical courses are outbalanced in the best possible way (60/40).
On the last day case studies were planned in order to have a general overview on situation analysis and consequently tests to be performed.
Experts of the addressed fields were invited to give lectures .
Pre-and Post-tests were performed to evaluate the effectiveness of the performed sessions.
For specific certificates, specific questions and a corresponding test were set up.
Indeed, a certificate is essential for the participants since this is a confirmation and valorization of their training.

3.5.2. Material to share

After the course all used protocols and presentations were available for the participants.

Course reagents were distributed amongst participants if relevant for the set up of the learned methods in their home laboratory.

The programs used for sequence analysis are freely available programs and sites where they could have been found were communicated.

3.5.3. Hands on sessions and Distribution of pairs

The target group was very heterogeneous. Therefore a more experienced trainee was always paired with a less experienced one. Attention was paid to the fact of the geographical proximity of the countries of origin while making the different pairs.

3.5.4. Preparation and format of round tables

Round table discussions were gradually built around a country situation, going from the set up of a surveillance system when a first case is detected, to an outbreak to an endemic situation. Discussed is the organization of the lab and the identification methods, which should be set up according to the different situations, and stages of development of the laboratory. Different examples highlighted the difficulties and key points to be addressed during these different stages.

3.5.5. Design of case studies

Case studies allowed to put the results obtained by the tests learned during the practical sessions in a realistic context.

They can be approached in different ways; the format that has been used during the project is the following:

the clinical background (clinical symptoms, age, travel history, …) of the samples analysed during the practical sessions were discussed and identification techniques were analysed according to the data provided. Additional testing was discussed when necessary.

This is an important part of the training as it considers most of the aspects addressed during the sessions of the course.

3.5.6. Course follow up

An important aspect of the a course is its follow up.

Actions of follow up are important to consolidate the learned material and could be under different formats:

- make the course material available.

- e-learning follow up (not implemented with EpiSouth Plus Project)

- follow up courses (the WN-biosafetyII course was a follow up course of the Dengue-Biosafety I course)

- organise External Quality Assessments, which give the opportunity to the trainees to apply the techniques learned and assess their own “home-made” detection methods.

- give participants the opportunity to exchange between each other and experts

- create the possibility of experts to go to sites with specific questions, which can only be solved by “on the spot” training, which is complementary to residential training.

4. Tools to keep the Network active

4. 1. Internet site and common email addresses

An internet site remains, even after the end of a project, an important communication and dissemination portal.

A moderator and animator remains a key point to maintain communication among partners

4.2. Exchange of material

What makes a Network active is also the possibility to exchange samples, positive controls, consumables etc.

Networks should make such exchanges possible, in the context of the international regulations, therefore common transport procedures, experience about carrier companies, packaging rules and procedures should be shared and common documents elaborated.

5. Lessons learned and recommendations

The support of the EpiSouth focal points for the setup of the MRLN was an essential asset which helped to identify the different possible laboratories in the targeted countries.

A Network “animator” is key for the set up and day to day life of a Network. It is important that partners feel they belong and participate. Therefore regular interaction with the coordination of the network on their advances, problems, information exchange is very important. As important is the identification of some regional “champions” to which members can easily turn to in case of questions or problems.

Meetings with the head of laboratories for face to face discussions are as valuable than shared tools, since they create an important regional dynamics which, if strong enough, will remain.

SOPs are important elements for the good functioning of laboratories, they are more and more used but in some countries they still need to be introduced and harmonised. However, it are easy and useful documents to share which can have a direct impact on the efficiency of the laboratory

The setup of a network is a challenging but rewarding investment an important part of the investment however is the sustainability and therefore it is important that follow up activities are made possible.

Acronyms and Abbreviations

ECDC	European Center for Disease prevention and Control
EU	European Union
EWS	Early Warning System
EQA	External Quality Assement
IHR	International Health Regulations
IP	Institut Pasteur
MRLN	Mediterranean Regional Laboratories Network
MS	Member State
OIE	World Organization for Animal Health
IPIN	Institut Pasteur International Network
ST	Steering Team
WHO	World Health Organization
WP	Work Package

WP5 - EPISOUTH PLUS STRATEGIC DOCUMENT

THE EPISOUTH PLUS PROJECT

TOOL FOR SUPPORTING COUNTRIES ON GENERIC EMERGENCY PREPAREDNESS PLANNING IN THE HEALTH SECTOR

Vinciane Sizaire[1], Marie Roseline D. Belizaire[1], Concepcion Martín de Pando[1], Rosa Cano Portero[1], Danijela Simic[3], Fernando Simón[2]

[1] National Centre of Epidemiology (CNE), Institute Carlos III, Madrid, Spain
[2] Ministry of health, Social Services and equality (MSIII), Madrid, Spain
[3] Serbian Institute of Public Health "Dr Milan Jovanovic Batut"

And the WP5 Steering Team

On behalf of the EpiSouth network

JANUARY 2014

Acknowledgements

Vinciane Sizaire (CNE, Spain), Concepcion Martin (CNE, Spain) and Marie Belizaire (CNE, Spain) contributed extensively to the development and editing of this document with the support of other members of the CNE, Spain: Rosa Cano, Carmen Varela, Elena Rodriguez and the Field Epidemiology Training Programmes' fellows (Ana Ayuso, Ana Sarasa, Anton Mozalevsky and Cesar Garriga). Danijela Simic contributed with her practical input. We would like also to thank Rengina Vorou (KEELPNO, Greece) and Dr Wesam Sbehat (MOH, Palestine) for assessing the relevance of the tool in their country and Jesus Mejia and Tedj Sahraoui for the development of the interactive programme. And a special thanks to Fernando Simon for his precious moral and technical support.

Objectives of the EPREP tool

General objective: to ease the development or the upgrading of National Generic Emergency Preparedness Plans (EPREP) in each country for the health response.

Specific objectives:

a. To provide a framework with tasks related to different aspects that need to be performed in the development of a generic EPREP.
b. To propose a structure consistent between countries, in order to ensure interoperability for communication and coordination within the Mediterranean and Balkan region.
c. To propose steps for implementing/strengthening communication mechanisms.

In the context of the overall Episouth-Plus project, the following aspects need to be underlined:

1. Considering the notion of "generic", the tool will aim to cover all type of threats / emergencies (biological, chemical, environmental, and unknown origin) with medical implications emphasizing cross-border aspects. Radio nuclear might also be considered if they don't prejudice the legal framework.
2. It will help the countries to identify the already existing capacity and the gaps in their ability to respond to a threat, in the light of the risk mapping, and thus, help countries to define its level of preparedness.
3. The priority will be to upgrade issues related to communication and coordination at national and international levels, including the multi-sectorial collaboration and the process of decision making.
4. Points of Entry as well as laboratory aspects will be included in the development process.
5. The achievements in developing national EPREPs should be evaluated. Future Simulation Exercises would be the key point to evaluate preparedness.

Target audience:

The tool is addressed to the health sector. It should help the health sector to improve its level of preparedness in order to 1) cope with all kind of hazards generating health consequences (not only biological threats) and 2) to have enough credibility to attract other sectors and to improve intersectoral collaboration for upgrading the "generic" National preparedness.

Organization of the tool

The tool is organized in three units:

1. **The assessment of the current national level of preparedness**
2. **The framework supporting the development of the national generic EPREP**
3. **The maintenance of the plan (monitoring and updates)**

How to use the tool?

The tool consists on a succession of tasks to perform for developing or upgrading the generic EPREP plan. It is not mandatory to perform all the tasks listed in this document to have a proper plan. Each country will define its priorities for best responding to emergencies.

The tool is available in two forms: a word document and an interactive programme.

In the word version of the tool, the table of contents of the document is the exhaustive list of the tasks. Each of the tasks is linked to the heart of the document, where some background information, objective and expected outcome, as well as the method proposed to accomplish the task is provided.

The easiest way to use this tool is therefore to go the table of content, select the task you want to work on; click and then you arrive to the corresponding link in the heart of the document.

The interactive programme is organised in the same way than the word document. Selecting a chapter in the index, you will also reach the topic you want to work on. The advantage of the programme is that you will be able, among others, to upload already existing documents directly in the programme. The programme can be used as a single instrument downloaded in a computer without internet connexion or it can be implemented in a net for sharing it with other actors. An administrator will be able to control the access of the different actors (just reading or further rights for editing, upload documents). A user guide will be also provided.

Table of Contents

UNIT 1

ASSESSMENT OF THE CURRENT NATIONAL LEVEL OF PREPAREDNESS

The first steps of this assessment will be to get a comprehensive overview of the current National capacity, including the identification of existing document on Emergency Preparedness, and the identification of risk hazards in the country. From this first analysis, the stakeholders will define the current level of preparedness, which will serve as support for developing or upgrading the generic EPREP afterwards.

The preparation will imply also the identification and/or the development of legal/official documents required to ensure the endorsement of the generic EPREP by all actors in charge of emergency management, including the political authorities.

At this stage already, it is helpful to think which role (leading versus supportive) will have the health sector according to the nature of the threat.

1. COUNTRY CAPACITY INVENTORY

The objective of doing the country capacity inventory is to identify the resources already available in the country to respond to a threat, in the light of roles and responsibilities, including expertise and decision making, logistic and human resources, equipment and drugs, facilities and infrastructures.

1.1 Country organization chart

Objective

To have an overall picture of the administrative country organization from the top to the bottom

Expected outcomes

Different sectors or areas of intervention for any kind of threat are identified and the vertical line of coordination inside sectors understood.

Tasks

1.1.1 List Ministries and governmental institutions

This task consists in listing the ministries in the country, with their respective roles and responsibilities and identifying the governmental agencies and institutions belonging to the respective ministries and their area of expertise. Don't forget to mention key services such as the Points of Entry.

Ministry	Roles & responsibilities	Institutions reporting to this Ministry	Areas of expertise
Min 1		Institution 1	
		Institution 2	
		Institution 3	
		Institution 4	
Min 2		Institution 1	
		Institution 2	

1.1.2 Describe the different levels of organization of governmental institutions

This task aims to identify the vertical communication flow within each ministry between the National, regional and local levels. The most important for you is to describe the coordination and communication flows within the health sector.

1.1.3 List the national non-governmental and International organizations

This task consists to identify all NGOs and international organisations (WHO, UNICEF…) present in your country, which might play a role in emergency management.

1.1.4 List the services of the private sector which might play a role in emergency management*.*

Think about private laboratories, pharmaceutical companies…

1.1.5 List the General Public key organizations and their role in case of a PHEIC

Think about the civil society.

1.1.6 Organize all items of your list into an organizational chart, showing who is accountable to whom.

From the health sector perspective, it means, within the health sector and the health sector with services belonging to other sectors such as civil protection, points of entry (PoE) and others.

Tips

When you list governmental institutions, NGOs and services of the private sector, consider all areas of expertise relevant for incident management: public health, epidemiology, drugs / vaccine importations and manufacturing, laboratories, radio-nuclear, toxicology, alimentary, transports, civil protection, firemen, emergency services...

1.2 Country office human resources

Objective

To identify key persons in each ministry / institutions and other agencies and their role and responsibility in the response to threats in terms of decision making and technical expertise.

Expected outcomes

Key expert persons and decision makers for each sector are identified.

Tasks

1.2.1 List areas of expertise available in the country

Do the exercise with the information collected by listing sectors, institutions and other agencies, in chapter 1.1.

1.2.2 Identify and list key experts who would be consulted in case of a threat.

Do the exercise by contacting all bodies where areas of expertise have been identified in order they give you the name, title, contact details of the key persons. Describe also what are the mechanisms established within their institution for the experts to be deployed.

1.2.3 Identify and list the key decision makers in each sector

1.2.4 Provide the contact information of all bodies that might be involved in threat management.

Tips

Make sure that it's clear who is doing what? The main issue here is to distinguish who is in charge of giving technical support and who is in charge of decision making. The sector's roles are usually established by official rules.

As agencies and people listed in this exercise might be consulted for the development of the generic EPREP, it is recommended already at this stage to elaborate a list of names with contact e-mails and phone numbers. Make sure these experts are aware that their contact details are included in the generic EPREP and that they know their role in case of an emergency.

1.3 EPREP plans in each sector

Objective

To build on existing capacities and avoid duplication.

Expected outcomes

Exhaustive list of EPREP plans available in the country

Tasks

1.3.1 Identify which sectors have a plan

1.3.2 Get a copy of these plans if possible

1.3.3 Identify elements with implications for the health sector

1.3.4 Identify aspects that can be used in the health sector EPREP

1.3.5 Identify possible mechanisms of collaboration with the sector that generated the plan

Sector	Plan(s) name	Hazard	Aspects interesting for health sector plan	Elements for health sector implication	Mechanisms of collaboration

Tips

In the biggest part of the world, civil protection has EPREP plan(s) in response to natural and man-made disasters. Therefore, it sounds reasonable to approach the civil protection sector of your country, as a 1st step of this task, to get a first idea of what already exists. I will help to define what the needs for the health sector are.

1.4 Country physical resources

Objective

To identify all sources of logistic support, equipment, drugs, vaccines and other medical items, including emergency kits that are managed by the health sector and existing SOPs of delivery in case of emergency.

Expected outcomes

An exhaustive inventory of physical resources is available to describe which items are available, quantities, where, procedures for getting access to items (including international supplies, eventually).

Tasks

1.4.1 Identify and list facilities under the health sector responsibility:

- Health care facilities
- Hospitals and their capacity (number of beds, emergency service capacity, surgery capacity, ICU, etc.)
- Laboratories for identification of infectious agents and of toxicology
- Quarantine areas at PoE (Airports, Ports and Land-crossing)

1.4.2 Assess the capacity in terms of mobile medical units:

- Ambulances
- Helicopters
- Mobile hospitals (civil protection?)

1.4.3 Identify inventories of medical items:

- Vaccines
- Drugs
- Medical equipment (masks…)
- Surgery items
- …

1.4.4 Identify existing SOPs related to the logistic medical support:

- Storage conditions of medical items
- Databases management of all stockpiles, flexibility of these programmes and access to
- Procedures for supply to the field, including cold chain when needed
- Biological and environmental samples transportation
- Mechanisms for rapid international supply (including registration procedure) when an item is not available in the country

1.4.5 Approach specific medical agencies if existing:

- Central stocks
- Logistics agencies
- Laboratories
- Others

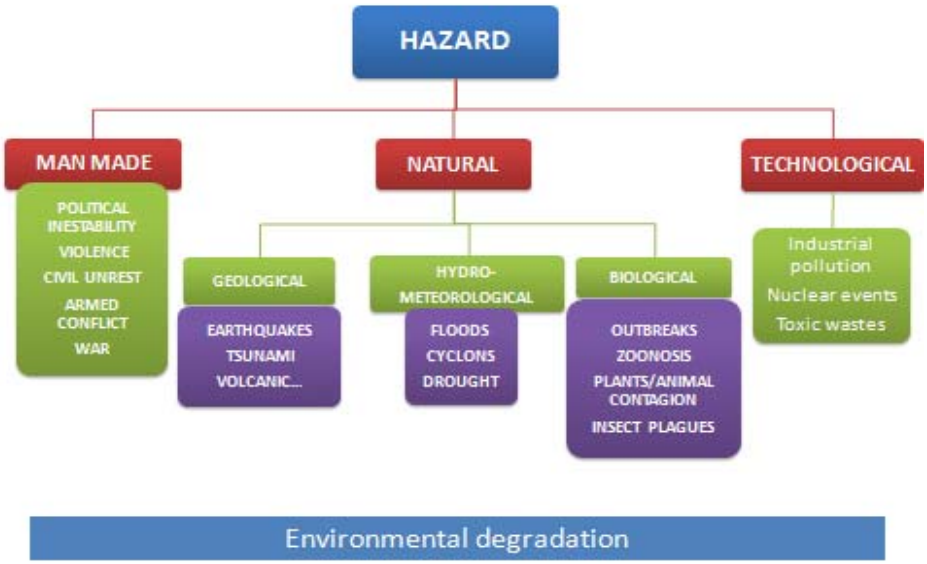
Tip

This information should be listed for each level of the country (for each administrative unit).

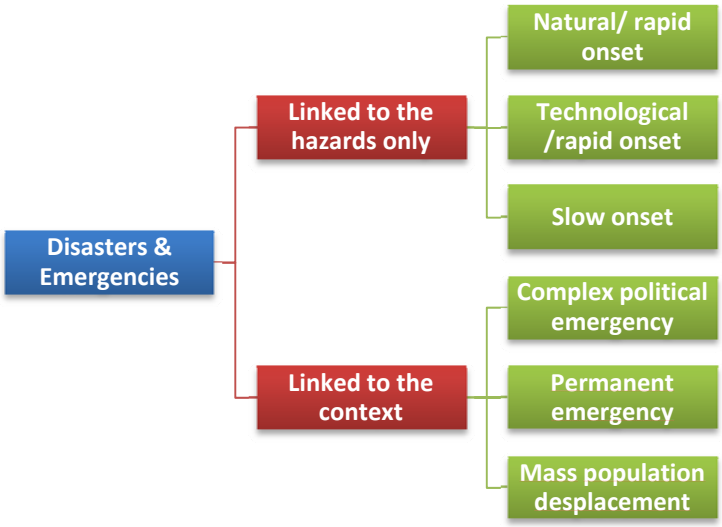
2. THREAT MAPPING ANALYSIS

This exercise aims to identify the hazards most likely to affect your country. That does not mean that you will develop specific EPREPs for each of them but it will help identifying a range of threats and the implications of their common consequences for the "generic" EPREP (All hazards ↔ common consequences).

- **Categories of hazard** (CARE Emergency Preparedness Planning Guidelines, October 2006, p13)



- **Categories of disaster & emergencies** (CARE Emergency Preparedness Planning Guidelines, Oct 2006, p14)



Objective

To identify hazards more likely to happen in your country and creating potentially associated health consequences and to identify which communities are more likely to be affected.

Expected outcomes

Summary table about hazards that might occur in your country with an example:

Potential hazard	Probability of happening	Damages	Health impact
Event	Low, moderate, high	Nature of damages	Nature of health problems

			Severity: Negligible, limited, critical, catastrophic
Cyclone	*low*	*Houses destruction* *Collapse of electricity and water supply*	*Acute casualties* *Disease linked to lack of sheltering* *Outbreaks of water-borne diseases*

This table can also help to define the activation level of the plan, if appropriate

Tasks

2.1 Identify the threats most likely to occur in your country:

Do the exercise with the exhaustive list of hazard in mind based on historical data about past events

2.2 Make the profile of these threats

In terms of probability of occurring and the severity of the damages, especially the health impact on the population.

2.3 Identify the most vulnerable communities for each of these threats:

It will include:

- The geographic location
- Demographic factors: Population density, more vulnerable specific groups, special populations, animal populations…
- Infrastructure: Facilities for sheltering, accessibility in terms of roads and communication, air and water support
- Capacity of response: locations, points of contact, facilities, services, resources…

Tip

Besides the natural disasters, it is important to know the localisation of all human activities that present high risks of accident in your country: Forests (fire hazard), chemical plants (risk of poisoning), laboratory of Bio Safety Level 3 or 4 (laboratory breaches), nuclear power station (irradiation risk)

If you click the following link, you will find the Appendix D related to hazard analysis process from the training guide of FEMA, where the process is very well explained and where you can find the "hazard profile worksheet" as a model for working, page 4.

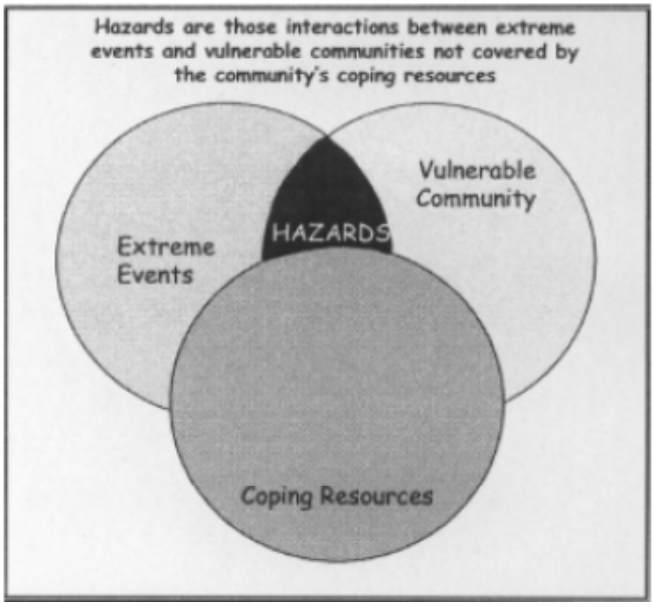
http://training.fema.gov/EMIWeb/edu/docs%5Craem%5CReadings%20D.doc

Threat Profile Worksheet
Threat:
Potential consequences:

☐ Catastrophic *(mass fatalities/casualties, loss of governance & essential services, widespread damage)* ☐ Severe *(numerous fatalities/casualties, loss of essential services, widespread damage)* ☐ Moderate *(Limited number of fatalities/casualties and damage to properties)* ☐ Minor *(little or no injuries & isolated damage)*	
Probability of occurring: ☐ High ☐ Medium ☐ Low	**Past history:** Has this type of incident occurred before? ☐ Yes ☐ No If yes, when? _____
Areas likely to be affected most:	
Probable duration:	
Potential speed of onset (probable amount of warning time): ☐ Minimal (or no) warning ☐ 12 to 24 hours warning ☐ 6 to 12 hours warning ☐ > 24 hours warning	
Existing Populations Warning Systems	
Does a vulnerability analysis exist? ☐Yes ☐ No	

3. LEVEL OF PREPAREDNESS IN YOUR COUNTRY

The ability of responding effectively to a disaster depends, among other, of the ability of the country to identify and prepare for a range of predictable hazards.



For any incident, the factors to be taken into account are:

1. The nature of the hazard
2. The community affected and its vulnerability
3. The availability of the resources to cope with the hazard and its consequences.

Source: National framework for health emergency management. Canada (2000)

Preparedness includes:

- Planning
- Procedures and protocols + existing plans of all levels, from National to local
- Training and exercises
- Personnel qualification, licensure, certification
- Equipment, drugs, vaccines certification

Developing a generic EPREP is a part of the preparedness

Questions to rise after the risk mapping and the country capacity inventory:

- How prepared do we need to be?
- How prepared are we?
- Actions (by priority) required in order filling the gaps?

Objective

To identify the gaps in terms of planning, plans, SOPs, staff qualification and medical items supply that prevent an appropriate response to the threats identified during the risk mapping analysis.

Expected outcome

To deliver a plan of activities that needs to be performed to reach an appropriate level of preparedness.

Tasks

3.1 Identify the overall needs for each hazard identify in your threat mapping analysis

Do the exercise thinking about legal issues and political endorsement, sectors to be involved, decision making, technical expertise, SOPs and physical resources.

3.2 Identified the gaps preventing an appropriate response to the hazards identified from health sector perspective

(Model's proposition where to click on the small square when available)

Needs	Hazard 1 in region X							
Level of responsibility of the health sector	High		Moderate		Low		Null	
Decision makers in health sector	Yes				No			
Agreement with sectors to involve	Sector 1		Sector 2		Sector 3		Sector 4	
Technical expertise	Theme 1		Theme 2		Theme 3			
Medical capacity to cope	PHC		Hosp. bed		Emergency		Surgery	
Medical items	Drugs		Vaccine		Equipment			
Sheltering capacity	Yes				No			
Evacuation capacity	Yes				No			
SOPs	Supply		Transport		Communication			

3.3 Develop an action plan for the health sector for filling the gaps identified

Hazard	Activities	Who	Deadline

4. LEGAL FRAMEWORK

The legal framework for an emergency plan is the whole process of approbation requested for its implementation.

Objectives

Ensure that risk reduction in case of an emergency is a priority for the political authorities (at national and at local levels) and that there is a strong institutional support for preparedness implementation.

Expected outcome

The plan or parts of it are officially endorsed by the authorities and by the institutions in charge of implementing it, when needed.

Tasks

4.1 Identify laws, acts and decrees ensuring the political commitment in preparedness.

Lobby for their development if not yet existing

4.2 Present the plan or parts of the plan as official documents:

- With the title of the plan
- The date of publication
- Jurisdiction(s) and institution(s) ownership
- Laws, acts, decrees to which it refers

4.3 Organize the promulgation of the plan or documents related to the plan.

- Signature by all administrative units and agencies supporting the plan and its development
- Commitment in preparing and maintaining the instructions exposed in the plan, in training staff & testing and evaluating the plan and in the revision of the plan

4.4 Include a space to record the changes of the plan

Date	Amendment #	Entered by	Where it is published?

4.5 Record the distribution of the plan

Explain the way of distribution (web, e-mail), where it is available (website) and list all recipients of the plan (title, name, agency)

UNIT 2

THE FRAME FOR SUPPORTING THE DEVELOPMENT OF THE NATIONAL GENERIC EPREP

The Unit 2 offers a framework that contains the elementary concepts that should be described in a generic EPREP plan. This framework aims to be enough flexible in order to be suitable for all countries with different contexts.

Your generic EPREP plan should not intent to cover every foreseeable hazard but rather offer a set of processes and procedures which can be adapted as necessary to each situation.

Processes and procedures will include at least:

- The emergency command and control team
- The set of activities from the detection of the event to the recovery, required to properly respond to the emergency, from the health perspective.
- All issues related to coordination and collaboration during an emergency
- All issues related to communication during an emergency
- The evaluation of the response and revision of the plan after emergency

1. EMERGENCY COMMAND AND CONTROL TEAM (ECCT)

The ECCT would be responsible for:

- Taking decisions
- Developing the "emergency response" strategy
- Transforming decisions into implemented measures
- Coordinating all bodies (governmental, private sector, NGOs…) that will play a role in the emergency management: Bodies in charge of the direct response in the field, bodies in charge of mobilizing more resources (staff, equipment, transportation, stockpiles, finances…), bodies in charge of providing technical expertise…

A localised incident can be managed within one jurisdiction (administrative unit) by the local officer. However, when additional resources are needed, or the emergency has national or international implications, then the mechanisms of emergency command & control management need to take place for coordinated and collaborative response, in order to ensure an effective cross–agencies & cross-jurisdictional coordination in regard of facilities, equipment, personnel, procedures and communication (*FEMA NIMS, January 2008)*.

Some countries might have one permanent central and institutionalized structure / body for managing emergencies, whatever is the nature of the hazard involved, with the possibility for this central body to call for the expertise and/or support of other bodies. In other countries, the ECCT will be something flexible that develops ad-hoc and involves different institutions depending of the nature of the hazard involved (with usually one body leading and the others having a supportive role). In both types of organization, it is important to list the general areas of responsibility of all existing governmental bodies (eventually per level of jurisdiction) and eventually others (private sector, NGOs…) that might have a role to play in emergency management, as you did it in country capacity inventory.

The response to emergencies will have usually 2 components:

1) Crisis management, consisting to solve the threat (its nature) when possible: identify and neutralise the causal agent
2) Consequences management, consisting in measures to protect the population, the environment

Depending of the hazard, the leading agency will be the one which has the competency to deal with the crisis management while all other agencies dealing with the consequences will have rather a supportive role.

The health sector needs to know when it has a leading role and when it has a supportive role in the ECCT and how its intervention and responsibilities will fit in the structure of the ECCT for each type of hazard.

According to the nature of the hazard, specific functions will need to be covered for the incident management and therefore, it will be requested to choose which body will be attributed the coordination role and which bodies will have a support role. Example: in the case of a biological threat, the health sector will have likely to take the leadership in the management of the crisis while, in the case of a radio-nuclear event, another agency will likely take the leadership and the health sector will be responsible for managing the consequences as regard casualties, deaths and health effects on the population in general under the coordination of the other sector (concept of crisis management versus consequences management).

It's a matter on rapidly decide the composition of the ECCT, to attribute roles and responsibilities to each stakeholder and to ensure appropriate communication and coordination flows. Clear SOPs need to describe the process of activation, maintenance and extinction of the ECCT

The indispensable areas of activities of the ECCT are the following (more details in http://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf):

- Strategic activities: It consists in establishing the emergency management objectives in order to design the strategic plan with, as final goal, to control the event and its consequences. Strategic activities will also include: the development of assignments (with roles and responsibilities), plans, procedures and protocols; the guaranty that the performance of all operational activities is in accordance with the objectives and the strategic plans; the approval in the allocation of assigned resources (staff, equipment, facilities, supplies). The team in charge of the strategic activities should include the officer responsible of the ultimate decision making.
- Communication / information: Accurate, accessible and timely information (causes of the emergency, size and current situation, as well as resources committed and other details of general interest) is to be communicated to the general public and to the officials.
- Liaison between the different bodies involved: The ECCT requires at least one liaison officer to be the point of contact for the representatives of all bodies involved in the emergency management, in charge of providing all incident-related matters. This is crucial for insuring the effective coordination between all actors of the incident management.
- Operations section: In charge of all tactical activities focused on controlling the hazard, reducing the immediate harms caused by the hazard, restoring the situational control and restoring the normal operations.
- Planning section: In charge of the day to day data collection and analysis about the hazard consequences and about the use and availability of resources, of producing regular status reports and ensuring the common operating picture.
- Logistical section: In charge of all service support requirements: supply ordering and delivery, transportation, facilities, communication and information technology support, security…
- Financial / administrative section: In charge of all financial aspects (release finances, follow the budget, and record the costs…) and administrative issues (registration & import items, staff management…)

For each of this area of activities, one or more stakeholder needs to be appointed, ad-hoc depending of the nature of the hazard.

1.1 Identify operational bodies to involve for managing response in different hazards

Objective

To have an overview of the different institutions or agencies that might have a leadership or a supportive role in the management of an emergency, according to the type of hazard.

Expected outcome:

For each type of threat identified in the risk map analysis, an institution or agency has been identified and appointed to be responsible for the response management of this specific threat in your country. Other bodies with a potential supportive role are also identified.

Tasks

1.1.1 List all institutions and agencies that might be involved in emergency management, according to the type of hazard:

- At each administrative levels of the country (governmental bodies)
- From other sectors: private sector, NGOs…
- From different areas of expertise.
- Among international organizations eventually present in the country.
- At national level, consider further roles in regard of the coordination of national responsibilities and role of the highest authorities, National defence, and international coordination.

1.1.2 Describe the functions and areas of activities of the institutions / agencies identified in 1.1.1:

Name of the Institution	Function	Responsibilities
National Institution of Firemen	Fire fighting	
MOH, national Institute of Epidemiology…	Public Health & Medical services	Outbreak control Medical Mass fatality management

1.1.3 Identify the person(s) in charge of each responsibility described in 1.1.2:

And establish a list of names, responsibilities, job descriptions and contact details for each hazard.

1.1.4 Describe the role of the health sector per hazard

In terms of leading versus supportive role and in terms of functions and responsibilities

Hazard 1

Leading >< supportive	Functions requires	Institutions in charge	responsibilities	Who?
	Function 1	MOH		
		Institute of PH		
	Function 2			

Tips

Be exhaustive when thinking of emergency management functions (transportation, communications, firefighting, public health and medical services, agriculture and natural resources, energy, radio-nuclear, chemical-toxicology, public safety and security…)

A good example of the description of roles and responsibilities of bodies can be found in http://www.fema.gov/pdf/emergency/nrf/nrf-esf-intro.pdf

1.2 Activities and functions required for emergency management to take into account in the composition of the ECCT from the health sector perspective

Objective:

Ensure that the health sector has identified staff for assuming all activities (strategic, communication/information, liaison, operation, planning, logistic and Finance/administration) required in emergency management, whether it has a leading or supportive role in the ECCT.

Expected outcome:

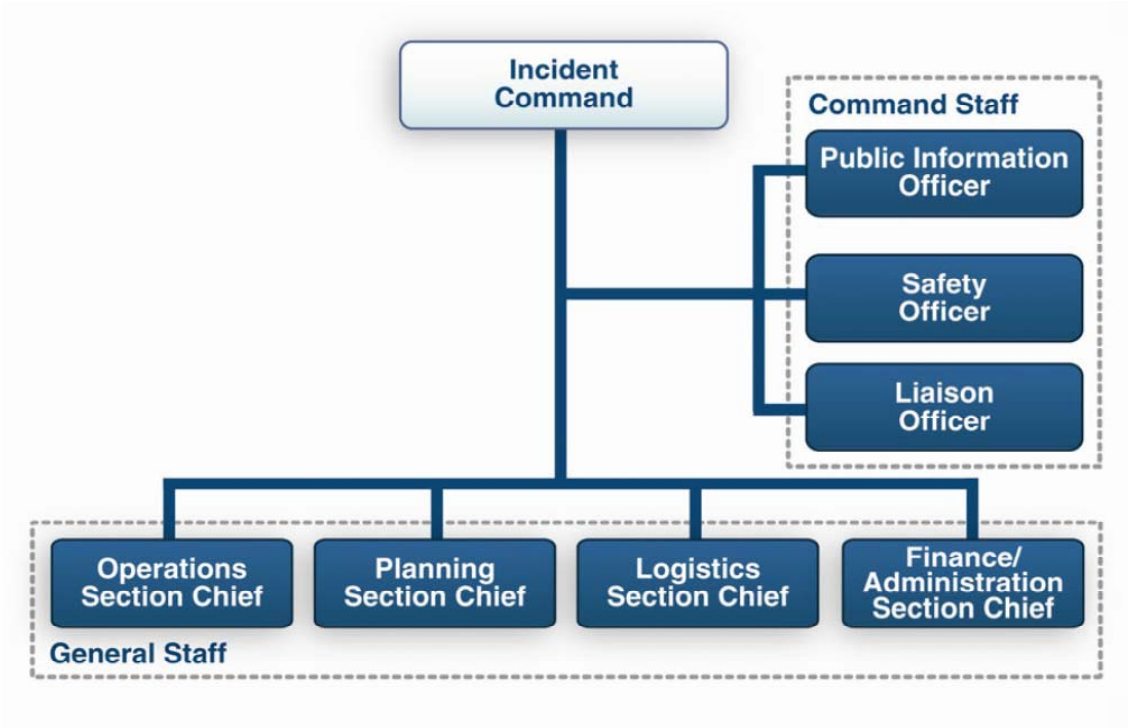
The health sector is able to quickly provide staff for the ECCT in order for the ECCT to address all activities mentioned above. Moreover, responsibilities and task of each function will be clearly described.

Tasks

1.2.1 Represent the organization of the functions of the health sector within the ECCT through a flow chart.

See different examples:

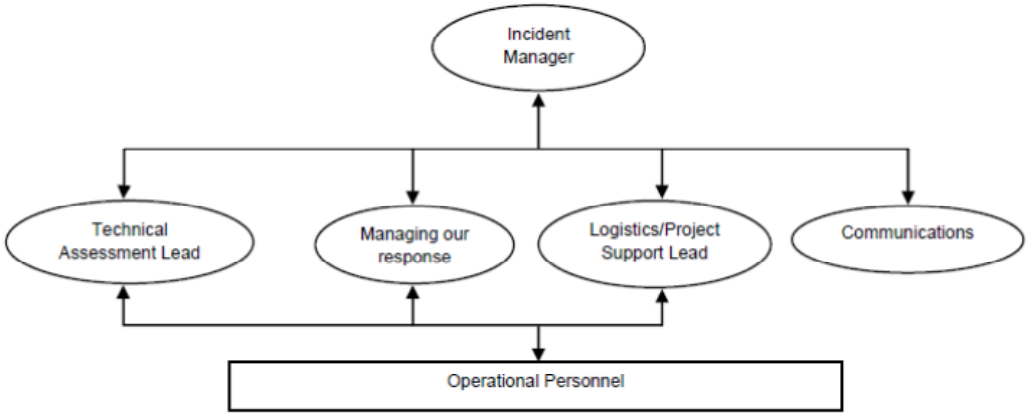
ECCT structure in United States



http://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf, p 53

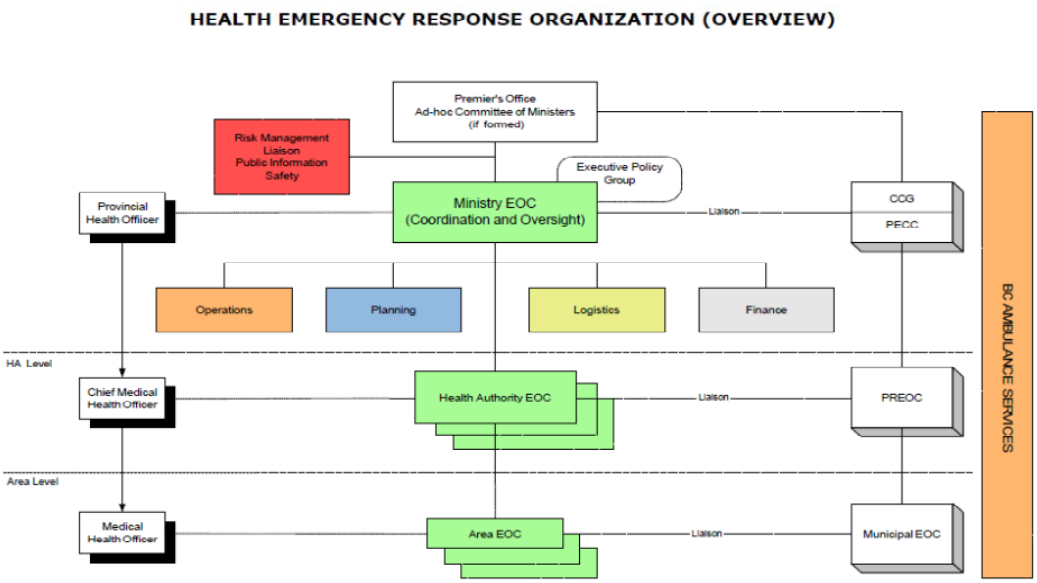
ECCT structure in United Kingdom Do with the same titles than for US

Figure 4.4 The incident management team



http://www.naturalengland.org.uk/Images/emergencyresponseplan_tcm6-18770.pdf, p37

ECCT structure in Canada



http://www.health.gov.bc.ca/emergency/pdf/emp.pdf, p45

1.2.2 Identify persons of the health sector for each responsibility

1.2.3 Describe the activities related to each function required within the ECCT and the profile of the actors involved.

Function	Activities	Profile of the stakeholder

1.3 Emergency functional immediate number

The emergency functional access number is a derivation centre for any call reporting an event. This centre has eventually the capacity to filter the information but essentially, can identify and contact the most appropriate person / service to trigger the activation of the ECCT and the activation of the plan. This emergency functional immediate number should exist within each sector but also, there is a need for a general one, accessible to the general public.

Objective:

The appropriate body / competent authority receive quickly the alert in order to initiate timely the response.

Expected outcome:

A functional contact point is reachable 24/7/365 in case of alert or emergency in each sector and also for the general public. The staff involved is trained to identify and contact the responsible person / service / agency for the particular event.

Tasks

1.3.1 Ensure a 24/7/365 emergency contact number within the health sector and its wide distribution to all services of the health sector

One single emergency number within the health sector will help the rapid communication of any type of alert, be it from the hospitals, the health care centres, the surveillance systems…

1.3.2 Ensure an appropriate training of the staff working in this emergency contact number:

In filtering the information and in orienting the communication to the right person, service or sector, for activating the response (even though limited to a Rapid Risk Assessment - RRA).

1.3.3 List the emergency contact numbers of the other sectors

In case the event reported to the health sector emergency contact number overpasses the competencies of the health sector, it is useful for the managing staff to have a tool with all emergency contact numbers of the other sectors

Type of event	Agency / body	Key person / position	Contact details

1.3.4 Ensure the access of the population to a single, general, national emergency number

And make sure that the whole population knows that number.

1.4 Model to think about SOPs for the activation of the ECCT

Fill the annex 1.

1.5 Activating, maintaining & extinguishing the ECCT within the health sector

Objective

When a threat is detected, the ECCT is rapidly organized and functioning in order to ensure timely and adequate decisions as well as appropriate resources allocation for effective response. When the threat is controlled, extinguishing methods to put down activities should also be foreseen.

Expected outcome

Collaboration between sectors and clear procedures and tools explaining how to trigger and scale down the ECCT in a flexible way are endorsed and known by the authorities and all stakeholders of the response management.

Tasks

1.5.1 Develop SOPs describing how to activate and organize the ECCT in case of a threat.

The concepts should be the same independently whether the health sector would play a leader versus a supportive role in the response management. SOPs will need to include:

- A protocol on the rapid risk assessment aimed, if needed, at confirming the threat and assessing the needs in terms of resources and the needs of support from other sectors.
- List of names and contact numbers of the stakeholders in charge of triggering the ECCT within the health sector.
- Mechanisms to allocate staff at short notice, according to the needs
- Mechanisms for contacting quickly the other sectors with a role in the response management in order to organize the composition of the multi-sectoral ECCT with description of role & responsibilities of the stakeholders.
- Description of the construction of the ECCT, modular way from top to down, starting with the Incident Command that will include the Command officer, the liaison officer and the communication officer (and their deputy) going down to the operation, planning, logistic and finance / administration sections (considering the main functions to cover).
- Description of the hierarchical structure and decisional flowchart with the responsibility of each stakeholders involved in the ECCT. Appoint one chief in charge of the ultimate decision within the ECCT
- Description of mechanisms allowing scalability of the ECCT if needed: Expansion to incorporate all elements depending of the type, size, scope and complexity of the emergency: Identify and contact other sectors for needed support function (based on the type and complexity of the incident) and/or identify the levels required for the administrative organization of each section (when the incident is supra-local)
- Flexibility of the ECCT during the course of the event aimed to respond to unanticipated factors. Stakeholders from each level have the possibility to adapt the response to changing conditions without official authorization while informing higher levels.
- Identify a place where the ECCT can stay: Fixed place for all type of hazards, or flexible depending on which sector has the leading role.
- Deployment of the members of the ECCT.

1.5.2 Develop mechanisms to maintain the functioning of the ECCT.

- Respect of the role and responsibilities of each member of the ECCT through clear job descriptions.
- Common operating picture through timely regular updates, standard format reports with the same information for all, standard databases for collecting data, common communication platforms.
- Ensure appropriate communication between the different sectors involved in the coordination and between the coordination and the operations.

1.5.3 Develop SOPs to deactivate the ECCT

- Release the staff to go back to the normal daily job.
- Debriefing for memory building (but also eventually, for managing the stress).
- Archive all the documents and communication exchanged during the emergency.
- Write a final report that should include identified gaps and lessons learned.

1.6 Ensure the proficiency of the stakeholders

Objective

The eventual stakeholders of the ECCT are operational at short notice

Expected outcome

All levels of staff susceptible to work one day in the ECCT has been informed and trained about their function.

Tasks

1.6.1 Identify institutions / stakeholders in charge of training national staff on emergency preparedness (one body for all or one stakeholder per sector)

1.6.2 Develop a plan for training sessions

1.6.3 Develop a plan for simulation exercises (SE)

1.6.4 Identify resources / finances available for SE and training

1.6.5 Organize the archiving system of the training material and SE evaluation to update plans

2. EMERGENCY RESPONSE: CONCEPT OF OPERATIONS

The whole process of incident management starts with the detection of an event followed by the rapid risk assessment, the operational response, including planning, distribution of roles and responsibilities, operations in the field, monitoring, information management, logistics, communication, etc. and at last, demobilization and evaluation of the response.

Whether the health sector is involved in the detection of the threat or is communicated about an event from another sector or an international communication will depend on the nature of the hazard. Whether the health sector needs to perform a RRA will also depend on the nature of the hazard and/or the quality of the RRA conducted by the 1st sector that reported the event.

The whole process implies activation levels of the plan and the sequence of actions before, during and after the emergency. For the health sector, the plan should be activated when an emergency or disaster affects the ability of the health infrastructures to save lives, reduce suffering, protect public health, protect the ministry's infrastructures and protect environment.

This part of the tool aims to describe the role and the sequence of actions in the emergency response that is required from the health sector. The role of the health sector in event detection and RRA will be developed, focusing on biological hazards, while further actions of the response will be for any kind of hazard with medical implications for the populations.

2.1 Detection of event

Objective

To ensure the development and the functioning of a sensitive and flexible surveillance system, that includes detection of unusual events, early warning, screening, reporting and communication. The role and responsibilities of those involved in implementing and following the system as well as the chain of responsibilities for effective communication flows, need to be clear and preferably should be defined through public health policies and legislation.

Expected outcome

Early identification of unusual event, early warning and effective communication of potential public health problems to the right stakeholders, are functioning.

Tasks

2.1.1 List the official sources of information

This includes the recognized forecast and warning centres operating with a clear mandate at national level:

- Formal health surveillance system.
- Health partners (hospitals, GPs, civil protection, NGOs, laboratories, others).
- Formal monitoring system from other agencies (nuclear, Industrial, agriculture, others), where incidents can have an impact on health.
- Points of entry.
- Private sector.
- International communication from neighbouring country or International organizations (WHO, OIE) or International Networks such as EPISOUTH,SHIPSAN, others.

2.1.2 List the potential sources of informal communication

- Community / Population
- Media
- Informal: rumours screening, rumour checking, twitter, Web2.O, etc.

2.1.3 Describe or develop the screening process of these different sources for slow onset hazards

We ask only for slow onset hazards as they are more difficult to detect

- In each recognized forecast and warning centres:
    - Data processing and follow-up
    - Triggering indicators (increase of general mortality or in specific age-groups, malnutrition rates, increase of food market prices, death of livestock, etc.)
    - Early warning
- Is there a formal institution in charge of filtering all this information at national level?
- Epidemic intelligence

2.1.4 Ensure access to high-quality laboratory facilities

- Identify places where to confirm or exclude a diagnosis (biological, chemical, radio-nuclear agents), at national or international levels.
- Integrate into recognised laboratory networks.
- Sign agreements with referral laboratories where to send samples.
- Sign agreements with transport companies, especially for bio hazardous material.

2.1.5 Develop the communication flows and reporting

- Operational links between the surveillance system and other agencies (civil protection, animal / plant / food competent authorities and services, authorities for chemical and radio-nuclear incident management, WHO and other international public health organisations, law enforcement structures and authorities).
- Situational reports.
- Who reports the event to whom?
- Key persons to contact either to trigger the initial risk assessment or to activate the plan or to decide which level of the plan to activate according to severity and magnitude.
- Links between the recognized forecast / warning centres and the agency in charge of emergency response.

2.2 Activation of the plan (before or after further investigation)

Objective

Develop structure and procedures that allow capturing the necessary background information for triggering a response to a threat and forward timely the information to the appropriate stakeholder in charge of activating the plan within the health sector.

Expected outcome

Following the detection of an alert, the threat will be labelled and will trigger a defined level of action, depending of the severity of the event.

Tasks

2.2.1 List the situation / conditions in which the plan needs to be activated in your setting

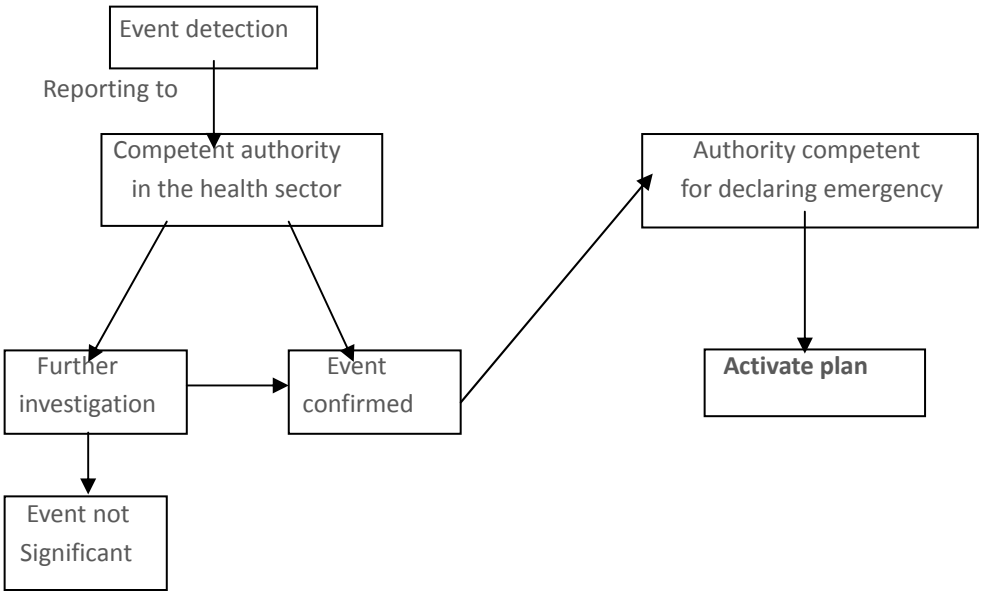
- Triggering indicators within the health sector
- Warning report received from another sector

2.2.2 Who take the decision to activate the plan?

List the authorized officials in the health sector enlisted to declare formally an emergency and activate the emergency plan.

2.2.3 Establish procedures from the detection of event to the activation of the plan

Consider eventually all the following steps, including the formal declaration of an emergency by an authorised officer.



2.2.4 Establish guidelines describing the responsibilities of different actors and SOPs to initiate the response

It will include the response itself when the emergency is obvious or a prior risk assessment at that stage.

2.3 Rapid Risk Assessment (RRA)

Objective

Identify or develop the mechanisms for investigation of an event (protocols, procedures, experts, logistic…) that allow quick integration of the information in order to provide evidence of a threat, identify vulnerability, and define response (in terms of resources, actions and countermeasures and ways to implement actions) from the health sector perspective.

Expected outcome

Protocols, SOPs, experts or expert's bodies as well as communication flows are implemented to ensure a RRA in case of detection of an incident with public health consequences.

Tasks

2.3.1 To list individual experts or expert's bodies that might be consulted for RRA

Within and outside the health sector, according to the type of hazard:

- Public health experts with different specialisations (such as threat and risk assessment, preparedness and response),
- Toxicology experts, experts specifically on toxins,
- Experts specifically trained on the management of environmental accidents (chemical exposition, radiations…)

2.3.2 Establish an expert's contact list with those identified in Unit 1 - 3.1, for each type of incident

Who to contact in case of a CBRN event (chemical, biological, radio nuclear), natural (climate change, seism…) or effects of infrastructure perturbance:

1. Name
2. Agency
3. Job description
4. Contact details

2.3.3. Identify or create operational links with experts from sectors other than the health sector

Laboratories, animal health, plant health, food safety, radio nuclear, civil protection… through agreements.

2.3.4 Establish operational links with NGOs or international institutions for areas of expertise missing in the country.

2.3.5 Develop SOPs for RRA:

- Urgent procedures for rapid consultation of experts
- Urgent procedures for rapid deployment of experts on the field
- Example of checklist that can be used for a RRA: Assess the situation, p 12 in http://www.bt.cdc.gov/planning/pdf/cdcresponseguide.pdf

2.4 Response of the health sector

This chapter is a slight adaptation of a work done by the European Commission and can be found in the following document: "Strategy for Generic Preparedness Planning. Technical guidance on generic preparedness planning for public health emergencies. Update April 2011. EUROPEAN COMMISSION. HEALTH AND CONSUMERS DIRECTORATE-GENERAL"

2.4.1 Ensure the provision of medical services

Objective

To ensure the implementation and the 24 hours functioning of health sector services for the response to an event, whatever is the nature of the hazard. The plan should consider the services outside the hospital (first aid and PHC) and inside the hospital. It should describe mechanisms that allow coping with the overwhelming of the services and the disruptions of any kind (loss of infrastructure, HR, electric power and water supplies, transportation problems, etc.). At last, the plan should include a description of specific protective measures of the health services against fire, flooding, contamination by toxic chemicals or infectious agents. Depending of the administrative unit organization of the country, it is also important to foreseen the support other regions can offer to the affected area.

Expected outcome

SOPs, communication flows and inventories of infrastructures, capabilities and resources (human resources, equipment, drugs stockpiles, etc.) are readily available in case of incident to ensure timely communication, supply and implementation of the medical response to the event.

Tasks

1) Include all aspects related to the pre-hospital emergency care in the plan

THIS IS CRUCIAL IN THE "CHAIN OF SURVIVAL":

1. INVENTORY OF CAPACITY AND CIVIL INSTITUTIONS (CIVIL PROTECTION, RED CROSS, OTHERS) FOR PROVIDING FIRST AID, BASIC LIFE SUPPORT, AMBULANCE SERVICES AND MOBILE CLINICS.
2. ALARMING AND DISPATCHING SYSTEM IN EACH ADMINISTRATIVE LEVEL (WITH A LIST OF CONTACT NUMBERS TO CONTACT OTHER SECTORS AS CIVIL PROTECTION OR AGENCIES, AT EACH ADMINISTRATIVE UNIT).
3. A CLEAR DESCRIPTION OF THE ROLE AND ACTIVITIES OF INSTITUTIONS / AGENCIES (INCLUDING NGOS) SUSCEPTIBLE TO PROVIDE FIRST AID.
4. A LIST OF THE EPREP PLANS OF ALL BODIES AND AGENCIES THAT MIGHT PLAY A ROLE IN THE FIRST AID.
5. SOPS DESCRIBING PATIENT SAFETY MEASURES (IDENTIFICATION SYSTEM, TRIAGE, EVACUATION, ETC.)
6. A PLANNING OF REGULAR TRAINING IN CRISIS AND EMERGENCY MANAGEMENT OF THE EMERGENCY MEDICAL SERVICES STAFF.

2) Include all aspects related to role and activities of PHC professionals in the plan

FOR THE EVENTS IN WHICH THEY PLAY A FRONTLINE ROLE (EPIDEMICS, HEAT WAVES):

1. DESCRIPTION OF THE ROLE AND ACTIVITIES OF THESE ACTORS IN THE MANAGEMENT OF THESE SPECIFIC EVENTS
2. SOPS DESCRIBING HOW TO ENGAGE QUICKLY AN EFFECTIVE COMMUNICATION FLOW WITH THE GPS, HOW TO ADAPT THE SURVEILLANCE SYSTEM AND MOBILISE RESOURCES IN CASE OF SUCH SPECIFIC EVENT.

3) Include all aspects of hospital care in cases of emergency in the plan

1. *General hospitals preparedness plans:* Their plans are consistent with the national plans and include:
   - The existence and the description about the disaster committee (multidisciplinary team with administrative members)
   - The existence and the description of the health event managing team,
   - A programme of regular emergency training,
   - Reserve supplies in electricity, water, heating.
   - Reserves of all potential pharmaceutical and logistics needs.
   - A proper ventilation system and a list of isolation / negative pressure rooms.
   - SOPs on clearance of non-urgent cases and cancellation of elective surgeries,
   - SOPs insuring continuing care,
   - SOPs to improve the handling of increasing numbers of casualties,
   - Contact numbers of other hospitals.

2. *Treatment capacity* (mainly in terms of personnel and equipment): Procedures are described to maintain treatment capacity despite overwhelming of the services:
   - Mobilisation of medical staff: Redistribution of roles within the hospital (with one coordinator as main representative for the communication with the local management team), reallocation of personnel from other regions, from other sectors such defence or civil protection, regular training of the hospital staff.
   - SOPs describing the mobilization of alternative to treatment facilities such as mobile hospitals, etc.
   - SOPs describing the system of filtering, prioritizing and cohorting patients presenting with similar syndrome (eventually plan to prepare extra treatment units for these patients). These SOPs should be standardized between sectors.
   - Procedures describing how and where to transfer the patients, when requested.
   - Procedure allowing a proper and timely reporting of the number of cases and suspected to the local management team.
   - Identification of experts about hazards most likely to happen, for providing field support to the clinicians.

   3. *Emergency departments:*
   - Describe the role of the emergency department in the management of a crisis in the hospital EPREP plan.
   - Describe procedures of coordination between the emergency service and the out-of-hospital services in order to control the influx of casualties in the emergency department and avoid overwhelming.
   - Describe the training plan of the emergency department staff.

   4. *Intensive Care Units:*
   - Describe procedures of mobilising resources to increase the capacity of the ICU at the maximum.
   - Develop links with the ICUs of other hospitals for transferring patients.

2.4.2 Ensure procedures of triage and management of big number of casualties

Objective

The plan should include the description of mechanisms insuring that the maximum number of people are given adequate care, in case of large numbers of casualties, through triage procedures that allow identifying patients and deciding the most appropriate facility where to dispatch them according to the type and the severity of his/her injuries.

Expected outcome

SOPs describing the system of triage and the management of large numbers of casualties are included in the national EPREP.

Tasks

1. Standardise triage procedures between institutions (same criteria to decide if a victim is going to die anyway, needs to be referred or can be taken care of in the spot)
2. Identify and train the first-line Aid people on triage procedures,
3. Make list of facilities where to refer the patients according to the type of injuries available
4. Coordination and communication mechanisms between out-of-hospital services and in-hospital services exist
5. Decisional trees about how to assess the vital functions of patients are readily available.
6. Establish the coordination mechanisms between first-line Aid, facilities of reference and the 3rd level health services out of the area affected.

2.4.3 Ensure psycho-social support

Objective

The population and the health care staff suffer significant stress during and after an incident. In order to ensure that the working performance of the staff of the health care sector remains optimal, counselling services should be readily available, from the beginning of the crisis in order to maintain morale among staff and general population.

Expected outcome

The members of the emergency psycho-social support team are identified and quickly operational in case of incident and guidelines are available.

Tasks

1. Develop guidelines on psycho-social support, including the management of Post-Traumatic Stress Syndrome, in stress situations for population and staff of all sectors involved in the incident management.
2. Identify Institutes (from the health sector or social services) for the psycho-social support at local, regional and national levels.
3. Foreseen specific staff or organization in charge of providing information concerning lost victims (children, families and relatives, etc.) for re-grouping them and for recording.

2.4.4 Ensure the critical supply to the health services

Objective

In order for the health facilities to continue providing quality health care in case of an emergency, regular supplies of drugs, equipment and other items must be ensured, including when extra needs are requested and when smooth supply to the spot is impaired by logistic and/or transport problems.

Expected outcome

Mechanisms and procedures insuring rapid supply of drugs, vaccines, equipment (including protective equipment) to the site of the emergency and outreach settings, according to the needs are described in the plan.

Tasks

1. List the items the most possibly needed in your country for the hazards you identified in your capacity inventory.
2. Identify (in or outside the country) or develop stockpiles of those items.
3. Organize and list kits (modules) that contain all equipment, material and drugs needed for specific hazards and can be sent right away to the area of the emergency.
4. Ensure IT support for the database management of the stockpiles.
5. Identify sources of additional supply that can be called for, when needs increase.
6. Develop rapid procedures for licensing items that are not registered in your country (consider possible new vaccines or drugs).
7. Develop SOPs describing the items supply from stockpiles to the spot.
8. SOPs describing transportation and delivery of items, planning for special measures needed when transport communications are disrupted.

2.4.5 Develop procedures for financial aspects

Objective

Ensure that there is money to pay the extra resources needed in case of emergency.

Expected outcome

A special budget is available and can be released quickly when an emergency occurs.

Tasks

1. Develop the legal procedure ensuring that the national budget plan a certain amount that can be released only in case of an emergency and describe the legal procedure to release the money when needed.
2. Identify staff in charge of distributing the money to stakeholders in charge of managing the response to the emergency.

2.4.6 Develop SOPs of fatality management

Objective

Ensure that special resources are implemented when an event causes a huge fatality rate in order to ensure a proper handling of the corpses, in terms of hygiene, health, forensic considerations…, considering two main aspects: multisectoral approach (health, civil protection, law enforcement, forensic) and cultural.

Expected outcome

The plan includes procedures about the management of large number of fatalities taking into account religious and cultural funeral practices, bodies and samples handling in case fatalities are due to a communicable disease, transport of the foreign victims to their native countries, supply of protective equipment for the staff.

Tasks

1. Develop SOPs about handling fatalities from transmissible agents.
2. Develop collaboration with the forensic department with agreement about the post-mortem sample handling and the communication of the results.
3. Develop national guideline of the management of high number of casualties, considering religious and cultural funeral practices, protection of the people working in the corpse's evacuation, etc.
4. Develop procedures for body's identification.

2.4.7 Consider special aspects for biological events

Objectives

Ensure that specific measures preventing further spread of the infectious agent are in place, keeping in mind that the health sector is likely to be the leading agency.

Expected outcome

SOPs for rapid detection of the infectious agent and its source, for rapid identification and isolation of infectious patients and for protection of the population at risk as well medical and laboratory staff are developed and readily available. A legal framework in regard of more coercive measures such as isolation and quarantine procedures is agreed.

Tasks

1) Ensure communication between surveillance services and the institution in charge of the health risk management

2) Develop SOPs for the rapid detection of the infectious agent:

- Identify existing or look for laboratory capacity (at national and international level) in detecting specific infectious agent.
- Communication flow between laboratory and health system in order to communicate SOPs about sample collection (biological and environmental) and transport (eventually international transport).

3) Develop SOPs for the contact tracing:

- Events where contact tracing should be done are defined.
- Responsibilities for performing the contact tracing are defined within the health system.
- Collaboration between health sector and POEs in case of international spread that would require a screening at crossing borders.

4) Develop SOPs for infection control and personal protective measures:

- Guidelines on the provision of prophylaxis and/or personal protective equipment (PPE) to all medical staff (hospitals and PHC).
- Stockpile and distribution systems organised at local, regional and national levels
- Guidelines on waste management (gloves, masks, etc.).

5) SOPs on isolation / quarantine measures

Taking the legal issues into account (collaboration with the civil protection).

2.4.8 Consider special aspects for chemical events

Objectives

While other sectors will be in charge of preventing further contamination and limiting the access to the affected area, the health sector will need to be ready for the medical implications of chemical incidents.

Expected outcomes

Collaboration between the health sector and poison centres or other agencies in charge of alert chemical hazards is agreed and medical SOPs in terms of identification of exposed individuals, agent detection among exposed individuals, decontamination procedures, PPE and management of chemical exposure adverse effects are readily available.

Tasks

1) Ensure a proper communication between the health sector and the sectors managing chemical hazards

It is important for the health sector to have the best information in regard of the type of accident (fire, explosion, spill, leak…?), where and when did it happen, what media has it affected (air, land, water, food…?), what is known about the contaminating substances (name, composition, concentration) and their adverse effects on health. Once the accident notified, the health sector will continue to be informed on the evolution of the accident (containment or secondary contaminations, etc.).

2) Develop SOPs for detection of the agent in patients exposed and in the environment

- Detection of exposed patients or medical staff through the symptoms
- Detection of the chemical agent, with valid procedures, among exposed individuals (patients in pre- and hospital settings and medical staff) and in the environment (including ambulances and hospitals).

3) Develop procedures of patients decontamination

- Asses the capability of hospitals and health facilities in patients decontamination.
- Develop guidelines and procedures of decontamination for chemical substances at risk in your setting.

4) Develop procedures in relation to the monitoring organization in the context of a chemical event:

- Have any adverse health effect following exposure has been reported among GPs, in emergency department?
- Monitor symptoms and disease levels in the exposed population.

- If adverse effects are unknown, consider to conduct a questionnaire survey to identify symptoms in the exposed population or to initiate an epidemiological study to identify any adverse health effects.
- Consider long-term follow-up and monitoring of the exposed population.

5) Develop procedures for insuring availability of Personal Protective Equipment (PPE):

On the site of the incident, during transport of exposed patients and in the health facilities to protect medical staff.

6) Management of patients:

- Identify the specialised health unit where to refer cases of severe intoxication.
- Supply of antidote, if appropriate, with the support of the poison centres.

Tip

If the risk of chemical accident is high in your country, please check some support documents:

1) Acute chemical incidents – basic checklist, HPA (http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1194947351282)
2) Generic Incident Management. HPA, for more information on decontamination procedures and PPE in CBNR incidents, see HPA guidelines http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1194947395416

2.4.9 Consider special aspects for radio-nuclear events

Objectives

While other sectors will be in charge of preventing further contamination and limiting the access to the affected area, the health sector will need to be ready for the medical implications of radio nuclear incidents.

Expected outcomes

Existence in the country of an institution specialised in radio-nuclear risks management. Like for chemical incidents, Medical SOPs in terms of identification of exposed individuals, agent detection among exposed individuals, decontamination procedures, PPE and management of radio nuclear exposure adverse effects are readily available. And when the risk is linked to a nuclear power station, all this should be done in coordination with the unit of the power station in charge of controlling the risk.

Tasks

1) Develop SOPs for monitoring the radiation exposure

2) Develop procedures of patients decontamination

3) Management of patients

Including the identification of services specialised in the management of irradiated persons (according to the severity of irradiation).

4) Identify or develop a service for radio nuclear risk management

Around the nuclear power stations.

Tip

If the risk of radio nuclear incident is high in your country, please, check some further documents:

1) With specific emphasis on the management of the acute radiation syndrome: Radiation incidents, HPA (http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1194947392290) &
2) Card 1 of deliberate or accidental releases. Immediate action and guidance for PH professionals. HPA ; http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1244023917613
3) For more information on decontamination procedures and PPE in CBNR incidents, see HPA guidelines: Radiation monitoring Unit: Planning and operational guidance http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1309968806060

3. Coordination system

Within the health sector, it is important to describe how coordination of activities is organized at the time of an emergency, the role and responsibilities of each service / department and what the chain of command is.

It is also important to describe the mechanisms of collaboration with other sectors. Indeed, most emergencies are too large or diverse for any one agency to manage alone. For the health sector, including in crisis due to biological hazards, there will be a lot of management issues beyond the health field. This implies to build partnership with the other sectors, in order to ensure an effective response through a good coordination between the agencies.

At last, always consider the role of the private sector, NGOs and international agencies.

The coordination process should consider the following aspects:

- Information sharing
- Resources sharing,
- Decision making (what decision making, who and when)
- Trust between partners

The process of engaged partnership should be initiated before any emergency happens, as a part of preparedness in developing the EPREP plan, in order to develop common objectives and aligning capabilities with other sectors, that will help respond effectively together in times of needs.

Besides the intersectoral coordination, there is also coordination across jurisdiction levels. Whenever possible, emergency response should be coordinated in between all partners of the smallest administrative unit. However, higher levels of support might be called for when there is a need for more resources or capabilities to support and sustain the response and initial recovery.

Engaged partnership includes ongoing communication of situation analysis and response activities among all partners. Preparedness involves a combination of planning, resources and capabilities sharing, training, exercising, and organizing to build, sustain, and improve operational capabilities. Preparedness activities should be coordinated among all involved agencies within the jurisdiction, as well as across jurisdictions.

Note: this section is short as a lot of aspects are already discussed in the section related to the ECCT.

3.1 Describe the levels of responsibilities and activities within the health sector

Objective

Ensure that roles and responsibilities in terms of strategic, communication/information, liaison, operation, planning, logistic and finance/administration functions required in emergency management have been attributed to specific departments/services and/or persons and that everybody knows who is in charge of decision making, who is in liaison with the other services of the health sector for coordinating the response and who is in liaison with the operational health services.

Expected outcomes

Whenever an emergency occurs, a collective approach is organised to achieve objectives decided unanimously within the health sector and the information flows and coordination between jurisdictional levels and different services is upgraded, to optimize the health sector response.

Tasks

3.1.1 Describe the structural organization of the health sector in your country

- Distribution of the different services / departments.
- Jurisdictional (or administrative levels) if relevant.

3.1.2 Describe role and responsibilities within the health sector

- Ensure the roles and responsibilities of each service / departments of the health sector in regard of the decision making and the operational activities (surveillance, risk assessment, laboratory issues, patient's care…).
- Create a contact sheet with contact phone number, e-mail, address and webmail site address of the health sector staff that might play a role in the coordination of the response to emergencies.

3.1.3 Describe the coordination mechanisms within the health sector

1) Coordination team

There are 2 ways to set up a coordination team:

- Fixed structure: A specific department is in charge of the command and control of the health sector response toward all emergencies. Either it already exists. You should then describe its roles and responsibilities and list the staff. Or you want to create such a structure.
- Ad-hoc structure: Team built at the time of the event, with different responsibilities, depending of the nature of the health implications. Then, you need to develop SOPs describing the actions that will be taken to implement the coordination team, including deciding on the key positions you need (strategic planning, operations, liaison, resource / finance management, others).

2) Coordination between the command team and the field responders

Describe the chain of command between the command team and the field responders within the health sector. Who is accountable to whom? All actors have a direct supervisor to whom to report and from whom to receive instructions.

3.2 Bridging between disciplines / sectors before the crisis

Objectives

To develop and/or reinforce a functioning partnership with other sectors and disciplines, in advance of the crisis, in order to reinforce the response toward issues that goes beyond the health field.

Expected outcomes

All sectors and other agencies are aware of the key principles of the response, roles and structures involved in order to apply a coordinated and effective national response.

Tasks

3.2.1 Identify all sectors and stakeholders involved in the management of health threats

This is a matter to look for opportunities to interact with the other sectors, depending of the nature of the hazard causing the emergency crisis. As disaster response requires coordination between many community agencies and organizations and different levels of government as well as different kind of expertise and response capabilities, the 1st step is to identify all parties that should or might be involved. Some agencies will be involved in most events: law enforcement, civil protection, fire services, emergency medical services, Disaster Victims Identification, points of entry, voluntary agencies, and media. While other agencies will be involved only in specific types of hazard, but need to be listed.

3.2.2 List the resources and capabilities in each sector

What best can each sector bring in an emergency response management?

3.2.3 Define roles and responsibilities of each sector

Based on operational tasks requested for dealing with the hazards in your risk mapping, define:

- Who/which entity is responsible for this operational task?
- What resources does the person/entity performing the operational task need?

3.2.4 Sign Memorandums of Understanding

Mutual Aid Agreements for the quick activation of the collaborative activities and resources sharing when an emergency occurs, with the senior stakeholder's endorsements.

3.2.5 Ensure the quick operability of the multisectoral coordination

- Implement an operational network for timely transmission of information to relevant actors
- List of local, regional, national (and international) contact points

4. COMMUNICATION SYSTEMS AND INFORMATION MANAGEMENT

Communication is a key element of an EPREP plan. Accurate information is imperative to ensure trust between all responder partners and between responders and the population. A true health emergency will require the involvement of numerous agencies and departments and a rational reaction of the population. Only successful communication will ensure a good multi-sector coordination and a proper public's collaboration.

Successful communication in an incident comes from providing the right information to three different types of "actors":

- Players involved in the response
- Players involved in the management

- Players, stakeholders and public who need to be aware of the risk and the response

The amount of information in normal situations is huge and becomes even more important during an emergency.

- The filtering for accurate information is a key aspect in order to avoid inadequate response of the staff and/or the public.
- The timely distribution of the information is also important in order to ensure timely action for preventing further damage.
- At last, targeting the audience of the communication will allow that the right players receive the right information as needed to organise the right response activities and share of resources and to avoid also duplication.

An element of the communication in a situation of an emergency is defined as the ability of the responders to exchange information via data, voice, and video as authorized, to complete their missions. Communication consists on the timely distribution of up-to-date and accurate information. A unified website, when possible, is a good way to guaranty this exchange of information.

Effective communication empowers the public to adopt protective behaviour and avoid the panic effect, pro-active communication will motivate a better case reporting and provide awareness to the frontline responders, appropriate flow of communication will prevent confusion and allow for best use of resources. Good communication will also maintain the public's trust to the authorities. Media plays a key role on this regard. Involving Media is crucial in crisis management.

The ability of all players to effectively communicate is paramount to the safety and security of each nation. Response agencies at all levels must have interoperable and seamless communications to manage the response, establish command and control, maintain situational awareness and function under a common operating picture, whatever is the nature of the hazard involved in the incident.

The plan should address all of the roles, lines of responsibility, and resources you need to ensure that appropriate information is provided to the public, media, responders and stakeholders during a public health emergency.

The key elements of Communication in case of event are:

- **Common operating picture:** All the players, according to their role and responsibility, have the same information about the incident including the availability and location of resources and the status of assistance request.
- **Operability:** The ability of the players in the response to establish and sustain communications in support of mission operations.
- **Interoperability:** The ability of emergency responders to communicate among jurisdictions, disciplines, and levels of government, using a variety of communication channels, as needed and as authorized. System operability is required for system interoperability.
- **Continuity of communications:** The ability of emergency response agencies to maintain communications in the event of damage to or destruction of the primary infrastructure.

The aspects of communication are:

- Information management, through SOPs describing the key principles of communication and standard (but flexible for specific agency's needs) forms that will just need to be filled-up during the course of the event.
- Communication flow from up-down and down-up: Operational communication from the coordination site to the site of event and information on countermeasures.
- Intersectoral communication: Common terminology for all bodies, sectors and private agencies. For instance through a functional e-mail platform for posting the Situation reports.
- Communication to the public.

- Communication to the social groups.
- Communication to the media.
- Political advocacy.

4.1 Information management

The information management include the reporting system and procedures that assure the communication of internal and technical information.

Objective

To ensure the performance of surveillance and data collection in the health sector, analysis and reporting allowing timely detection of alerts, notification, timely transmission of accurate information about alerts and early warning to the right stakeholders, the continuous and timely exchange of accurate information during the crisis management between players (both effects of the crisis and effects of the countermeasures) and, during the post-crisis period, the archiving of information and experience.

Expected outcome

Mechanisms, procedures and communication flows are in place to ensure the timely transmission/exchange of information between responders, managers and stakeholders before, during and after the crisis management, in order to ensure the right decision making in regard of the strategic plan and the operational activities for the response to the emergency.

Tasks

4.1.1 Implement/upgrade notification systems in the health sector

- Ensure the rapid alert notification system and early warning system through the standard surveillance system and the reporting in the country
- Ensure timely transmission of the information related to the potential emergency from the location of the incident to the health sector managers (via the functional emergency call centre).
- The development of a standard form of incident reporting might help to ensure the reliability and completeness.
- Ensure that the health sectors managers are informed that a written incident notification report is sent.
- The health sector managers, on receipt, ensure the distribution of the notification report to the senior official(s), to the experts and other agencies that might have a role in the response.

4.1.2 Ensure the mechanisms to adapt surveillance and reporting are rapidly implemented during an emergency.

This would imply the following procedures (which can be supported, in practice through a common web-based platform, a shared e-mail list or through the development of a database to keep track of the situation):

- To create the emergency communication partnerships by listing agencies that will provide input in the response

Entity	Roles and Responsibilities

- To assign responsibilities of who collect, analyse and report the surveillance and/or control data
- To create a clear flow of data input, flow of information and data transfer: who does what and who reports to whom?

4.1.3 Ensure the continuity, reliability, flexibility and security of the technical communication during the whole crisis:

- Implement a stand-by duty officer for alert notifications
- Ensure a bi-directional (dual) communication channels to avoid any loss of information that include competent players and managers or a common web-based platform shared by all players
- Implement 24/7/365 operational contact points in all posts involved in the response or management, who will be in charge to communicate and receive all relevant information.
- Develop database to ensure a rational and constant data collection
- Consider mechanisms to ensure confidentiality in transmitting sensitive/confidential information
- Plan back-up facilities (alternative of communication equipment in case of power and/or IT failure)
- Develop standard situational report forms

4.2 Operational communication

Objective

Besides the transmission of the technical information from the field, we need mechanisms of dual communication between the field actors and the managers (ECCT). The ECCT needs to receive from the field actors (or their direct supervisor) all relevant information related to the situation report in order to develop appropriate strategic and operational plans that are to be communicated to the emergency responders of all agencies and levels, for being translated into actions.

Expected outcome

Emergency responders are aware of the decision making and the resulting strategic and operational plans and receive clear instructions about their role and responsibilities and which actions they concretely need to perform, without duplication of activities.

Tasks

4.2.1 Ensure a two-way communication for delivering situation reports and countermeasures in the health sector

It will facilitate communications between the health sector authorities and the health sectors stakeholders of the ECCT and between the ECCT players and the field responders. This communication flow must be rapidly implemented during a crisis.

- Integrate the transmission of technical information, as described in chapter 2.2, to the ECCT and the communication of the operational plan to the incident responders.

- Describe the lines of communication within the health sector, through a flow-chart, based on all stakeholders identified in the chapters about the ECCT (§ 1.2.1) and about response (§ 2.4)

4.2.2 Develop operational protocols of communication

In order to effectively use resources during emergencies, especially human resources involved in the site of the incident.

- Develop SOPs to ensure the rapid editing of standard (but flexible for specific agency's needs) forms that will just need to be filled-up during the course of the event and ensure the operability of all players: Emergency briefing form, emergency objectives form, Organization assignment list form, assignment list form in each section, medical Plan, emergency status summary form, emergency chick-in list, operational planning worksheet, resources availability form… (see example from FEMA: http://www.fema.gov/pdf/emergency/nims/ics_forms_2010.pdf).
- Ensure that the regular situational report describes also which actions could be implemented and which could not (and why?) and eventually, describe the impact obtained.

4.2.3 Monitor side effect of the countermeasures

- Integrate the monitoring of the side effects to the database used to collect all technical information mentioned in § 4.2.3

- In special cases such as the use of not yet licensed drugs or vaccines, ensure a law or special decree availing the use of that molecule and include the pharmacovigilance mechanisms.

4.3 Intersectoral communication

Objectives

To build communication flows in between sectors and with other agencies (NGOs, international agencies, private sector…)

Expected outcome

The smooth communication with other sectors and with other agencies ensures an effective multisectoral response and a rational use of resources.

Tasks

4.3.1 Develop the job descriptions of liaison officer in each sector

The liaison officer is the point of contact for the representatives of the other sectors and agencies. He/she is in charge of providing input about their sector's policy, resources availability and other incident-related matters.

4.3.2 Identify the person for that role in each sector

4.4 International communication

Objectives

To integrate or participate actively, if already integrated, into international existing networks or to participate in setting-up new ones if required.

Expected outcome

The improvement of international communication of cross-boarding emergencies helps a more integrated coordination of emergency communications priorities.

Tasks

4.4.1 Develop bilateral communication protocols with neighbouring countries when relevant

- Develop agreements and rules of procedures describing the respective national commitment in regards of role, responsibilities and resource sharing between the 2 countries.
- Develop SOP for travellers tracing in Points of Entry and in international transportation.
- Develop the operational network for timely transmission of transmission of information to relevant stakeholders of each country.
- List the contact points of the neighbouring country.

4.4.2 Participate actively to existing international existing network (IHR, EWRS, Episouth)

- Record the established norms of the network in regard of communication.
- Get access to the usually existing web platform for sharing information.
- Establish list of relevant contact points of these different network.

4.4.3 Involve the Point of Entry sector in the international coordination

4.5 Risk/Crisis communication to the public and the media

Objective

To ensure in the EPREP plan that resources needed to deliver a timely and accurate message to the public and to the media about a risk or a crisis during an event.

Expected outcome

Further casualties are prevented thanks to the trust that is built between the public/media and the stakeholders allowing the public's calm, interest and collaboration.

Tasks

4.5.1 Build the communication team of the health sector

- Identify key communication staff to act as spokespersons on public health issues during an emergency
- Describe their role and responsibility: such as working closely with the ECCT, getting feedback and analysing the perceptions of the public, take into account the culture of the public, designing communication strategies, delivering the information about risk/crisis to the public and media, being the public's representative in the meetings with senior officials…

- Ensure the position of an information coordinator when the health sector leads the response to the emergency
- Describe clearly the lines of authority and responsibilities for the public information team.
- Ensure the full-time functioning (24 hours per day) of the communication team with 2 or 3 work shifts per day.

4.5.2 Establish the communication network

- Identify key communication staff of the other sectors and other agencies.
- Develop guidelines on how to coordinate the communication messages with the other sectors / agencies, on how to ensure a clearance procedure for delivering messages, on how to ensure the delivery of a common message, on how to decide which sector is best to answer questions about the risk or the crisis, etc.
- Establish network with other trustworthy sources, such as: University scientists, physicians, local or national opinion leaders, citizen advisory groups, local officials, others.

4.5.3 Develop SOPs in collecting information of interest

- Assess and understand the main stakeholders and public's concerns,
- Regular briefing with the ECCT, the health sector coordinator or liaison officer, and eventually, senior officials to update or advice on information intended for release, incident-specific situation and policies
- In times of crisis, ensure the screening of the media to determine the public concerns and the messages needed, to detect error of misinformation and correct them.

4.5.4 Develop material of communication to be adapted at the time of the emergency

- Create a list of key messages and how they will be used in time of crisis.
- Draft media releases and statements (related to key messages).
- Generate frequently asked questions and answers (related to key messages).
- Prepare advertising material to be used in time of crisis.
- Create web-based information that can be released immediately if needed.
- For the times of crisis, develop SOPs that will include how to create a timetable for disseminating emergency information, that will describe the lines of communication with the ECCT to identify main issues and priority issues, how to prepare the profile of the target audience.
- Plan the possible organization of "hotlines" by phone or e-mail, to respond directly to the public requests.
- Provide the public with the agency contact information.

4.5.5 Enhance network with the media

- Generate list of key Medias.
- Enhance relationship with the media (establish contacts with key media persons and understand how they work).
- For the times of crisis, develop SOPs that include the triage of media requests, how to organise the response to the media requests (press conferences, website updates, press releases, fact sheets, etc.).
- Adapt the messages to the media tool used (television, radio, newspaper, etc.).
- Agree with the reporter in advance about specific topics and stick to those during the interview.

Tip

A lot of ministries from other sectors have already a unit in charge of communication to media, where you can find expertise if needed.

4.6 Political advocacy

Objectives

To ensure that the political authorities know about the plan's or parts of the plan functioning and that they receive timely and accurate information from the responders during an emergency.

Expected outcome

The political authorities know the plan and request information on emergencies through the pre-established communication channels before taking decision or before responding on political issues related to the event.

Tasks

4.6.1 Ensure the endorsement of the plan by the political authorities

The senior official of the health sector has approved and signs the EPREP plan of the health sector.

4.6.2 Describe the communication channels between the responders and the senior official(s)

The senior official(s) knows who are the key members of his/her emergency team, is aware of the procedures for activating the plan in case of emergency and knows the communication channels for receiving information and communicate decisions.

5. EVALUATION OF THE RESPONSE AND REVISION OF THE PLAN AFTER THE EMERGENCY

Objectives

Include in the plan procedures that ensure record keeping during the whole event, debriefing of stakeholders that were involved in the response management and evaluation of the emergency response.

Expected outcomes

The plan is revised with identified gaps and lessons learned and also good practices.

Tasks

5.1 Ensure record-keeping during and after the event

During an emergency, information will evolve very fast and keeping track of response can become very difficult.

- Describe arrangements to ensure recording and retaining of all relevant information (including sources)
- Stakeholders are aware that they need to record and file the information
- Set-up filing systems
- Documentation and archiving management

5.2 Evaluation post- emergency

The evaluation aims to review process, procedures and structure, to see how the plan was used and if it was appropriate, to identify good practices and areas for future improvement.

5.2.1 Describe or organize procedures of debriefing

5.2.2 Develop standard format of evaluation

5.3.3 Evaluation report

UNIT 3

EVALUATION AND REVISION OF THE PLAN

(Preparedness cycle or maintaining preparedness)

This unit will present the set of actions needed to maintain the plan current and to ensure that the country has the capacity to implement it correctly. This will be done through:

1. Training
2. Exercises
3. Reviews of the plan's content

1. TRAINING

Objectives

To ensure that the plan includes a training programme for all positions involved in emergency response.

Expected outcome

Staff is regularly trained and up-to-date in case an emergency occurs.

Tasks

1.1 List all relevant positions that need training

1.2 Identify the already existing training material in your country

1.3 Develop a training cursus for the positions with no training plan yet

1.4 Consider initial training (new staff) and regular refreshing training

1.5 Include the whole training programme in the plan

Training course	Content	Organising body	Target audience	Schedule

2. EXERCISES

For this aspect of plan maintenance, we should consider not only exercise simulating fictive events (Simulation exercises) but also the evaluation of the response after a real event.

Objective

To develop a program of regular exercise for stakeholders involved in an emergency response.

Expected outcomes

Exercises are regularly conducted and followed by an evaluation and revision of the plan accordingly.

Tasks

2.1 Develop guidelines for exercise

Considering from the discussion based exercise to the full scale exercise

2.2 Plan exercises at national, regional and local levels

2.3 Prepare checklists for follow-up and analysis of the exercises

Idem for events

2.4 Prepare standard forms for integrating experiences and feedback into lessons learned

2.5 Describe the legal process for eventual amendments of the plan

3. REVIEWS OF THE PLAN'S CONTENT

Objective

Changes of staff or position and changes in procedure require a regular update of some sections of the plan and support documents

Expected outcome

The plan remains functioning despite the turnover among staff and despite changes of procedures

Tasks

3.1 Organize a plan maintenance review

Section/support documents	Review frequency	Who is in charge?
Contact details		
Risk assessment		
Response plan of the health sector		
Training schedule		
Exercise schedule		

3.2 Develop SOPs for ad-hoc updates

- Post-event.

- Post- exercise.

- In response to any restructuring or other changes in the organization, procedures, and technical systems identified in the plan.

3.3 Appoint one emergency planning officer

Glossary

Administrative Unit

The administrative unit represents the level administrative division of a country. The local one can be named district, municipality and the regional one can be named province, region or state. This can vary among countries.

Capacity

It is the combination of all the strengths, attributes and resources available within a community, society or organization that can be used to achieve agreed goals.

Cold debrief

After the exercise (2-3 weeks), you may wish to conduct additional follow up either through another meeting with participants or some other means of soliciting feedback, like a survey. This is called the cold debrief, and is not conducted for all exercises. This debriefing review the successes and lessons identified and reviews issues that were brought up in the hot debrief to determine if participants have any further feedback.

Crisis

Is an event or series of events representing a critical threat to the health, safety, security or wellbeing of a community, usually over a wide area. Armed conflicts, epidemics, famine, natural disasters, environmental emergencies and other major harmful events may involve or lead to a humanitarian crisis.

Disaster

A serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses that exceed the ability of the affected community or society to cope using its own resources. A disaster is a function of the risk process. It results from the combination of hazards, conditions of vulnerability and insufficient capacity or measures to reduce the potential negative consequences of risk.

• Any occurrence that causes damage, ecological disruption, loss of human life or deterioration of health and health services on a scale sufficient to warrant an extraordinary response from outside the affected community or area.

Early warning

The provision of timely and effective information, through identified institutions, that allow individuals exposed to a hazard to take action to avoid or reduce their risk and prepare for effective response.

Emergency

A sudden occurrence demanding immediate action that may be due to epidemics, to natural, to technological catastrophes, to strife or to other man-made causes.

Emergency Preparedness

Programme of long-term activities whose goals are to strengthen the overall capacity and capability of a country or a community to manage efficiently all types of emergencies and bring about an orderly transition from relief through recovery, and back to sustained development. It requires that emergency plans be developed, personnel at all levels and in all sectors be trained, and communities at risk be educated, and that these measures be monitored and evaluated regularly.

Generic preparedness plan

The “generic” plan comprises a range of activities to protect communities, property and the environment and is usually based on a “comprehensive” approach, an “all hazard” approach, a “multi-sectoral” and “inter-sectoral” (or “all agencies” or “integrated”) approach that encompasses all elements that are relevant in ensuring that countries have a “prepared community”.

Hazard

Any phenomenon that has the potential to cause disruption or damage to people and their environment.

- ***Biological hazard:*** processes of organic origin or those conveyed by biological vectors, including exposure to pathogenic microorganisms, toxins and bio-active substances, which may causes the loss of life or injury, property, damage, social and economic disruption, or environmental degradation. Examples of biological threats: outbreaks of epidemic diseases, plant or animal contagion, insect plagues and extensive infestations.
- ***Natural hazards*** (including geological hazards): natural process or phenomenon that may cause loss of life, injury or other health impacts, property damages, loss of livehoods and services, social and economic disruption, or environmental degradation.
- ***Technological hazards***: hazards originating from technological or industrial conditions, including accidents, dangerous procedures, infrastructure failures or specific human activities, that may cause loss of life, injury or other health impacts, property damages, loss of livehoods and services, social and economic disruption, or environmental degradation. Examples of technological hazards include industrial pollution, nuclear radiation, toxic wastes, dam failures, transport accidents, factory explosions, fires and chemical spills. Technological accidents also may arise directly as the results of the impact of a natural hazard event.

Hot debrief

The hot debrief takes place immediately after the close of the exercise and is intended to give participants an opportunity to feedback their immediate feelings about the exercise. The hot debrief is frequently conducted by the lead evaluator, although another member of the exercise team can lead the debriefing. The debrief usually follows this kind of format:

- Review of purpose and objectives
- Facilitator comments on successes and lessons identified
- Each participant given an opportunity to contribute their thoughts on successes and lessons identified

Hotline

Point-to-point communications link in which a call is automatically directed to the preselect destination without any additional action by the user when the end-instrument goes off-hook. An example would be a phone that automatically connects to emergency services on picking up the receiver.

Interoperability

Ability of diverse systems or organizations to work together (inter-operate).

Point of Entry

Passage for international entry or exit of travellers, baggage, cargo, containers, conveyances, goods and postal parcels as well as agencies and areas providing services to them on entry or exit.

Preparedness

Preparedness consists into a very concrete research based set of actions that are taken as precautionary measures in the face of potential disasters. These actions can include both physical preparation and training for emergency actions. Preparedness is an important quality in achieving goals and in avoiding and mitigating negative outcomes.

Procedures

Procedures (or SOPs) complement protocols because they establish a detailed sequence of steps or actions to be carried out by agencies to respond to certain situations or scenarios according to their specialty or their responsibility.

Protocols

Practical arrangements or steps established to put a plan into operation.

Public health emergency of international concern

It is an extraordinary event which is determined, as provided in IHR: (i) To constitute a public health risk to other States through the international spread of disease; and (ii) to potentially require a coordinated international response.

Risk

The probability of harmful consequences, or expected losses (deaths, injuries, property, livelihood, economic activity disrupted or environment damaged) resulting from interactions between natural or human-induced hazards and vulnerabilities

Risk assessment

Methodology to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihood and environment on which they depend.

Risk management

Risk management comprises risk assessment and analysis and the implementation of strategies and specific actions to control, reduce and transfer risks. It is widely practiced by organizations to minimize risk in investment decisions and to address operational risks, such as those of business disruption, production failure, environmental damage, social impacts and damages from fire and natural hazards.

Risk reduction

It involves measures designed either to prevent hazards from creating risks or to lessen the distribution, intensity or severity of hazards. These measures include flood mitigation works and appropriate land-use planning. They also include vulnerability reduction measures such as awareness raising, improving community health security, and relocation or protection of vulnerable populations or structures.

Simulation Exercise

It is an exercise that creates a hypothetical emergency scenario where a group of participants must make decisions, based on the information they receive during the exercise.

Vulnerability

The conditions determined by physical, social, economic and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards.

The degree to which a population or an individual is unable to anticipate, cope with, resist and recover from the impact of a disaster.

Acronyms

DG-SANCO	Directorate General for Health and Consumers – European Commission
FEMA	Federal Emergency Management Agency (in United States)
EAHC	Executive Agency for Health and Consumers
EC	European Commission
ECCT	Emergency Command and Control Team
ECDC	European Centre for Disease Prevention and Control
EPREP	Emergency Preparedness Plan
GP	General Practitioner
HR	Human Resources
ICU	Intensive Care Unit
IHR	International Health Regulations
IT	Information Technology
NGO	Non-Governmental Organization
PHC	Primary Health Care
PPE	Personal Protective Equipment
RRA	Rapid Risk Assessment
SE	Simulation Exercise
SOP	Standard Operating Procedure
UNICEF	United Nation International Children's Emergency Fund
WHO	World Health Organization
WP	Work Package

Bibliography

(1) Barbara Reynolds, Matthew W.Seeger. Crisis and Emergency Risk Communication as an Integrative Model. Journal of Health Communication Vol 10, 43-55. 2005. http://journals.taylorandfrancis.com/forms/hcm/10_43.pdf

(2) British Columbia MOH. Ministry of health emergency management plan. Sept 2005. http://www.health.gov.bc.ca/emergency/pdf/emp.pdf

(3) CARE organization. CARE emergency preparedness planning guidelines. Oct 2006. http://www.careacademy.org/Care%20Academy%20Documents/h_EmergCurric_EPPWorkbook.pdf

(4) European Commission Health & Consumers Directorate General (DG-SANCO). Strategy for Generic Preparedness Planning. Technical guidance on generic preparedness for public health emergencies. April 2011. http://ec.europa.eu/health/preparedness_response/docs/gpp_technical_guidance_document_1_december_2009.pdf

(5) FEMA US department of Homeland Security. National Incident management System (NIMS). Dec 2008. http://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf

(6) FEMA US department of Homeland Security. Emergency Support Functions annexes: Introduction. 2008. http://www.fema.gov/pdf/emergency/nrf/nrf-esf-intro.pdf

(7) FEMA US department of Homeland Security. National Emergency Communication Plan. 2008. http://www.dhs.gov/xlibrary/assets/national_emergency_communications_plan.pdf

(8) FEMA US department of Homeland Security. Emergency Support Function # 10: Oil and Hazardous Materials response Annex. 2008. http://www.fema.gov/pdf/emergency/nrf/nrf-esf-10.pdf

(9) FEMA US department of Homeland Security. National Response Framework: Nuclear / Radiological Incident Annex. 2008. http://www.fema.gov/pdf/emergency/nrf/nrf_nuclearradiologicalincidentannex.pdf

(10) FEMA US department of Homeland Security. National response Framework: Mass Evacuation Incident Annex. 2008. http://www.fema.gov/pdf/emergency/nrf/nrf_massevacuationincidentannex.pdf

(11) FEMA US department of Homeland Security. National Response Framework: Food and Agriculture Incident Annex. 2008. http://www.fema.gov/pdf/emergency/nrf/nrf_FoodAgricultureIncidentAnnex.pdf

(12) FEMA US department of Homeland Security. National response Framework: Catastrophic Incident Annex. 2008. http://www.fema.gov/pdf/emergency/nrf/nrf_CatastrophicIncidentAnnex.pdf

(13) FEMA US department of Homeland Security. National Response Framework: Biological Incident Annex. 2008. http://www.fema.gov/pdf/emergency/nrf/nrf_BiologicalIncidentAnnex.pdf

(14) FEMA US department of Homeland Security. Incident Command System: ICS forms. 2010. http://training.fema.gov/EMIWeb/is/ICSResource/icsforms.htm

(15) FEMA US department of Homeland Security. Developing and maintaining Emergency Operation Plans. Comprehensive Preparedness Guide (CPG) 101. Version 2.0. 2010. http://www.fema.gov/pdf/about/divisions/npd/CPG_101_V2.pdf

(16) FEMA US department of Homeland Security. National response Framework, 2nd edition. 2013. http://www.fema.gov/media-library-data/20130726-1914-25045-1246/final_national_response_framework_20130501.pdf

(17) FEMA.US department of homeland security. Emergency Planning. Independant study 235.b. Dec 2011. http://training.fema.gov/EMIWeb/IS/IS235B/IS235B.pdf

(18) Health Protection Agency. Radiation Incidents. 2008. http://www.hpa.org.uk/webc/hpawebfile/hpaweb_c/1194947392290

(19) Health Protection Agency. Generic Incident Management. 2008. http://www.hpa.org.uk/webc/hpawebfile/hpaweb_c/1194947395416

(20) Health Protection Agency. Deliberate or accidental releases. Immediate Action and guidance for Public health profesionals. Card 1: Radiation. 2010. http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1244023917613

(21) Health Protection Agency. Acute chemical Incidents - basic checklist. 2013. http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1194947351282

(22) MEM project Team.Fire services and emergency planning section doteh&LGCHD1. A framework for major emergency management. Guidance document 2. A guide to prepare a major emergency plan. 2010. http://www.environ.ie/en/Publications/Community/FireandEmergencyServices/FileDownLoad,811,en.pdf

(23) Natural England U. Generic Emergency response Plan. July 2010. http://www.naturalengland.org.uk/Images/emergencyresponseplan_tcm6-18770.pdf

(24) US Department of Health and Human Services CDC. Public Health Emergency response guide for Stae, Local and Tribal Public health Directors. 2011. http://www.bt.cdc.gov/planning/pdf/cdcresponseguide.pdf

(25) US Department of Health and Human Services CDC. Crisis Emergency Risk Communication. 2012 Edition. 2012. http://emergency.cdc.gov/cerc/pdf/CERC_2012edition.pdf

(26) US Department of health and Human services CDC. Guidelines for field triage of injured patients. Recommandations of the National Experts Panel on field triage. 2011. http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6101a1.htm

(27) World Health organization. World Health Organization outbreak communication planning guide. 2008. http://www.who.int/ihr/elibrary/WHOOutbreakCommsPlanngGuide.pdf

(28) World Health organization. WHO Emergency Response Framework (EFR). 2013. http://www.who.int/hac/about/erf_.pdf

(29) World Health Organization / International Health Regulations Coordination. IHR Core capacity monitoring framework: Checklist and indicators for monitoring progress in the development of IHR core capacities in States parties. WHO/HSE/IHR/2010.1.Rev.1. 1-2-2011. http://www.who.int/ihr/Processes_of_IHR_Monitoring_framework_and_Indicators.pdf

EpiSouth

Network for the Control of Public Health Threats
in the Mediterranean Region and South East Europe

EPISOUTH PLUS STRATEGIC DOCUMENT

THE EPISOUTH PLUS PROJECT

COORDINATION OF EPIDEMIOLOGICAL SURVEILLANCE BETWEEN POINTS OF ENTRY AND THE NATIONAL HEALTH SYSTEM IN THE FRAMEWORK OF THE INTERNATIONAL HEALTH REGULATIONS 2005 IN THE EPISOUTH REGION

Flavia Riccardo[1], Pierre Nabeth[2], Gerardo Priotto[2], Maria Grazia Dente[1], Silvia Declich[1]

[1]Istituto Superiore di Sanità,Rome, Italy
[2]World Health Organization HQ, Lyon, France

and the WP7 Steering Team

on behalf of the EpiSouth Network

January 2014

ABBREVIATIONS

CBRN	Chemical Biological and Radio-Nuclear
CHA	Competent Health Authority
ECDC	European Centre for Disease Control
ENSA	EpiSouth Plus National Situation Analysis
EU	European Union
HCDP/KEELPNO	Hellenic Center for Infectious Diseases Control
IHR	International Health Regulations (2005)
IPH	Institute of Public Health
ISS	Istituto Superiore di Sanità/ Italian Institute of Public Health
MoH	Ministry of Health
NCIPD	National Centre of Infectious and Parasitic Diseases
NGO	Non-Governmental Organisation
NHS	National Health System
NIPH/IVZ	National Institute of Public Health
PH	Public Health
PHEIC	Public Health Emergency of International Concern
PoE	Points of Entry
PRP	Preparedness and Response Plan
SOP	Standard Operating Procedures
SEEHN	South-eastern Europe Health Network
WHO	World Health Organization
WP	Work package

ACKNOWLEDGEMENTS

Flavia Riccardo (ISS, Italy) Pierre Nabeth (WHO HQ), Gerardo Priotto (WHO HQ), Maria Grazia Dente (ISS, Italy) and Silvia Declich (ISS, Italy) contributed extensively to the development and editing of this document with the support of all the members of the EpiSouth Plus WP7 Steering Team: Silvia Bino and Kakarriqi Aduard (SEEHN, Albania IPH), Vladimirova Nadezhda, Kojouharova Mira and Kurchatova Anna (Bulgaria NCIPD), Gregoriou Ioanna (Cyprus, MOH), Rengina Vorou (Greece HCDP/KEELPNO), Alex Leventhal (Israel MoH), Sultan Abdullah Saleh (Jordan MoH), Ahmed Rguig (Morocco MoH), Ucakar Veronika and Kraigher Alenka (Slovenian NIPH/IVZ), and Mondher Bejaoui (Tunisian MOH).

This document draws from all the work done by Work Package 7. The contribution of Anne-Sophie Castex (WHO HQ), Daniel Menucci (WHO HQ), Thomas Hoffman (WHO EURO), Loredana Vellucci (Italian MoH, Italian IHR NFP responsible person); Tanya Fenech Melillo (Maltese MoH); Martin Anthony Williams (Maltese MoH, IHR NFP responsible person), Assad Rahhal (Jordanian MoH, IHR NFP responsible person) and Abdel Aziz Barkia (Moroccan MoH, IHR NFP responsible person) in this work are hereby acknowledged.

TABLE OF CONTENTS

1. AIM AND SCOPE OF THE EPISOUTH WP7 STRATEGIC DOCUMENT

The Work Package 7 (WP7 – Facilitating International Health Regulations[1] implementation) of the EpiSouth Plus Project was co-led by the World Health Organization (WHO) and the Italian National Institute of Health (ISS).

Its steering team (ST) was composed by: Albania (IPH), Bulgaria (NCIPD), Cyprus (MoH), Greece (HCDP/KEELPNO), Israel (MoH), Jordan (MoH), Morocco (MoH), SEEHN, Slovenia (NIPH/IVZ), and Tunisia (MoH).

During the first year of activities, WP7 analysed the level of implementation of International Health Regulations (IHR) in the Mediterranean Region and identified coordination of surveillance between ports, airports and ground crossings – hereby called Points of Entry (PoE)- and national health systems (NHS) as a priority among Mediterranean countries for IHR implementation.

Following this, a study called EpiSouth Plus National Situation Analysis (ENSA) was performed in four countries of the network chosen on the basis of their experience in the coordination of human health surveillance between PoE and NHS, their demographic and geo-political characteristics and their willingness to be part of the study.

This strategic document focuses on the coordination of epidemiological surveillance between PoE and NHS in the framework of IHR, in the EpiSouth region. It builds on the researches conducted throughout the duration of the EpiSouth Plus project and summarizes, from a Mediterranean regional perspective, available evidence on IHR implementation and the findings of the ENSA.

Looking at the recurring strengths and challenges in coordinating surveillance between PoE and NHS in Mediterranean countries, this document presents strategic lines that have been successfully adopted in specific national contexts and that might be beneficial to other countries in the region.

Additionally this document is a proof of concept of how regional networks can collaborate with WHO in facilitating IHR implementation through focused analysis, the sharing of national experiences and the promotion of awareness building activities.

2. EVIDENCE OF THE PROBLEM TO BE ADDRESSED

2.1. IMPLEMENTATION OF IHR AT GLOBAL LEVEL

With the coming into force of the IHR on June 15, 2007, all WHO States Parties were required to assess and acquire capacities for surveillance and response.

IHR related capacities are defined as follows:

- **Main core capacities**: legislation policy, coordination, surveillance, response, preparedness, risk communication, human resources and laboratory capacity.
- **Capacity for points of entry**
- **Capacities for IHR-relevant hazards**: zoonotic events, food-safety events, chemical events and radiation emergencies.

These capacities are required to detect, assess, notify and report events, and to respond to public health risks and emergencies of national and international concern.

Although the deadline for States Parties to establish the core capacities for surveillance and response and at designated Points of Entry with the support of WHO was 15 June 2012, only 42 of the 195 States Parties have indicated that they do not need an extension of this deadline to meet the goal[2].

Scientific literature exploring the level of implementation of IHR in general and of each capacity in particular is scarce. Among 103 articles published globally between 2005 and 2011, most explored IHR-related capacities were surveillance, coordination and laboratory services. The least explored were risk communication, chemical and radio-nuclear detection and control. Surveillance was the only capacity for which most dedicated articles stated that implementation was generally on track in relation to IHR requirements while the weakest capacities were coordination, human resources, laboratory, points of entry, and zoonosis[3]. In accordance with Article 54 of the IHR and the resolution adopted during the sixty-first World Health Assembly (WHA) in 2008, States Parties and WHO are required to report to the WHA on progress made in implementing the Regulations. For this purpose, WHO developed a monitoring framework that assesses, through a questionnaire, the level of implementation of the Regulations for each required capacity[4].

Globally[*], in 2011, States Parties had made most progress in achieving the following core capacities: surveillance, response and laboratory services. In each of these areas, more than 72% of the required attributes[†] had been achieved. Progress in strengthening human resources and preparedness had been slower (less than 60% of the required attributes achieved). Regarding IHR-related hazards, the scores were higher for capacities related to zoonotic and food safety events than those related to chemical and radiological events. Attributes required at PoE were globally less developed (51% required attributes achieved) [5].

[*] *In 2011, 161 States Parties completed the questionnaire (83% of the 194 Parties).*

[†] *"The attribute score is the proportion or percentage of attributes (a set of elements or functions that reflect the level of performance or achievement of an indicator) that have been attained in levels 1 and 2 and is a measure of overall achievement in reaching the targets for 2012". Source WHO/HSE/GCR/2012.*

Scientific literature specifically addressing gaps in capacities at PoE highlights problems in the elaboration of response plans and in CBRN (chemical-biological-radio-nuclear) control not only in emergency situations, but also on a routine basis. Lack of permanent health authorities on site are also reported as a major concern.
Additional challenges are due to the lack of multi-sector collaboration and communications among different stakeholders at PoE. All this translates in low sensitivity in event detection and the need to improve response capacity[3].

A number of expert-meetings have reported a lack of coordination between NHS and authorities at PoE who receive or generate information on health events concerning travellers and conveyances. These meetings include: the EpiSouth Plus project WP7 sub-regional meeting, Rome, Italy, July 2011; the WHO 2nd informal consultation meeting on WHO technical advice for management of public health events on board ships, Lyon, France, April 2012; the Inter-country meeting on strengthening surveillance and response capacities under the IHR, Beirut, Lebanon, March 2012 and the WHO organized expert consultation meeting on coordination between points of entry and national surveillance systems, Lyon, France, July 2012[6].

2.2. IMPLEMENTATION OF IHR IN THE MEDITERRANEAN

In order to assess the level of IHR implementation in the Mediterranean, the questionnaires of the WHO monitoring framework filled in 2010 by EpiSouth countries were analysed separately in an aggregated fashion.

Several IHR related capacities have been implemented in most of the EpiSouth countries examined[7]: legislative frameworks for the implementation of IHR have been established; coordination on events that may constitute a public health emergency of international concern (PHEIC) has been implemented; surveillance functions exist in a large proportion of countries, as well as resources and management procedures for rapid response. Multi-sectorial collaboration on zoonotic, chemical and radiation events exists but could be improved.

Weaknesses such as the lack of experience and resource sharing between countries, and the lack of reports and Standard Operating Procedures (SOPs) to guide the implementation of procedures have been reported.

Major gaps have been reported in the fields of risk assessment, preparedness, risk communication, human resources, laboratory biosafety and biosecurity, and in surge and response capacity at designated PoE.

In most cases, a list of designated ports and airports has been defined and, as specified in IHR Annex 1, authorized ports have been communicated to WHO. Weaknesses at PoE in the Mediterranean Region have been ascribed to the absence of a competent authority in all designated ports/airports, to the absence of capacity assessments, and more generally to the lack of efficient surge and response capacities.

2.3. SCIENTIFIC RATIONALE FOR ACTION

Based on the mentioned evidence collected by EpiSouth WP7[7], risk assessment, preparedness, laboratory biosafety and biosecurity, and coordination of surveillance between PoE and NHS were identified as priorities for the EpiSouth region during a project sub-regional meeting that took place in July 2011 in Rome.

As the other priorities were already addressed by two dedicated EpiSouth Plus Work Packages, WP7 decided to focus on coordination of surveillance between PoE and NHS.

After a literature review[3], we proposed to conduct a situation analysis to study in depth how four countries of the EpiSouth network have addressed coordination of surveillance between PoE and NHS.

As defined by WHO[8], a situation analysis is a process of gathering and analysing information on the existing legal, institutional, administrative and technical infrastructure and available national expertise across key sectors. It is considered a crucial first step in the development of realistic national action plans for strengthening public health management practices.

The "EpiSouth Plus National Situation Analysis" (ENSA), we developed was designed to study in depth how four countries of the EpiSouth network have addressed coordination of surveillance between PoE and NHS.

We studied how the exchange of information is organized between PoE and NHS in four countries representative of the diversity of the EpiSouth region; identified formal procedures in place and legal constraints in these four countries and described main strengths and challenges[9].

The study was not conceived to be an evaluation of IHR implementation. All countries that participated in the ENSA were selected because they had already established mechanisms of coordination for surveillance of human health between PoE and the NHS.

The findings of the ENSA will be used to enrich the contents of the WHO global guidance on coordination of surveillance between PoE and NHS that is in development and has also benefited from the inputs of the experts of the EpiSouth WP7 Steering Team.

3. Coordination of surveillance between PoE and NHS in four EpiSouth countries

Italy[10], Malta[11], Jordan[12] and Morocco[13] were selected on the basis of their national demographic and geo-political characteristics. Each represented a specific scenario found in the Mediterranean (Table 1).

Table 1 - EpiSouth Plus National Situation Analysis (ENSA): scenario categorization and participating countries

CATEGORY	EXPECTED IMPACT ON COORDINATION BETWEEN POES AND NATIONAL SURVEILLANCE SYSTEM	PARTICIPATING COUNTRIES
Small coastal states and islands	No or few ground crossings, numerous ports, few airports. Small countries with possibly fewer administrative levels/ overlapping professional functions.	Malta
Large States with extensive coastlines and federal or strongly decentralized health systems	All PoE present in large numbers, numerous administrative levels with diversification of competencies and greater coordination complexities.	Italy
States with no or little coastlines	Ports absent or very limited, higher importance of airports and ground crossings where greater experience may have been gathered.	Jordan
Large States with extensive coastlines and more centralized health systems	All PoE present in large numbers, numerous administrative levels but central bodies.	Morocco

A country report was written for each country participating in the study with details on the data flows, processes and procedures explored and a country specific analysis of results. A systematic description of the actors, processes, tools and events detected at PoE in each country is included in these reports and will not be the object of this document. Rather this information will be referred to in order to identify recurring[‡] strengths and challenges in coordinating surveillance between PoE and NHS.

Most reported examples of communication between the PoE and the IHR NFP focussed on biological threats, in particular communicable diseases, zoonosis, and on food safety. Communication flows in the case of chemical and radio-nuclear events were discussed and found to involve the same actors as those involved in biological threat detection and response (Malta, Morocco), a number of directorates within the MoH with direct links to the IHR NFP (Jordan) and the Civil Protection in coordination with the MoH, involving the IHR NFP, for Health related matters (Italy).

[‡] *Occurring in two or more of the countries that performed the Episouth Plus National Situation Analysis on coordination of surveillance between Points of Entry and the National Health System*

In all the studied countries, IHR NFP are located within the MoH. Good coordination of surveillance between PoE and the NHS relies on the existence of strong links between the staff working on human health at PoE and the staff of the IHR NFP in the MoH, independently of the level of centralization of the health system. In each country, functional coordination and communication of human health events occurring at PoE was achieved in different ways according to the number of levels of the NHS, and to the decentralization of functions and responsibilities.

In Malta[11], the IHR-NFP is located in the Environmental Health Directorate of the MoH, which is also in charge of Port Health. The staff of the Port Health Services work from the Port Health and Airport Health Offices. One of the Port Medical Officers covers the role of IHR-NFP responsible person as well as Competent Health Authority (CHA) and works in close collaboration with the Surveillance Unit at MoH central level.

In Jordan[12], PoE host health centres, that are for the most part under the direct control of the MoH[11] As a consequence, health data collected at PoE are transmitted to all the levels of the NHS (from health centres to MoH central level). Direct notification to the IHR NFP responsible person is foreseen in case of events at PoE that might meet the criteria for a possible PHEIC, whether biological, chemical or radio-nuclear.

In Italy[10] and Morocco[13], the direct link between the PoE and the MoH Central level-IHR NFP resisted the decentralization of competences and responsibilities that has affected other sectors of health care provision. In both countries, PoEs host MoH staff who depend directly on the IHR NFP. Information on health events at PoE in both countries follows a double communication flow: directly to the IHR NFP and through three different administrative levels as required by the statutory surveillance system.

3.1. RECURRING STRENGTHS

- In all countries studied, the IHR have been fully endorsed in national legislation and further defined for implementation in national and local norms and regulations.
- The legal framework (international/regional/national/local) has been consistently described as supportive to the implementation of coordinated surveillance.
- No legal constraints were highlighted.
- There are strong, at times historical, links between PoE and the MoH.
- The role of the CHA is well defined with dedicated personnel (including permanent staff) in each PoE.
- The role of the CHA at PoE is consistently recognized by PoE actors working in different sectors.
- In all countries studied, the CHA are generally employed directly by the MoH and benefit from its leadership and technical support (including training). This link strengthens the timeliness and completeness of reporting.
- Staff working on human health at PoE is consistently also involved in:
    - inspection and clearance of goods (including food and drugs) for import/export in collaboration with customs officers;

    - inspection and clearance of conveyances for aspects concerning public health (e.g. maritime declaration of health) working in contact with conveyance operators, control towers and hub authorities;
    - medical occupational and forensic practice in contact with crew members and conveyance operators; and
    - active collaboration with veterinarians for aspects concerning animal health/ food of animal origin at PoE.

  This reportedly encourages exchange and collaboration among the different sectors at PoE.
- In all the countries studied, IHR NFP are closely related to both the MoH authorities in charge of disease surveillance and those in charge of health at PoE; they have competence on all events that may constitute a PHEIC.
- IHR NFP are located in the MoH Central Level, independently of the decentralization of the health system. Countries with highly decentralised health systems have arranged double communication and coordination lines to ensure that timely information can flow both through the administrative hierarchy of the NHS and directly between the PoE and the IHR NFP. This ensures the involvement of all the levels of the health system.
- Clear standard and official protocols for communication of health data are available and well known by professionals both at MoH and PoE level. In most settings these are also translated in official and publicly available SOPs.
- In all the visited PoE, processes and procedures related to epidemiological surveillance for communicable diseases and other threats to human health are coherent with national protocols.

3.2. RECURRING CHALLENGES

- The high level of competence required to work as CHA in PoEs makes continuous training necessary and replacement of staff difficult.
- Human resources were reported as insufficient numerically, at times critically so[§].
- Information related to human cases of illness at PoE is not collected through dedicated structured databases[**].
- In more than one country:
    - Training opportunities are considered scarce,
    - Provision of systematic feedback from the MoH central level to PoE was identified as an aspect that could be strengthened.

[§] *This has been also attributed to severe budget cuts*

[**] *In most cases databases exist for administrative and inspection functions at PoE that can aid in line listing. The same is true for statutory communicable disease surveillance in which some data from PoE could converge, although generally not distinguishable. Data is usually communicated by phone, fax and emails and, archived as reports in local computers. In some countries, analysis are performed at MoH central level.*

3.3. LIMITS

While the recurring strengths are probably comprehensive because they draw from the experience of countries that have greatly invested on coordination of human health surveillance between PoE and NHS, all the challenges the Mediterranean countries face were probably not identified.

Another aspect to consider is that the procedures of coordination of surveillance between the PoE and the IHR NFP analysed in the four countries focussed mainly on communicable disease surveillance and biological health threats. The data flows for chemical and radio-nuclear threat detection and response were not described with the same level of detail and hence their strengths and weaknesses may not have been well captured.

Taking these considerations into account, the lessons learned of this document build on all the experience gathered in this area by the EpiSouth Plus Project with the support of WHO and, for the aspects referring to the ENSA, draw mainly from the recurring strengths observed.

4. Lessons Learned and Strategic Lines

Noteworthy aspects have been highlighted in the four countries involved in the ENSA. Firstly, all four countries established defined processes and procedures linking closely the MoH with the PoE through the CHA. Secondly, clear responsibilities, contacts and processes are established and have been translated in clear official and publicly available SOPs. Thirdly, CHA are consistently present at PoE and they are the recognized reference for inspection and human health matters, linking the MoH with the various PoE actors.

The ENSA confirmed the central role of the CHA at PoE, which had also been highlighted in 2010 by 18 Mediterranean countries responding to the WHO monitoring framework (see section 2.2). The ENSA also demonstrated how coordination of surveillance between PoE and the NHS was achieved in four countries with very different geographical, political and economic settings. The procedures and processes implemented by Italy, Malta, Jordan and Morocco to coordinate surveillance between PoE and NHS might be useful to other Mediterranean countries.

To this effect, the recurring strengths identified in the four countries studied in the ENSA have been translated in lessons learned and four derived strategic lines (Table 2) that may be considered by countries participating in the EpiSouth Network:

- Invest on a solid legal framework that is supportive to the implementation of coordinated surveillance between PoE and NHS in the framework of IHR. This framework should establish a strong link between the IHR NFP and the CHA at PoE;
- Ensure the presence of dedicated personnel covering the function of CHA in PoE. This personnel should work with other actors in the PoE, in liaison with the IHR NFP;
- Elaborate and update national protocols and local processes and procedures on coordination of human health surveillance between PoE and the NHS;
- Ensure, through training, that those protocols, processes and procedures are known and applied consistently at central and PoE level.

Challenges exist even in countries that have greatly invested in improving capacities at PoE. CHA at PoE are highly qualified and specialized staff in need of constant training and difficult to replace. Investment in human resources both quantitatively and qualitatively is the main recommendation that emerged from discussions with health officials in the four countries and it impacts on potential enhancement of activities at PoE.

Table 2 – Recurring strengths, lessons learned and derived strategic lines in coordinating human health surveillance between the Points of Entry and the National health Systems in four countries of the Mediterranean Region

Recurring Strengths	Lesson Learned	Derived Strategic Line
1. *The IHR have been fully endorsed in national legislation in all countries studied and further defined for implementation in national and local norms and regulations.*	A strong legal framework sustaining the implementation of IHR, defining the role and function of the IHR NFP and the responsibilities of the Competent Health Authorities (CHA) at PoE is the basis upon which to build links between the PoE and NHS for the coordination of human health surveillance	Invest on a solid legal framework that is supportive to the implementation of coordinated surveillance between PoE and NHS in the framework of IHR. This framework should establish a strong link between the IHR NFP and the CHA at PoE.
2. *The legal framework (international/regional/national/local) has been consistently described as supportive to the implementation of coordinated surveillance.*		
3. *No legal constraints were highlighted.*		
4. *There are strong, at times historical, links between PoE and the MoH.*		
5. *In all countries the role of CHA at PoE are well defined with dedicated personnel (including permanent staff) in each visited PoE.*	The Competent Health Authority at PoE is a central professional figure that links with other actors at PoE and directly liaises with the IHR NFP/MoH.	Ensure the presence of dedicated personnel covering the function of CHA in PoE. This personnel should work with other actors in the PoE, in liaison with the IHR NFP.
6. *In all countries the role of CHA at PoE is recognized by PoE actors working in different sectors.*		
7. *In all countries CHA are generally employed directly by the MoH and benefit from its leadership and technical support (including training). This link strengthens the timeliness and completeness of reporting.*		
8. *In all the countries the IHR NFP is closely related both to the MoH authorities in charge of disease surveillance and to those in charge of health at PoE.*		
9. *IHR NFP are located in the MoH Central Level, independently of the decentralization of the health system. Countries with highly decentralised health systems have arranged double communication and coordination lines to ensure that timely information can flow both through the administrative hierarchy of the NHS and directly between the PoE and the IHR NFP. This ensures the involvement of all the levels of the health system.*		

10. *Clear standard and official protocols for communication of health data were available and well known by professionals both at MoH and PoE level. In most settings these were also translated in official and publicly available SOPs.*	Coordination and communication of health data between PoE and the NHS need clear national protocols that are applied consistently in the processes and procedures at PoE.	Elaborate and update national protocols and local processes and procedures on coordination of human health surveillance between PoE and the NHS. Ensure, through training, that those protocols, processes and procedures are known and applied consistently at central and PoE level.
11. *In all the visited PoEs, processes and procedures related to epidemiological surveillance for communicable diseases and other threats to human health were coherent with national protocols.*		

5. Conclusions

Since 2010, when the EpiSouth Plus Project started, there has been a slight increase in the proportion of attributes achieved at PoE in all WHO regions bordering the Mediterranean (EUR from 56% to 61%; EMR from 52% to 62% and AFR from 42% to 47%)[5]. Countries are trying to improve detection, surveillance and response capacities at PoE, a now recognized common weakness. The facilitating role of regional networks in enabling collaboration in the detection, assessment and response to events under the reporting scope of IHR is recognized under the Regulations (Art. 44.3) and its technical relevance in the field of surveillance has been reported in literature[xiv]. The collaboration established between WHO and EpiSouth Plus was more policy oriented and aimed at identifying and studying a priority area of intervention for the Mediterranean region in the framework of IHR.

WHO set this process in motion by providing subject-matter expert advice and enabling EpiSouth Plus to access regionally aggregated data collected through the WHO yearly monitoring of IHR implementation, therefore avoiding an *ad hoc* survey that would have duplicated this effort. This work was instrumental in putting the spotlight on the need to enhance the coordination of surveillance between PoE and NHS in the Mediterranean, and EpiSouth Plus was the voice 27 countries in the Mediterranean used to convey this message. From this initial input, WHO took the matter further. Having consulted all WHO regions, it concluded that coordination of surveillance with PoE was a global priority and initiated the development of a WHO global guidance on this topic.

Meanwhile EpiSouth Plus contributed to the development of knowledge in this area, substituting a second survey, initially planned, with the ENSA. This type of study was found to be instrumental to the integration of available knowledge on coordination of surveillance at PoE as opposed to a quantitative approach that would have duplicated work carried out by WHO and Member States. The ENSA was designed in close collaboration with WHO subject-matter experts and implemented thanks to the strong commitment of the four participating countries. Its findings are being used to enrich the contents of the WHO global guidance on coordination of surveillance between PoE and NHS.

This experience is a proof of concept that collaboration between WHO and regional networks in the framework of IHR is not only useful and possible, but can avoid duplication of data collection and streamline operational research to contribute to the development of needed international tools.

6. References

[1] World Health Organization *International Health Regulations 2005 (IHR).* Available at http://www.who.int/ihr/publications/9789241596664/en/index.html

[2] World Health Organization Sixty-Sixth World Health Assembly A66/16. *Provisional agenda item 15.1. Implementation of the International Health Regulations (2005). Report by the Director-General*. 2013 Apr 5. Available at http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_16-en.pdf

[3] EpiSouth Plus WP7 Steering Team. *The EpiSouth Plus Project. In depth analysis of coordination of surveillance and response between points of entry and national systems in the EpiSouth Region – review of relevant scientific literature and of existing monitoring. EpiSouth Plus Report 2/2011.* Available at http://www.episouthnetwork.org/sites/default/files/outputs/wp7-in_depth_analysis_of_coordination_of_surveillance_and_response_between_points_of_entry_and_national_system.pdf

[4] WHO/HSE/GCR/2013.2 *IHR Core Capacity Monitoring Framework: Checklist And Indicators for Monitoring Progress in the Development Of IHR Core Capacities In States Parties. Available at http://apps.who.int/iris/bitstream/10665/84933/1/WHO_HSE_GCR_2013.2_eng.pdf*

[5] WHO/HSE/GCR/2012.10 *Summary of 2011 States Parties report on IHR Core Capacity implementation.* Available at http://www.who.int/ihr/publications/WHO_HSE_GCR_2012.10_eng.pdf

[6] F. Riccardo, P. Nabeth, G. Priotto, M.G. Dente, A. Leventhal, L. Vellucci, T. F. Melillo, S. A. Saleh, A. Rguig on behalf of the EpiSouth WP7 Steering Team. The EpiSouth WP7 Mapping exercise in *The EpiSouth Plus Project. Situation analysis on coordination of surveillance between points of entry and the national health system- Methodology* Available at: http://www.episouthnetwork.org/sites/default/files/outputs/wp7_ensa_methodology.pdf

[7] Istituto Superiore di Sanità. *The EpiSouth Plus Project. Level of implementation of IHR 2005 in the EpiSouth Region – analysis of WHO data and identification of priority areas. EpiSouth Plus Report 1/2011.* Available at: http://www.episouthnetwork.org/content/facilitating-ihr-implementation

[8] World Health Organization *Guidelines on situation analysis for public health pesticide management communicable disease control, prevention and eradication* WHO/CDS/WHOPES/GCDPP/2005.12 Available at: http://whqlibdoc.who.int/hq/2005/WHO_CDS_WHOPES_GCDPP_2005.12.pdf?ua=1

[9] F. Riccardo, P. Nabeth, G. Priotto, M.G. Dente, A. Leventhal, L. Vellucci, T. F. Melillo, S. A. Saleh, A. Rguig on behalf of the EpiSouth WP7 Steering Team. *The EpiSouth Plus Project. Situation analysis on coordination of surveillance between points of entry and the national health system- Methodology* Available at: http://www.episouthnetwork.org/sites/default/files/outputs/wp7_ensa_methodology.pdf

[10] L. Vellucci, F. Riccardo, G. Priotto and M. G. Dente on behalf of the EpiSouth Network. *The EpiSouth Plus Project. Situation analysis on coordination of surveillance between points of entry and the national health system- Country Report, Italy* Available at: http://www.episouthnetwork.org/sites/default/files/outputs/wp7_ensa_italy_report.pdf

[11] T. Melillo, M. A. Williams, F. Riccardo, M. G. Dente and G. Priotto on behalf of the EpiSouth Network. *The EpiSouth Plus Project. Situation analysis on coordination of surveillance between points of entry and the national health system- Country Report, Malta* Available at: http://www.episouthnetwork.org/sites/default/files/outputs/wp7_ensa_malta_report.pdf

[12] A.S. Sultan, A. Rahhal, F. Riccardo, G. Priotto and M. G. Dente on behalf of the EpiSouth Network. *The EpiSouth Plus Project. Situation analysis on coordination of surveillance between points of entry and the national health system- Country Report, Jordan* Available at: http://www.episouthnetwork.org/sites/default/files/outputs/wp7_ensa_jordan_report.pdf

[13] A. Rguig, A. Barkia, G. Priotto, F. Riccardo and M. G. Dente on behalf of the EpiSouth Network. *The EpiSouth Plus Project. Situation analysis on coordination of surveillance between points of entry and the national health system- Country Report, Morocco* Available at: http://www.episouthnetwork.org/sites/default/files/outputs/wp7_ensa_morocco_report.pdf

[xiv] A.M. Kimball, M. Moore, H.M. French, Y. Arima, K. Ungchusak, S. Wibulpolprasert, T. Taylor, S. Touch, A. Leventhal Regional infectious disease surveillance networks and their potential to facilitate the implementation of the international health regulations. Med Clin North Am. 2008 Nov;92(6):1459-71.

Appendix

EpiSouth Network Focal Points

1. Radosveta Filipova
   Ministry of Health (Bulgaria)

2. Mira Kojouharova
3. Anna Kurchatova
4. Nadezhda Vladimirova
   National Centre of Infectious and Parasitic Diseases (Bulgaria)

5. Olga Kalakouta
6. Chryso Gregoriadou
7. Avgi Hadjilouka
8. Ioanna Gregoriou
   Ministry of Health (Cyprus)

9. Philippe Barboza
10. Fatima Belghiti
11. Nathalie El Omeiri
12. Coralie Giese
    Institut de Veille Sanitaire (France)

13. Katheelen Victoir
14. Sabah Boufkhed
    Institut Pasteur (France)

15. Pierre Nabeth
    WHO/HSE/GRC WHO Lyon Office (France)

16. Kassiani Gkolfinopoulou
17. Kassiani Mellou
18. Agoritza Baka
19. Rengina Vorou
    Hellenic Centre for Diseases Control and Prevention (Greece)

20. Silvia Declich
21. Maria Grazia Dente
22. Massimo Fabiani
23. Flavia Riccardo
24. Valeria Alfonsi
    National Institute of Health (Italy)

25. Maria Grazia Pompa
26. Loredana Vellucci
    Ministry of Health (Italy)

27. Roberto Gnesotto
28. Cinzia Montagna
29. Monia Pacenti
30. Giovanni Putoto
    Azienda Ospedaliera di Padova (Italy)

31. Antonino Di Caro
32. Giuseppe Ippolito
    National Institute for Infectious Diseases Lazzaro Spallanzani (Italy)

33. Chiara Della Casa
34. Luca Dematte'
    Cineca Consorzio Interuniversitario (Italy)

35. Giuseppe Salamina
    ASL TO1 (Italy)

36. Charmaine Gauci
37. Anna Maria Fenech Magrin
38. Jackie Maistre Melillo
39. Tanya Melillo Fenech
    Ministry of Health (Malta)

40. Dragan Lausevic
    Institute of Public Health (Montenegro)

41. Adriana Pistol
42. Aurora Stanescu
43. Florin Popovici
    Institute of Public Health (Romania)

44. Nadja Koren
45. Alenka Kraigher
46. Učakar Veronika
47. Nuska Caks
    Institute of Public Health (Slovenia)

48. Silvia Bino
49. Eduard Kakarriqi
    Institute of Public Health (Albania)

50. Rankica Bahtijarevic
51. Sabina Sahman-Salihbegovic
52. Kojić Dušan
    Ministry of Civil Affairs (Federation of Bosnia and Herzegovina)

53. Janja Bojanic
    Public Health Institute (Republika Srpska)

54. Jelena Ravlija
    Ministry of Health (Federation of Bosnia and Herzegovina)

55. Amel Boughoufalah
56. Djohar Hannoun
57. Karima Meziani
    Institut National de Santé Publique (Algeria)

58. Shermine AbouAlazem
59. Eman Ali
60. Eman ElDesouky
    Ministry of Health and Population (Egypt)

61. Borislav Aleraj
62. Ira Gjenero-Margan
63. Sanja Kurecic Filipovic
64. Iva Pem Novosel
    National Institute of Public Health (Croatia)

65. Zalman Kaufman
66. Emilia Anis
67. Michal Bromberg
68. Michal Perry
69. Alex Leventhal
    Ministry of Health (Israel)

70. Raja'a Saleh Haddadin
71. Saleh Hussein Seifedeen
72. Sultan Abdullah Saleh
73. Ahmad Moh'd Abu Slaih
74. Mohamed Husein Adel Belbeisi
    Ministry of Health (Jordan)

75. Ariana Kalaveshi
76. Naser Ramadani
    National Institute for Public Health (Kosovo)

77. Nada Ghosn
78. Assaad Khoury
    Ministry of Public Health (Lebanon)

79. Tarek Elagel
80. Ahmed Elgrari
81. Khaled Etaleb
    National Center for infectious disease prevention and control (Libya)

82. Mohammed Youbi
83. Ahmed Rguig
    Ministry of Health (Morocco)

84. Vratnica Zoran
85. Senad Begic
    Institute of Public Health (Montenegro)

86. Zarko Karadzovski
    Institute for Health Protection (Former Yugoslav Republic of Macedonia)

87. Zvonko Milenkovik
    Clinic for Infectious Diseases (Former Yugoslav Republic of Macedonia)

88. Shaban Memeti
89. Stavridis Kristina
    Institute for Public Health Public Health (Former Yugoslav Republic of Macedonia)

90. Bassam Madi
91. Basem Rimawi
92. Asa'd Ramlawi
93. Wesam Sbehat
    Central Laboratory- Ministry of Health (Palestine)

94. Goranka Loncarevic
95. Danijela Simic
    Institute of Public Health (Serbia)

96. Rosa Cano Portero
97. Concepcion Martin Pando
98. Fernando Simon Soria
Carlos III Health Institute (Spain)

99. Mahmoud Karim
100. Kinaz Chikh
101. Hussam Eddin Baradee
Ministry of Health (Syria)

102. Mondher Bejaoui
103. Mohamed Ben Ghorbal
104. Latifa Maazaoui
Ministère de la Santé Publique (Tunisia)

105. Vedat Buyurgan
106. Aysegul Gozalan
107. Handan Kalaycioglu
108. Gulay Korukluoglu
109. Dilek Menemenlioglu
110. Bahadir Sucakli Mustafa
111. Fatma Tumay Sehnaz
Ministry of Health, Refik Saydam National Hygiene Center (Turkey);

Project Advisory Board

112. Philippe Servais
113. Simonetta Riva
114. Julien Galabru
EuropeAid Development and Co-operation Directorate- General (DEVCO)

115. Germain Thinus
116. Paolo Guglielmetti
European Commission Directorate General for Health and Consumers (SANCO)

117. Cinthia Menel Lemos
Executive Agency for Health and Consumers(EAHC)

118. Francesco Cicogna
119. Pasqualino Rossi
Ministry of Health (Italy)

120. Massimo Ciotti
121. Alena Petrakova
122. Thomas Van Cangh
European Centre for Disease Prevention and Control (ECDC)

123. David Mercer
124. Roberta Andraghetti
125. Guenael Rodier
126. Nedret Emiroglu
WHO Regional Office for Europe

127. Jaouad Mahjour
128. John Jabbour
129. Dalia Samhouri
WHO Regional Office for Eastern Mediterranean

130. Maria Rosaria Capobianchi
National Institute for Infectious Diseases Lazzaro Spallanzani (Italy)

131. Riza Durmaz
Ministry of Health, Refik Saydam National Hygiene Center (Turkey)

132. Christos Hadjichristodoulou
University of Tessaly (Greece)

133. Dionisio Jose Herrera
TEPHINET - Training Programs in Epidemiology and Public Health Interventions Network (USA)

134. Hechmi Louzir
Institut Pasteur de Tunis (Tunisia)