

## **Counter biological and chemical terrorism**

### **WP6000: Emergency preparedness and response**

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## English summary

This report describes the results of Work Package (WP) 6000 “Exchange information concerning the organisation in Europe to treat the problem” of the European Defence Agency (EDA) project “Counter Biological and Chemical Terrorism” (EDA-0156-GEM3-ERG). Six nations contribute in this project: Belgium, France, Italy, Norway, Spain and Sweden. The project is funded by the respective Ministries of Defence, and the project is managed by the Norwegian Defence Research Establishment (FFI). This WP was led by Spain.

The aim of WP 6000 is to exchange information on national emergency preparedness and response to biological and chemical incidents in the six participating countries. This report describes the governing principles of crisis and consequence management in these countries, and the strategic, regional and operational emergency preparedness and response to biological and chemical incidents, both accidents and terrorist actions.

Although there are geographical and demographic differences between these countries, there is a remarkable similarity in emergency preparedness and consequence management and in operational response patterns. Operationally, small-scale events will be managed at a local level by first responders and support services. For larger incidents regional and national resources will be called upon. In case of terrorist attacks, irrespective of the scale of impact, national authorities will always be involved, at least for forensic work, information and communication. In all participating countries, civilian authorities will be in charge of crisis and consequence management. Military CBRN experts and units could be called upon by civilian authorities if needed.

There are also some interesting variations worthy of further consideration and discussion, although the differences observed do not seem to impair effectiveness of emergency response. In some countries, military structures like the Italian Carabinieri, Spanish Guardia Civil and the French Gendarmerie, have operational tasks. This is not the case in Sweden, Norway and Belgium. Some countries have one and the same emergency telephone number (112), irrespective of the nature of the event. Implementation of this unified number across Europe should be considered.

Incidents which have international impacts will constitute special challenges concerning communication, lack of compatibility of equipment, lack of interoperability, training, tracking of persons, forensic routines, etc. International training and joint exercises should be encouraged.

In conclusion, response to biological and chemical incidents could probably be faster, more effective and possibly more cost-efficient for participating members when exchange of information and cooperation for preparedness planning are improved, and resources are pooled.

## Sammendrag

Denne rapporten presenterer resultatene av arbeidspakken WP 6000 “Exchange information concerning the organisation in Europe to treat the problem” og er en del av prosjektet “Counter Biological and Chemical Terrorism” (EDA-0156-GEM3-ERG) under Det europeiske forsvarsbyrået (European Defence Agency, EDA). Seks nasjoner bidrar i prosjektet: Belgia, Frankrike, Italia, Norge, Spania og Sverige. Prosjektet har 3 års varighet og finansieres av de respektive forsvarsdepartementer. Prosjektet ledes av Forsvarets forskningsinstitutt (FFI). Denne arbeidspakken har blitt ledet av Spania.

Formålet med arbeidspakke 6000 er å utveksle informasjon om nasjonal beredskap og respons ved biologiske og kjemiske hendelser i de seks deltakerlandene. Rapporten beskriver de overordnede prinsipper for krise- og konsekvenshåndtering i disse landene, og strategisk, regional og operasjonell beredskap og konsekvenshåndtering ved biologiske og kjemiske hendelser, både ulykker og terrorhandlinger.

Selv om det er geografiske og demografiske forskjeller mellom disse landene er det en slående likhet i beredskap og konsekvenshåndtering og operasjonelt responsmønster. Små-skala hendelser vil på operasjonelt nivå bli håndtert lokalt av førstelinjepersonell og støtteressurser. Ved større hendelser vil regionale og nasjonale ressurser settes inn. Ved terrorhendelser, uavhengig av omfanget av konsekvensene, vil nasjonale myndigheter alltid bli involvert, i det minste i forbindelse med etterforskning, informasjon og kommunikasjon. I alle deltakerlandene vil sivile myndigheter lede krise- og konsekvenshåndteringen. Militære CBRN eksperter og enheter kan bli tilkalt av sivile myndigheter hvis det anses nødvendig.

Det er også noen interessante forskjeller for videre vurdering og diskusjon, selv om disse ulikhetene ikke ser ut til å svekke effektiv respons. I noen land, har militære enheter, slik som det italienske Carabinieri, spanske sivilgarden (Guardia Civil) og franske Gendarmerie operasjonelle oppgaver. Dette er ikke tilfelle i Sverige, Norge og Belgia. Noen land har kun ett nødnummer (112) uavhengig av type hendelse. Implementering av ett enhetlig nødnummer i Europa burde vurderes.

Hendelser som har internasjonale konsekvenser vil gi spesielle utfordringer med tanke på kommunikasjon, manglende kompatibilitet for utstyr, manglende interoperabilitet, trening, sporing av personer, etterforskningsrutiner osv. Det bør oppmuntres til internasjonale trening og felles øvelser.

Det kan konkluderes med at respons ved biologiske og kjemiske hendelser kan bli raskere, mer effektiv og muligens mer kostnadseffektiv for deltakerlandene dersom informasjonsutveksling og samarbeid om beredskapsplanlegging bedres, og ressurser utnyttes felles.

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# 1 Introduction

This work is a part of the European Defence Agency Project EDA-0156-GEM3-ERG “Counter Biological and Chemical Terrorism”. The overall objective of this project is to analyse the threats, possible consequences, emergency preparedness and response measures in the case of possible terrorist actions using biological or chemical agents. Six nations contribute in this project; Belgium, France, Italy, Norway, Sweden and Spain. The participating organisations are:

- Belgian Defence, Division Santé, sous-section Epidémiologie et Biostatistiques
- La Délégation Générale pour l'Armement (DGA) - Recherche Défense – Radiologique, Biologique et Chimique le Bouchet (CEB)
- Italian Ministry of Defence (SEGREDIFESA / 5<sup>TH</sup> Department R&T)
- Norwegian Defence Research Establishment (FFI)
- Spanish Ministry of Defence, DGAM-SGTECEN
- Swedish Defence Research Agency (FOI)

The project was initiated 11 January 2006, and the duration is three years with a completion date 11 January 2009.<sup>1</sup> The project is funded by the respective Ministries of Defence, and the project is managed by FFI. This WP was lead by Spain. The project is funded by the respective Ministries of Defence of the participating nations.

There is an increased concern about the threat for possible terrorist activities using biological and chemical agents. The civilian population as well as military personnel or installations can be targeted. Hence, this challenge is both of military and civilian concern. The threat of possible terrorist activities using biological and chemical agents is complex and needs to be addressed on a broad basis. The sharing of information, discussion and analysis of this threat in an international group will increase the knowledge and awareness of all Contributing Members.

The project work is organised in six Work Packages (WP) listed in Table 1.1. This report presents the results of Work Package 6000 “Exchange information concerning the organisation in Europe to treat the problem”. The purpose is to describe the emergency preparedness and response to biological (B) and chemical (C) incidents in the six participating countries. This WP has been led by Spain. The objectives of WP 6000 are to:

- Summarise the governing principles of national crisis and consequence management in the participating countries
- Describe the basic principles of emergency preparedness and response to B and C incidents on a strategic, regional and operational level for each country

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<sup>1</sup> The Western European Armaments Organisation (WEAO) endorsed the Technical Arrangement No 113.046 to ERG Arrangement No 1 under the Europa MOU on 11 January 2006. EDA accepted this project as an Ad Hoc Category B R&T project on 23 January 2007 (project number EDA-0156-GEM3-ERG).

*Table 1.1 The work packages of the project EDA-0156-GEM3-ERG “Counter Biological and Chemical Terrorism”.*

WP	Title
WP 1000	Assessment of the threat – Listing of possible B and C threat agents
WP 2000	Possible military and civilian scenarios
WP 3000	Exchange of information and comparison of different models used by nations to predict the effects of biological and chemical events
WP 4000	Monitoring microbiological baselines within the environment
WP 5000	Reflection concerning appropriate equipment
WP 6000	Exchange information concerning the organisation in Europe to treat the problem
WP 7000	Contact with other co-operate projects, such as TA 113.034 “NBC-modelling and simulation” and JP 13.14 “Identification of B agents”
WP 8000	Conclusions and recommendations for possible actions to counter B and C terrorism

This report focuses on responsibilities, tasks and general activities to deal with B and C events. The aim is not an accurate analysis of the existing capabilities in each country; nevertheless this report can serve as a starting point for this discussion. It should be noted that the opinions and comments expressed in this report represent the views and perception of the authors.

The report for WP 5000 “Reflection concerning appropriate equipment” gives information from all participating countries about available protective equipment against chemical (C) and biological (B) threat agents (in the period 2006-2008).<sup>2</sup> Other WP-reports that have been printed include WP 1000 “Assessment of the threat – Listing of possible B and C threat agents”<sup>3</sup>, WP 2000 “Possible Military and Civilian Scenarios”<sup>4</sup>, WP 3000 “Exchange of information and comparison of different models used by nations to predict the effects of biological and chemical events”<sup>5</sup> and WP 4000 “Monitoring microbiological baselines within the environment”<sup>6</sup>.

<sup>2</sup> G Petronio, C Dugauquier, J. Dhermain, M. Endregard, J Aa Tørnes, A Bjerke, I. Bueno, C Ybarra, L K Engman (2009), Counter Biological and Chemical Terrorism – WP5000 Reflection concerning equipment, FFI-rapport 2009/00493, Norwegian Defence Research Establishment (FFI). Exempt from Public Disclosure.

<sup>3</sup> M Endregard, J M Blatny, A Bjerke, L H Bjerkeseth, P Lausund, J S Olsen, J Aa Tørnes, C Dugauquier, J Dhermain, G Petronio, I Bueno, C Ybarra, L K Engman (2008), Counter Biological and Chemical Terrorism – WP1000: Potential biological and chemical threat agents, FFI-rapport 2008/00979, Norwegian Defence Research Establishment (FFI). Exempt from Public Disclosure.

<sup>4</sup> L K Engman, L Norlander (2008), Counter Biological and Chemical Terrorism – WP2000: Possible Military and Civilian Scenarios, FOI-RH—0794—SE, Swedish Defence Agency (FOI), Confidential.

<sup>5</sup> C Dugauquier, A Bjerke, M Endregard, T Gjesdal, J Aa Tørnes, T Vik, J Dhermain, G Petronio, I Bueno, C Ybarra, L K Engman (2009): Counter Biological and Chemical Terrorism, WP3000: Exchange of information and comparison of different models used by the nations to predict the effects of biological and chemical events, Belgian Defence, ACOS WB Division Santé, sous-section Epidémiologie et Biostatistiques. Exempt from Public Disclosure.

<sup>6</sup> J Dhermain, C Dugauquier, I Bueno, C Ybarra, J M Blatny, M Endregard, G Petronio, L K Engman (2009): Counter Biological and Chemical Terrorism, WP4000: Monitoring microbiological baselines within the environment, French Ministry of Defence - Délégation Générale pour l'Armement (DGA) - Recherche Défense – Radiologique, Biologique et Chimique le Bouchet (CEB).



## 2 Emergency preparedness and response

The aim of the report is to understand the process each country implements to respond to a biological or chemical emergency situation. Information from each country was collected based on a questionnaire given in Appendix A. This chapter is the sum of the contributions of the project members.

### 2.1 BELGIUM

#### 2.1.1 General background and governing principles

Belgium is a federal state and a parliamentary monarchy. There are three communities based on the three official languages: French, Dutch and German. The total area is 30.500 km<sup>2</sup> for a population of 10.3 million inhabitants. The country is divided in ten provinces. The response to a major incident or terrorist attack is based on the size of the event (see point 2 below for details). According to this, a crisis shall be managed at the appropriate operative level: municipal, provincial or national. The actual perception of the threat is relatively low: in the 80's there were some active national terror groups (like the CCC or "cellules communistes combattantes"), but now the threat comes from international terrorist group (like al-Qaeda) who might choose to attack targets like the NATO headquarter or the European institutions located in Brussels.

#### 2.1.2 Emergency preparedness and response on a strategic level

In Belgium, the Government makes political decisions concerning the overall aims and the framework for emergency preparedness, crisis management and the rescue service. The prime Minister, the Ministry of Interior (Police, Civilian Protection) and the Ministry of Health would be the most implicated in such an event.

The Governmental Coordination and Crisis Centre have been established to assist the federal government in the planning and interdepartmental management of crises and major events. Crisis is defined as an event that by its nature or its consequences:

- ✓ Constitutes a threat to vital national interests or to the essential needs of the population
- ✓ Prompts rapid decision making
- ✓ Demands coordination between different departments and organisms

The tasks of the centre are:

- ✓ Organisation and coordination of emergency planning and cooperation with the authorities involved
- ✓ Drawing up of cooperation procedures with other departments and/or provincial, national and international institutions
- ✓ Cooperation between the 5 disciplines (help and emergency services)
- ✓ Development of crisis management know-how
- ✓ Ensure the following areas:
  - Well-founded decision taking based on the assessment of the situation

- Coordination of the means to use
- Information to the public
- Contacts with foreign countries as well as with European and international organisations

A national emergency plan is prepared that includes all necessary federal departments and actors involved in the crisis:

- ✓ Risk analysis
- ✓ Global organisation of the departments and emergency help
- ✓ Preparation of interdepartmental crisis management

In Belgium crisis are managed at different levels depending on the size of the event (illustrated in Figure 2.1). The three levels are:

- ✓ By the municipal authorities for local events
- ✓ By provincial (departmental) authorities for larger scale events (Seveso incident)
- ✓ By federal authorities for major crisis

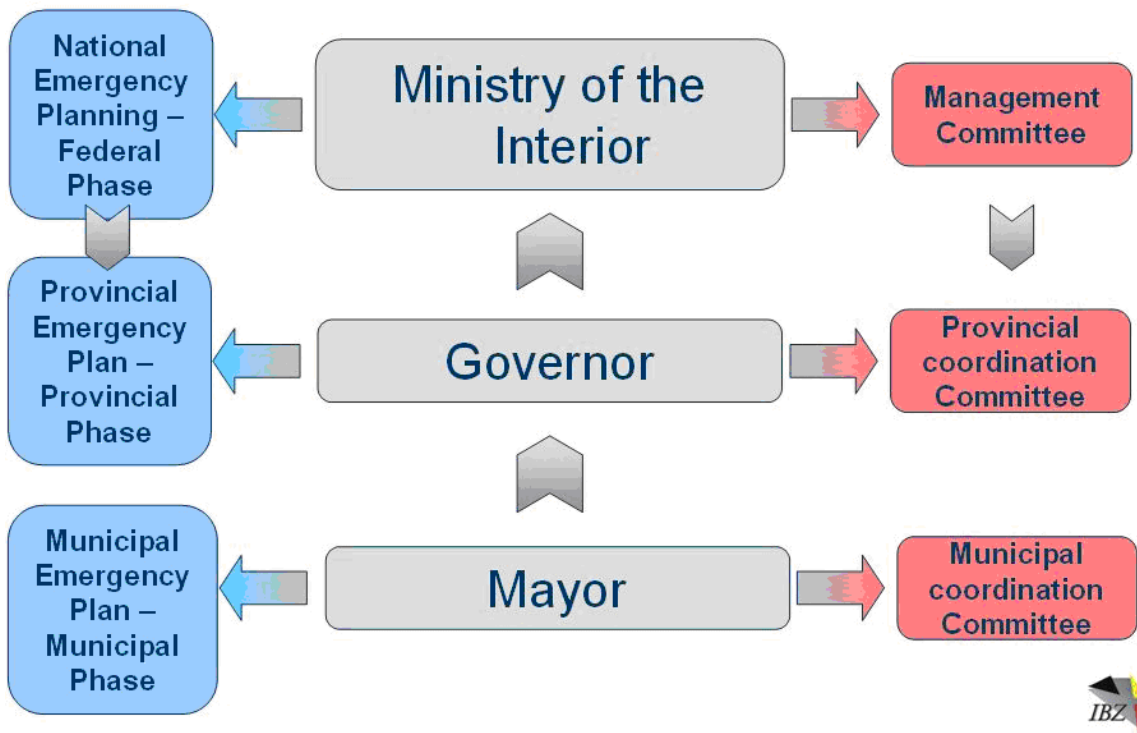


Figure 2.1 Emergency preparedness and response on a strategic level in Belgium

### 2.1.3 Biological incidents

#### 2.1.3.1 Regional and operational level emergency preparedness and response

Biological incidents differ from chemical in that the incident may evolve slowly, and in most cases there is no accident scene. Types of incidents may include:

- ✓ Natural outbreak of disease (epidemic disease or non-transmissible diseases)
- ✓ Covert biological attack, sick people seek medical care from the health services
- ✓ Biological accident from for example a high-security laboratory
- ✓ Alleged release of a biological agent, but no sick people registered yet

Principles of the organisation and emergency measures taken in the above cases are as follows:

- **Diagnostics:**

First diagnosis will always be made by hospitals and/or private labs. In case of an “unusual” disease for Belgium (rabies, hemorrhagic fever, anthrax, tularaemia...) or in case of a disease with epidemic potential, samples will be sent to reference labs as:

- VAR: veterinary and agrochemical research centre in Brussels<sup>7</sup>
- ITG: Institute for tropical medicine in Antwerpen<sup>8</sup>
- Pasteur Institute of Brussels<sup>9</sup>

All those institutes depend of the Ministry of Health. For Hantaviruses, Ehrlichia sp., Babesia sp., anaplasmosis and tick-borne encephalitis (TBEV) the reference lab is the RLVBD, Research Laboratory for Vector-borne Diseases. This lab depends of the Ministry of Defence, but is recognised as reference lab by the Ministry of Health. The scientific institute of public health has established an Epidemiology Unit<sup>10</sup>, available 24h/7d with the following objectives:

- Detect and verify health events with a potential risk to public health
- Assess the public health risk and give recommendations on crisis management
- Offer a rapid and standardised epidemiological response to crisis situations in Belgium
- Develop prevention capacities and public health actions in response to these crisis situations
- Reporting system at national level:
  - For some diseases (rabies, legionella, diphtheria, listeria...) it is mandatory for the doctor to send a report to the Institute for Public Health (IPH)
  - For the other diseases it is only on a voluntary basis that reports are sent to the authorities
  - Post-event, these data are included in a database called Morbidat, accessible to the public, but only in the French or Dutch languages<sup>11</sup>
- Reporting system at international level:
  - For all unusual or significant events a report will be sent to the WHO

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<sup>7</sup> <http://www.var.fgov.be/>

<sup>8</sup> <http://www.itg.be/ITG>

<sup>9</sup> <http://www.pasteur.be>

<sup>10</sup> <http://www.iph.fgov.be/epidemie/epien/index24.htm>

<sup>11</sup> <http://www.iph.fgov.be/epidemie/morbidat/EN/about.htm>

- Ministry of Health (if necessary via the Ministry of Foreign Affairs) may send an alert to other countries potentially concerned by the event. For example if the patient was a foreigner or a Belgian coming back from another country
- Reports will also mostly be sent to various Networks like Euro CDC<sup>12</sup>, Eurosurveillance<sup>13</sup> and Promedmail<sup>14</sup>. This could be on a personal basis (by the physician) or via the official chain

In case of a suspected or confirmed attack the BICHAT Network (Biological and Chemicals Attacks and Threats) will also be contacted by the Government. The Governmental Coordination and Crisis Centre is the international focal point within the alert networks.

- **If the incident is caused by a deliberate release of B-agent, how will the incident be unravelled?**

This will greatly depend on the type of B-agent used, the clinical presentation and the available intelligence (level of alert, covert attack or not). For example in the case of an outbreak of tularaemia or anthrax in Brussels, the possibility of a non natural disease will rapidly be taken in account. But in other cases, an attack could be mistaken for a natural outbreak (for example food poisoning scenarios).

- **Who will be responsible?**

The Ministry of Health will be responsible. In the case of a suspected (or confirmed) deliberate release, the Ministry of Justice will be responsible for the enquiry and the forensic aspects (but will probably ask for expert advice from the Ministries of Health and Defence). In case of a large scale event (with large amount of victims or with major impact) the inter-ministerial crisis centre will be activated and will coordinate the response. This centre has a website, but only in French and Dutch<sup>15</sup>. In this case the organisation will be as shown in Figure 2.2.

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<sup>12</sup> <http://www.ecdc.eu.int/>

<sup>13</sup> <http://www.eurosurveillance.org>

<sup>14</sup> <http://www.promedmail.org/>

<sup>15</sup> <http://crisis.ibz.be/>

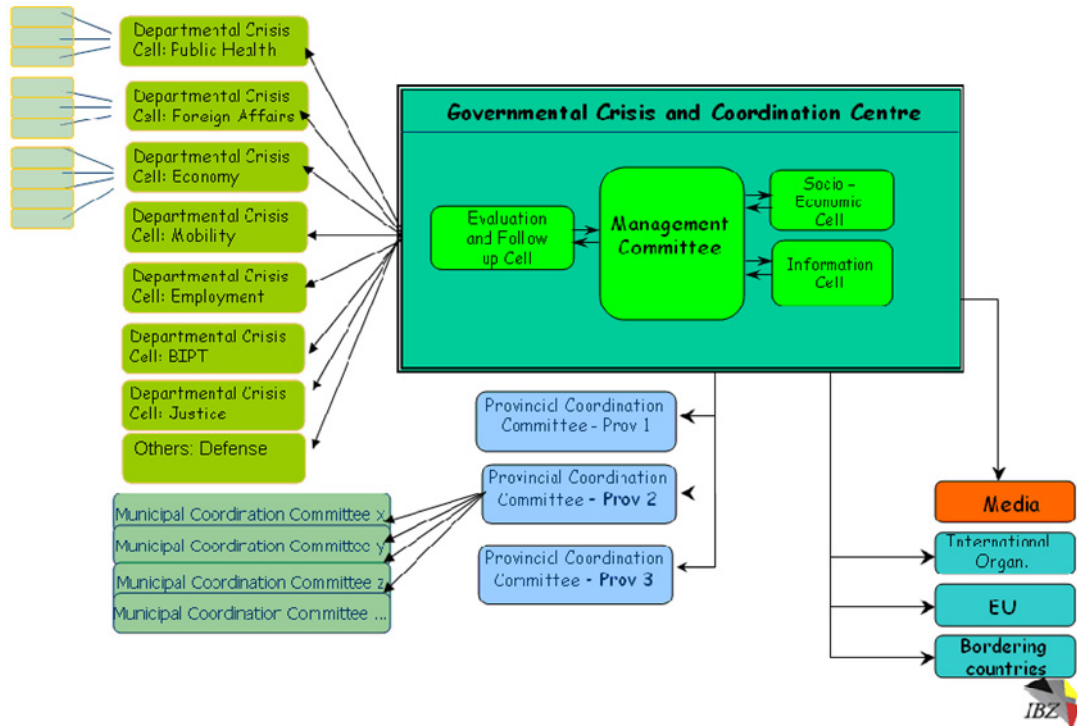


Figure 2.2 Illustration of the organisation structure to handle biological incidents in Belgium.

- **Who secures the area, takes samples, analyses samples, etc?**
  - Unlike for chemical attacks, due to the incubation period for biological threat agents, there will probably be no “area” to secure, but people will become sick in various places and look for help at the nearest hospital or call their doctor.
  - Sampling will be made by people from the civilian protection, but there are discussions in Belgium at the moment to decide who should be in charge for handling and analysing biological agents: civilian protection or specialized laboratory of the Army (DLD in Peutie near Brussels or experts from the CBRN Company).
  - Analyses of the samples will be made in reference labs (depending on the suspected agent):
    - Veterinary and Agrochemical Research Centre (VAR) in Brussels provides an official confirmation, notably of diseases that are subject to regulation, after having singled out, identified and characterized the agents responsible, especially in the context of diseases included in the lists A, B and C by the World Organisation for Animal Health (IOE);
    - Institute of Tropical Medicine in Antwerp
    - Research Laboratory for Vector-borne Diseases (RLVBD), in the military hospital Queen Astrid in Brussels.
    - Pasteur Institute (depending of the Institute for Public Health, IPH) also in Brussels.

If necessary, especially for bio-safety level 4 (BSL4) agents, international help could be asked: neighbouring countries, European Union (EU), World Health Organization (WHO) and North Atlantic Treaty Organization (NATO).

## 2.1.4 Chemical incidents

### 2.1.4.1 Regional level emergency preparedness and response

Like for other crises, the level of management depends on the size of the event: municipal, provincial or federal. At each level a crisis plan has to be made and regularly updated. Exercises take place with the responders: police, fire brigade, Health Emergency Service (Service d'Aide Médicale Urgente, SAMU)<sup>16</sup>, civilian protection. Where available, the local military units are involved in these plans.

Population located near risk sites (storage or factory) receive information by post and by mail. Public information is also available via a website (in the three official languages French, Dutch and German, but not in English): <http://www.seveso.be>.

Belgium applies the EU's Seveso directive which regulates interventions in cases of disasters concerning chemicals.

### 2.1.4.2 Operational emergency preparedness and response

Chemical incidents comprise large scale chemical accidents, terrorist attacks using traditional chemical warfare agents, attacks using toxic industrial chemicals (TIC) or attacks on industrial complexes resulting in the release of TIC, etc.

Principal responsibilities of

- **First responders**
  - **Police**

Securing the area, avoiding people to enter the zone, facilitating circulation of fire brigade and ambulances, if necessary organise evacuation of the people.
  - **Fire brigade**

Responsible for the mitigation of the event: fire control, neutralization of chemical (if necessary they call upon the Civil Defence), avoiding dissemination of the toxic chemical. They are also in charge of rescuing and evacuating injured people.
  
- **Hospitals**
  - They receive and treat the patients
  - If they are overrun by the number of patients they have to redirect the ambulances to other pre-recognized medical facilities
  - They are responsible for the follow up of the patient and their tracing
  - They are responsible for psychological help to the patient and their families

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<sup>16</sup> SAMU: Service d'Aide Médicale Urgente (Health Emergency Service)

- **Civil Defence**

They are called upon when specialized material is needed (decontamination for example) or when the fire brigade has not enough resources to deal with the event. Their main role are containing and controlling incidents so as to minimize the effects, and to limit damage to man, the environment and property.

- **Military units could be called for the following tasks:**

- Logistical support (transport of patients and / or supplies)
- Medical evacuation (Medevac) resources (Helicopters)
- Medical reinforcement if the civilian sector is overwhelmed
- Establishing field hospital in case of mass casualties

*(In case of a B or C attack, they could be asked to perform the sampling, but at the moment there is a discussion in order to decide who should be in charge in this case: Defence or Civilian Protection).*

- **Response squads in the private industry**

Industries have to comply with national and EU regulations, and some major factories (like Solvay, Kemira, Duferco ...) have developed their own plans and first response squad. For example Solvay has its own private fire brigade. In some circumstance those private squads could be called upon by the regular fire brigade to help them. (It has happened in the Franières incident in 2001: the Fire brigade of Solvay was called upon by the local fire brigade to help them in a big industrial fire).

- **Non-governmental Organisations (NGOs), for instance Red Cross, etc.**

The Red Cross could be involved: blood product supplies, installation of advanced first aid post, logistic support (ambulance), distribution of food, water and other assistance to the victims.

- **Various ministries and affiliated entities (Directorates, Agencies, etc)**

Their action will be coordinated by the Crisis Centre (see chapter 2.1.2 for details). Each ministry will be responsible for his own people (Ministry of Interior for police and Civilian Defence, Ministry of Health for hospital and first help). The main principle is that the service or entities that are responsible under normal conditions also retains responsibility for that service in crisis condition.

- **Others**

Role of the media: information to the public, avoiding panic by broadcasting unchecked rumours.

## 2.2 FRANCE

### 2.2.1 General background and governing principles

France, or the French Republic for the official uses, is a country of the world, whose metropolis is located in Western Europe, and which includes territories located at various places of the world. The country, including the territories located overseas, has a surface of 675.417 km<sup>2</sup>. The French Republic counted 64.473.140 inhabitants on January 1st, 2008, including 61.875.822 in continental France. Militarily, France is member of the North Atlantic Treaty Organization (NATO). It withdrew in 1966 of the integrated military organization, to return partially in 2002. France belongs to the nations having nuclear weapons. France is a constitutional republic, "indivisible, laic, democratic and social" (1st article of the Constitution of 1958) with parliamentary mode. Principal French administrative divisions are the "regions"<sup>17</sup> which are 26 including 22 metropolitan and the "departments" (100 including four overseas).

Finally the three largest cities (Paris, Lyon, and Marseille) are divided in "communes" divided into "arrondissement". The department of Paris includes only one commune. The four overseas "régions" (Guadeloupe, Martinique, Guyana, and Reunion) count each one department. The "region" of Corsica (which includes two departments) has a special statute of local authority slightly different from the other regions on the European continent.

### 2.2.2 Crisis management

Many ministries are concerned with countering and protecting against Chemical, Biological, Radiological and Nuclear (CBRN) terrorism as illustrated in Figure 2.3. Their mission is defined according to their field of competence. Their action is coordinated by the General Secretariat of National Defence (Secrétariat Général de la Défense Nationale, SGDN)<sup>18</sup>. In accordance with a lawful base: "Pursuant to the L.1114-1 article of the code of Defence, each Minister is responsible for the preparation and the implementation of the measures of Defence falling on the ministry of which he has responsibility". The CBRN terrorism forms an integral part of the concerns of Defence. He relates to all of the government ministries which, in their field of attributions, have to contribute to fight against terrorism and in particular to take protective measures and of intervention against the potential threats. It must thus be integrated in the objectives of each one of them.

The plans to address biological or chemical terrorism are included in a general operation of prevention and fight against terrorism. This operation includes:

- ✓ The VIGIPIRATE plan with four levels of alert :
  - Increase vigilance: yellow
  - Prevent terrorist actions: orange
  - Prevent serious incidents: red
  - Prevent major incidents: dark red

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<sup>17</sup> The Author uses the French name to avoid any confusion with the translation

<sup>18</sup> SGDN: Secrétariat Général de la Défense Nationale (General Secretariat of National Defence)



- ✓ The specialized plans (PPI, red plan, white plan)
- ✓ The specialized circulars 700 (chemical) and 800 (radiological)
- ✓ The operation “envelopes, parcels and substances suspected to contain CBR agents”
- ✓ PIRATOX plan addressing the chemical terrorism
- ✓ BIOTOX plan addressing the biological terrorism
- ✓ PIRATOM plan addressing the radiological terrorism

The aim of these plans which are classified “Defence Confidential” is to ensure a fast governmental reaction in case of serious events. The plans have been constructed to handle scenarios like:

- ✓ Atmospheric contamination in free air or confined areas (metro, commercial centres)
- ✓ Attack of a site containing nuclear, radioactive, biological or chemical materials
- ✓ Contamination of the drinking water network
- ✓ Contamination of the food chain

These plans guarantee that all the actors of the crisis act using the same rules which must be known by everybody (principles of alerting authorities, transmission of information). They serve also to anticipate and to check that all the necessary actors are present. They facilitate cooperation and allow a reaction at the national level to avoid the risk extension (BIOTOX) or the replication of attacks. They facilitate and speed up the implementation of national reinforcements. They specify the priority measures to apply from the beginning of the initial phase of the crisis, they remind the key governmental actions matching the main planned situations, and they describe, in the form of cards with practical hints, the main reinforcement operations.

An inter-ministerial specific structure, according to the Constitution of 1958, the Defence is national. The Prime Minister relies on a specific structure, the General Secretariat of The National Defence (SGDN) whose role is to give the main directions in the field of CBRN terrorist fight to the ministries and to build a scheme of the joint action of the various concerned actors.

At the inter-ministerial level, the SGDN has the role of:

- ✓ Assist the Prime Minister for all that affects the defence and the safety of the nation
- ✓ Evaluate the risks and the threats
- ✓ Coordinate the planning of defence and security
- ✓ Monitor the geopolitical and geo-strategic evolutions
- ✓ Prepare the inter-ministerial defence regulation

The SGDN coordinates inter-ministerial efforts, in collaboration with the Interior Ministry, via the Senior Defence and Security Official (Haut Fonctionnaire de Défense et de Sécurité, HFDS)<sup>19</sup> present within each ministry except within the Interior where there is the Senior Defence Official (Haut Fonctionnaire de Défense, HFD)<sup>20</sup> to advise the Minister regarding civil defence.

<sup>19</sup> HFDS: Haut Fonctionnaire de Défense et de Sécurité (Senior Defence and Security Official)

<sup>20</sup> HFD: Haut Fonctionnaire de Défense (Senior Defence Official)

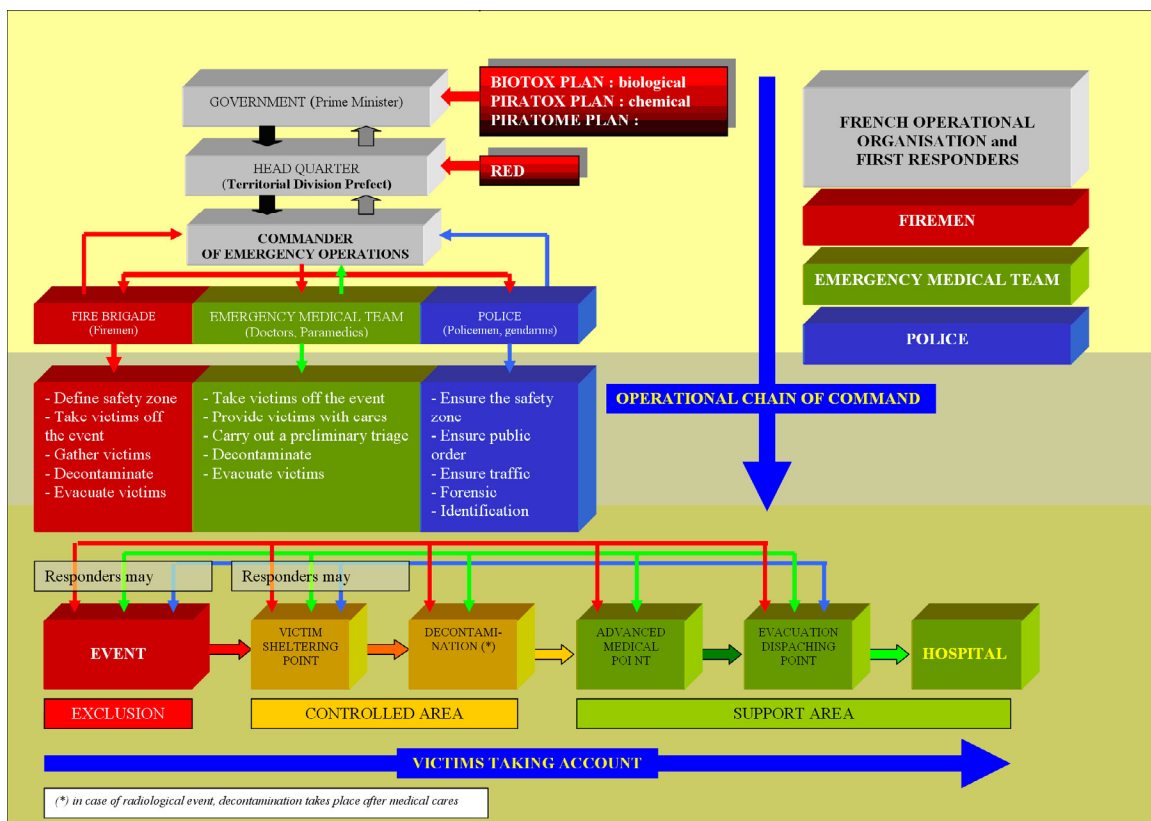


Figure 2.3 Schematic illustration of the crisis management plan

### 2.2.2.1 Missions of each ministry

In the field of the fight against terrorism, the missions of each ministry are defined according to its field of competence. The Interior Ministry is responsible for the coordination of the Civil Defence, which covers all that concern the protection of the population. The Minister of Interior has an Operational Centre for Inter-ministerial Crisis Management (Centre Opérationnel de Gestion Interministérielle de Crise, COGIC)<sup>21</sup>. Twenty four hours on watch, this centre is activated in its inter-ministerial component in the event of significant event. Each ministry is in permanent relationship with the SGDN and the COGIC via its HFD.

### 2.2.2.2 Responsibility

The PIRATOX, BIOTOX and PIRATOME plans must be implemented:

- **At the ministerial level**

Each concerned ministry develops a ministerial plan to organize the action of these main services, to define the common rules, to specify the missions of the establishment placed under its supervision and to list specialized available means at its disposal. Each ministry is also in charge of the consistency of the national and territorial plans concerning the missions of the decentralized services.

<sup>21</sup> COGIC: Centre Opérationnel de Gestion Interministérielle de Crise (Operational Centre for Inter-ministerial Crisis Management)

- **At the zone level**

Each prefect must establish a zone plan which includes:

- The alert procedures and of the procedures of information exchange
- The directory of the specialized means of the zone
- The operation of implementation of the CBRN circulars

- **At the department (French territorial division) level:**

The activation of the plans is not automatic. It will be done if the prefect decides that the specificity of the department justifies their development.

### 2.2.2.3 Launching of the PIRATOX or BIOTOX plans

In case of suspected serious CBRN incidents, the prefect alerts immediately:

- ✓ The COGIC situated at the Civil Security and Defence Directorate (Direction de la Défense et de la Sécurité Civile, DDSC)<sup>22</sup>
- ✓ The concerned ministerial cabinets
- ✓ The Prime Minister's cabinet
- ✓ The SGDN

The Prime Minister launches the plan at the national level, and the prefect launches the plan at the level of zone or department, except in the case of the BIOTOX plan which is launched at the national level first. On the proposal of a Minister or of the SGDN, the Prime Minister's cabinet may ask him to send an advance alert message in order to take the first protective measures when the uncertainty is still present concerning the initial situation. At the initial step of a CBRN incident, the nature of the attack (C, B or R) is not always obvious. Identification of the involved (C, B or R) material must always be carried out.

### 2.2.3 Biological incidents

#### 2.2.3.1 Organisation for emergency situations

- **Alert**

In France the citizen has at its disposal four telephone numbers to call in case of emergency situations:

- General emergency number: 112
- SAMU: 15
- Police: 17
- Fire brigade: 18

All these numbers are linked to each other

Regarding biological or radiological incidents, the effects may only appear in the following days, and the attack goes unnoticed if there is no claim. To minimize the

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<sup>22</sup> DDSC: Direction de la Défense et de la Sécurité Civile (Civil Security and Defence Directorate)

impact of the occurrence of unnoticed disease, a medical surveillance of the territory is organized through two main institutions:

- The National Sanitary Surveillance Institute (Institut national de Veille Sanitaire, InVS)<sup>23</sup>
- Its regional correspondents: the Inter-Regional Epidemiology Centre (Centre Interrégional d'épidémiologie, CIRE)<sup>24</sup> within the Departmental Directorate of Sanitary and Social Affairs (Direction Départementale des Affaires Sanitaires et Sociales, DDASS)<sup>25</sup>

- **The National Sanitary Surveillance Institute (InVS)<sup>23</sup>**

The National Sanitary Surveillance Institute, created in July 1998, has the task of permanently supervising the health condition of the population and its evolution. It is entrusted with the detection of any threat against the public health and to alert public authorities in gathering and analyzing knowledge on health hazards.

Public corporation of the State, placed under the supervision of the Health Ministry, the InVS is responsible for the alarm, vigilance and surveillance in all the fields of public health.

- **Inter-Regional Epidemiology Centre (CIRE)<sup>24</sup>**

The InVS has regional antennas, the Inter-Regional Epidemiology Centre (CIRE) to implement its know-how and actions locally. The CIREs are organised under the Regional Directorate of Sanitary and Social Affairs (Direction Régionale des Affaires Sanitaires et Sociales, DRASS)<sup>26</sup>, close to the health authority. The CIREs provide to the decentralized services of the State a methodological support and an independent expertise of the signals of medical alarm. They conduct health surveillance in the region, on behalf of the InVS.

- **The WHITE PLAN**

The following developments relate to the various territorial levels of the services of the Health Ministry, at the national level, including the Directorates and Departments of the central administration as well as the agencies of public health.

- **Operational levels**

The operational level, departmental, is formed by the whole of the medical structures and, in the foreground, the health care institutions and the SAMU. The health care institutions, at the time of an extraordinary event inducing the fear of a rush of victims or putting in danger the operation of the establishment, activate

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<sup>23</sup> InVS: Institut national de Veille Sanitaire (National Sanitary Surveillance Institute)

<sup>24</sup> CIRE: Centre Interrégional d'épidémiologie (Inter-Regional Epidemiology Centre)

<sup>25</sup> DDASS: Direction Départementale des Affaires Sanitaires et Sociales (Department Directorate of Sanitary and Social Affairs)

<sup>26</sup> DRASS: Direction Régionale des Affaires Sanitaires et Sociales (Regional Directorate of Sanitary and Social Affairs)

their **WHITE PLAN** to get ready to face the needs. All the health care institutions, public, or private, must have a **WHITE PLAN**.

The regional and university hospitals (and especially reference health care institutions of each zone of defence) have simultaneously:

- A directly operational role on the field
- A mission to support other establishments

○ **Reference Health Establishments**

It is important to differentiate the meaning of the term “Reference Health Establishments“ which are establishments designated to face a risk, CBRN in particular, not to be confused by the hospital of reference which indicates, in the traditional terminology, the most important hospital of the department. There exists one Reference Health Establishment in each zone of Defence, except for the Western zones where there are two. There are nine Reference Health Establishments on the territory of the Metropolitan France.

In each Reference Health Establishment, an administrative director assisted by expert physicians is in charge of the coordination, the setting up and the evaluation of the directives of the central administration. Reference departments are designed and equipped to provide advice, diagnose, take charge of therapeutic, and, in certain cases, carry out the training of involved personnel, especially for the taking charge in case of CBRN risks. They identify reference departments in the other health care institutions: SAMU, urgencies, infectious illness services, paediatric services, nuclear medicine, laboratories, pharmacies and occupational medicine.

○ **Army Health Service**

In addition to its daily participation in the hospital public service via its Hospitals of Instruction of Armies (HIA), the Health Army Service can be requested to contribute expertise and treatment with respect to CBRN hazards. Within this framework, the entrance point is:

- The General Officer of Defence Zone (Officier Général de Zone de Défense, OGZD)<sup>27</sup>, qualified at the divisional level and its Defence Zone Head Quarter (Etat-major Inter Armées de la Zone de Défense, EMIAZD)<sup>28</sup> at the zone level, via the prefect
- The Military Chief of Staff (Chef d’Etat-major des Armées, CEMA)<sup>29</sup> and his Operation Planning and Control Centre (Centre de Planning et de Contrôle des Opérations, CPCO)<sup>30</sup> at the national level

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<sup>27</sup> OGZD: Officier Général de Zone de Défense (General Officer of Defence Zone)

<sup>28</sup> EMIAZD: Etat-major Inter Armées de la Zone de Défense (Defence Zone Head Quarter)

<sup>29</sup> CEMA: Chef d’Etat-major des Armées (Military Chief of Staff)

<sup>30</sup> CPCO: Centre de Planning et de Contrôle des Opérations (Operation Planning and Control Centre)

- **Levels of coordination**

- **The departmental level**

This level recovers the field of anticipation (development of the various plans) and of the management of the crisis (launching of plans, installation of the crisis cells, mobilization of the means, communication).

- **The prefect of department**

He prepares the emergency plans in contact with the authorities, the services and the organizations which are qualified to take safeguard measures or whose means are known to be implemented to face particular risks (for example: specific plans of intervention relating to the technological risks). It prepares the RED PLANS (pre-hospital plans intended to take care of many victims) in connection with the local authorities and the services and organizations which take part in the urgent medical assistance and medical transport.

The regional and departmental directors are assisted by a delegate of defence in charge, under their authority, of follow up and coordination of medical and social defence. A cell of defence has to be made up within each regional and departmental directorate of the sanitary and social affairs. The DDASS, on the basis of the departmental framework of the WHITE PLANS, has the role to assist the prefect of department who is responsible in the event of a crisis. The director of the DDASS is assisted by the departmental SAMU which fills the role of technical adviser.

- **The zone level**

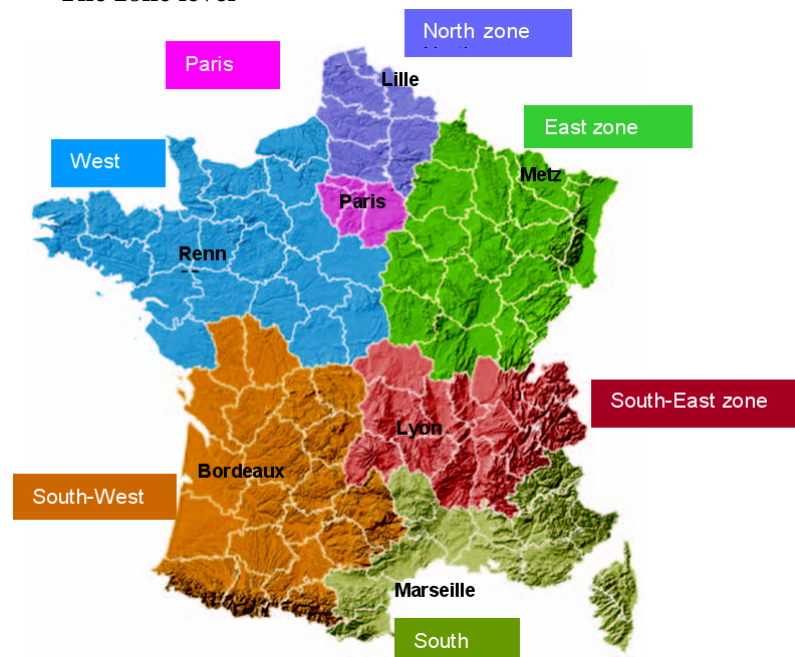


Figure 2.4 The seven Zones of Defence in France

- **The Zones of Defence**

The Zones of Defence is a territorial district above the department intended to facilitate the management, by the decentralized authorities of the State, of a calamitous event or a crisis situation whose importance implies the implementation of means exceeding the departmental level. It is the privileged framework to ensure the coordination of the civil and military efforts. The metropolitan France is divided into seven Zones of Defence as illustrated in Figure 2.4, and in addition three zones are added “overseas”. The prefect of Zones of Defence is the prefect of the department where the administrative centre is.

- **The SAMU of ZONE.**

In connection with the prefect of zone, the SAMU of the reference health establishment has a role of coordination of the SAMUs of the whole zone, in the event of a CBRN incident.

### 2.2.3.2 Response to biological incidents

- **Operational emergency preparedness and response**

Biological incidents differ from chemical in that the incident may evolve slowly, and in most cases there is no accident scene. Types of incidents may include:

- Natural outbreak of disease (epidemic disease, or non-transmissible between humans)
- Covert biological attack, sick people seek medical care from the health services
- Biological accident from for example a high-security laboratory
- Alleged release of a biological agent, but no sick people registered yet

In the list of incidents mentioned above, it occurs that two different types of cases are to be taken into consideration:

- The cases where there is no sign of alert
- The cases where the authorities are aware that something has happened or is suspected to happen

- **Case where there is no sign of alert**

As mentioned above, physicians must report to the DDASS “any acute and serious syndrome infectious or toxic [...]” related to “unusual or not very common identified infectious or toxic agents [...] in particular those which would occur under unusual conditions of exposure.” The obligatory declaration is based on the data transmission between three actors:

- The general practitioners, hospital doctors and biologists

- The Public Health Inspector Doctor (Médecin Inspecteur de la santé publique, MIS<sup>31</sup>) and their collaborators of Department Directorate of Sanitary and Social Affairs (DDASS)
- The epidemiologists of the National Sanitary Surveillance Institute (InVS)

The objective is to detect and declare 30 diseases to act and prevent the risks of epidemic, but also to analyze the evolution in time of these diseases and to adapt health policies to the needs of the population.

The recording at the departmental level or at the national level of the occurrence of several cases of an unusual disease or pathology can be the sign of a biological attack. Therefore InVS will alert the Ministry of Health which requests the Prime Minister to launch the BIOTOX plan. Within the frame of the BIOTOX plan, some diseases are specially kept under surveillance. Four guides are written as appendices of the BIOTOX plan:

1. Guide for bioterrorism and environmental measures in the health sector
2. Smallpox guide. In the event of a bioterrorist attack, the use of the smallpox virus may lead the authorities to implement a plan of emergency vaccination. The virus and vaccine characteristics need to have already vaccinated professional team. The goal is to be able to vaccinate the entire population within 14 days and to do that, a graded national strategy has been defined according to the various levels of threat and of the three levels of action (national, zonal, departmental).
3. Plague - anthrax - tularaemia guide. This guide comprises a set of cards with the purpose to support the response and utilization of adapted management in a crisis situation.
4. Toxin guide (under development)

- **A new efficient alert system is to be implemented**

Recently decided in Council of Ministers, a new nationwide biological alert system is going to be implemented. It must respond to all emergency situations (a department is already created within the General Directorate of Health (DGS) which will work 24 hours, 7 days a week). The physicians in the first line, the association of general practitioner who practises emergency medicine, the hospital emergency services and all the health establishments will be connected to this system. Its principle is to send a vocal message or SMS on the mobile phones to all physicians of France in a very short timeframe (100 000 physicians will be alerted in two hours) with an acknowledgement of receipt. With this system, which can be interactive, the Health Ministry hopes that it will be able to obtain instant precious information in the case of major events.

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<sup>31</sup> MIS: Médecin Inspecteur de la santé publique (Public Health Inspector Doctor)



- **Case where there is suspicion of a malicious biological event**

Upon the proposal of a ministry or SGDN, the Prime Minister can give the SGDN the order to emit a pre-alert message when an uncertain initial situation occurs:

- Event with uncertain malicious nature, but susceptible to need the implementation of the BIOTOX plan
- Violent action of biological nature in a foreign country
- Claim of a non localized biological outbreak

Launching of the pre-alert initiates, if necessary, the measures implemented within the VIGIPIRATE Plan:

- Transportation of national, zonal and departmental means to the zone
- National medical alert for the early detection of abnormal pathological causes
- Alert and strengthening of means and personnel
- Alert experts and laboratories
- Alert hospitals, and in particular the referent hospitals
- The prepare the implementation of the CBRN Annex of the WHITE PLAN
- Reinforce the strategic stocks of drugs and health products
- Alert the professionals in charge of transport of drugs and health products
- Prepare communication to professionals and the public

- **Responsibilities**

The prefect of zone is responsible for the organisation of the helps. His action is supervised by the COSIS and the Prime Minister's cabinet. At the operational level, the responsibilities are described below.

- **Role of police**

The Police are in charge of securing the area, if necessary. More generally, the police are in charge of maintaining law and order, and in charge of the investigation. For forensic purposes, samples have to be taken by a judiciary officer or by a fireman under the control of a judiciary officer.

- **Sample analysis**

Samples will be analysed by a designated laboratory or referent hospitals. A special circular defines what to do in case of envelopes, parcels or substances spread on surfaces when radioactive, biological or chemical dangerous substances are suspected as shown in Figure 2.5, with the exception of situations which need emergency interventions of rescue services. It establishes decision making assistance to avoid a huge mobilisation of means and different decision levels according to the nature of the alert. The key of this operation is the "Cellule Nationale de Conseil" (Advisory National Cell).

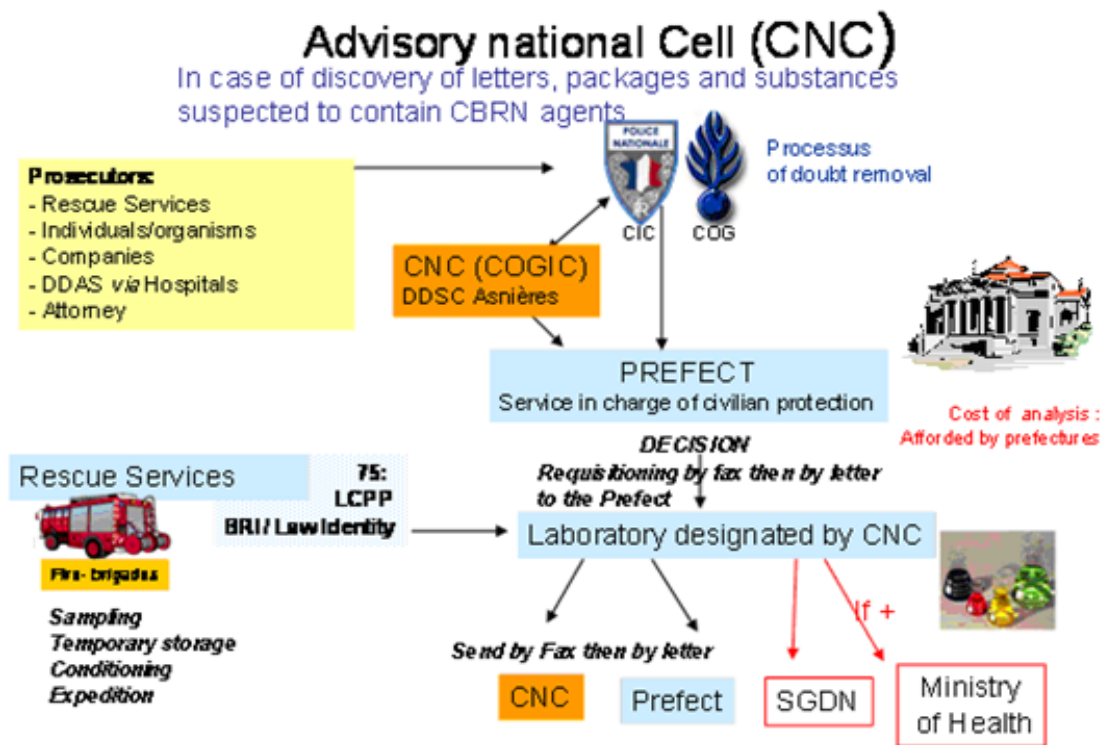


Figure 2.5 Illustration of the framework regarding sample analysis's procedures

## 2.2.4 Chemical incidents

### 2.2.4.1 PIRATOX plan

The aim of the PIRATOX plan is to counter the chemical terrorism acts, consisting of “the malicious use or the threat of malicious use of toxic chemical agents against people, animals, environment or property”. The intentional contamination of drinking water network, the food chain and pharmaceutical products is also taking into account.

It takes into account incidents using agents with immediate effects, the malicious nature of which will be known rapidly, but also incidents using products with delayed effects which will be discovered by the delayed flood of injured people to the hospitals.

The PIRATOX plan consists of an operational part describing the emergency measures to be taken at the governmental level. The aim of the second part is to facilitate the implementation of the plan, and consists of cards describing the main Ministerial operations for responding to a threat or a real chemical attack.

### 2.2.4.2 Regional level emergency preparedness and response

The first action of the director of rescue operations at the regional level is to activate the departmental PIRATOX plan if necessary. As soon as he is made aware of an event involving the

diffusion of a toxic agent with probable malicious intent, the Prefect instigates the PIRATOX plan which outlines the concrete modes of intervention in case of chemical attacks<sup>32</sup>.

- **Alerting zonal and national means of response without delay**

The Prefect (of Department) takes all necessary measures to bring together the military and civilian CBRN response means in his area through the area command staff, and through the COGIC, the national civilian reinforcement capabilities, as well as the networks of experts and laboratories.

At the zone level, the general officer of the defence zone is the contact point for the zone prefect for making use of CBRN military operational capabilities.

- **Taking emergency measures to alert threatened persons**

Threatened people are to be alerted as soon as possible, and they are directed to a mode of shelter (confinement, for example). Directions are also to be given to the public to avoid approaching affected area.

#### 2.2.4.3 Operational emergency preparedness and response: the circular 700<sup>33</sup>

A chemical incident, in particular of terrorist nature, is an event which leads to an extremely fast development of the crisis and needs an instantaneous response from police and rescue services.

The aim of the circular is to identify the procedures to be implemented to:

- ✓ Preserve life of victims and first responders
- ✓ Limit the consequences of the attack on people and the environment, notably by contamination transfer

To meet these objectives it is necessary to adopt the following principles that are the base of the circular 700:

- ✓ Alert and protect the first responders and to carry out a reconnaissance of the situation
- ✓ Secure as soon as possible the zone of the incident
- ✓ Define the zones of danger
- ✓ Secure the access and the exit of the different zones
- ✓ Organise the rescue operations

- **Situations covered**

The present document applies to a chemical attack openly perpetrated in a densely populated (civilian) urban environment, either in the open air or in a semi-open place such as the underground, a department store, administrative offices open to the public, etc. Its provisions apply as long as it has not been established beyond doubt that the product used is not a contaminant. It can also concern certain situations of an accidental nature. Its main objective is the saving and preservation of human lives.

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<sup>32</sup> Instigating the departmental plan does not preclude putting zonal or national plans into effect

<sup>33</sup> An actualized version of the Circular 700, which takes into account the feedback of various exercises that took place those last years, is under development. This new document puts the emphasis on the necessity to take care of the victims as soon as possible (in red or orange areas) in priority to other tasks.

The contaminating capability of a substance results from its persistence in solid, liquid or viscous form on all that it has come in contact with (objects, clothes, skin, etc.), leading it to be transferred to persons who were not initially in the attack area.

- **Services affected by the present document**

The present inter-ministerial document was drawn up at the request of the French Prime Minister. It concerns the main public services which would have to intervene on the field:

- Fire brigade and civilian security services
- Police and Gendarmerie
- Emergency medical assistance services
- Health establishments, especially referent hospitals.
- Personnel from the armed forces, joint armed services and the Delegation Generale pour l'Armement (DGA) that could be called upon to assist the aforementioned public services.

It shall in no way impede the initialisation and adhere to plans which are already defined by the law, especially those concerning emergency assistance to large numbers of victims (RED PLAN - PLAN ROUGE). Its sole objective is to specify these modes of enforcement.

- **General principles and duties of responders**

Due to the transport delays at the level of the department, and even more so at a national level, the effectiveness of the rescue set-up especially depends on the preparation, training and equipment of the first responders at the scene. Due to the specific nature of the equipment to deal with CBRN events, their maintenance and training requirements of personnel called upon, the following has to be done (at all levels: local, departmental, regional and national):

- Pre-positioning of CBRN equipment in the services inside vehicles (when possible), particularly to give first responders the capability to intervene safely,
- Carrying out personnel training<sup>34</sup> and regular joint exercises (at least once every three years for each department)<sup>35</sup>. In this regard, each relevant ministry was mandated with the task of drawing up a training plan for the personnel under its authority

- **Tasks at the local and departmental level**

At the local level, the response depends hugely on the knowledge or evaluation of the chemical threat level. As soon as it has been established with certainty that the product is not a contaminant, the provisions of the present doctrine no longer apply, and standard rescue measures are applied to a situation involving chemical or toxic clouds.

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<sup>34</sup> A training CD ROM has been produced by the General Secretariat for National Defence

<sup>35</sup> The Interior Minister prescribed the organisation of PIRATOX exercises in 2001 in a circular which was addressed to Prefects. These guidelines remain in effect for 2002.

If there is not total certainty, the first hypothesis that will be adopted is that the toxic product used has contaminating capabilities. If a chemical threat has been identified, or if there is a strong assumption of one through the observation of the situation at the arrival on the scene, the general operational guidelines shall be applied.

- **Specific management of the alert**

- Systematic application of a line of questions allowing gathering of key information when the initial alert points to a chemical threat
- Immediate and reciprocal exchange of information between centres for emergency service alerts:
  - Fire brigade
  - Police
  - Gendarmerie
  - SAMU
  - Local meteorological service
- Priorities are given to alerting rescue services so that they can direct unprotected personnel to wait in an area sheltered from the wind, and send only personnel in protected clothing to intervene
- Determining, in liaison with the different services, a unique point of access for all of them
- The Prefect is to be alerted as soon as an event is witnessed, even if it has not been determined to be of malicious intent

This task (specific management of the alert) shall be carried out by the departmental or interdepartmental set-up for alert management, in the event that rescue calls are routed to a unique point.

- **Reflex actions of first rescue operations**

- Individual protection of exposed personnel, hence requirement for disposing of protective suits in vehicles
- Vital survival actions by equipped responders
- Determining the type of the suspected chemical product. Questioning witnesses helps evaluating the situation in addition to observation of the symptoms
- Estimating the risk areas
  - The exclusion area is contaminated or liable to be contaminated: it is obligatory to wear protective clothing in this area
  - The support area, located upwind of the attack, is where rescue services are located
  - The controlled area [yellow area] is a strip which separates the exclusion area from the support area. A decontamination chain and an Advanced Medical Centre (PMA) are to be set up there straight away. It is also

mandatory to wear protective clothing upwind of the decontamination area, (Within a building, these areas may be reduced, respectively, to a room and to all or parts of the building, if mechanical ventilation has been stopped from the start)

- If possible, stopping or confining, the source of contamination of the product when it has been identified. Stopping the mechanical ventilation within buildings if this has not already been done
- Reporting on conditions and requesting reinforcements if necessary
- **Preservation of human lives**
  - Immediately alerting and informing persons inside the exclusion area about the appropriate approach to take shelter (confinement, for example), in addition to means of alert at the disposal of the Director of Rescue Operations (DOS)
  - Protection of persons exiting from danger areas and moving them to gathering points
  - Providing appropriate medical care at victim sheltering points
- **Decontamination and transfer to hospital**
  - Emergency decontamination with water both for emergency personnel who may initially have responded without protection, and for other victims, and setting up decontamination chains according to existing capabilities. If no mobile decontamination unit can be operational within a reasonable time limit at the victim sheltering point, all available means should be employed: community-showers, emergency water hoses, etc.
  - Shower and undressing of protected responders leaving the area (pre-established protocol)
- **Hospital admittance**
  - Implementation of the agreed-upon strategy for the admission to hospitals. In the event that victims may have left the exclusion area and the hospital does not have its own means of decontamination, all other means detailed in the reception plans of such establishments, are to be used:
    - Requesting use of community showers, or the showers of the establishment,
    - Decontamination by washing with water (using fire brigade equipment), or admitting contaminated victims, or those suspected of being contaminated, to dedicated rooms, or
    - Directing victims to wait at gathering points until the set-up of a decontamination chain can guarantee this procedure. Nevertheless, this option poses the constraints on both medical and psychological management of such waiting

- Admitting victims to pre-designated sheltering hospitals
- Admitting victims at non-designated hospitals without planning

- **Departmental or interdepartmental levels**

Departmental or interdepartmental levels should rapidly provide assistance to the local level. If no large city exists in the department, nor any site or means of transport which could constitute a risk or a target, then in the absence of the development of a response capability, the closest means allowing a response to a chemical threat shall be clearly identified and immediately called upon if needed.

- **Specific modes of intervention of the police and gendarmerie services**

The Head of Police Operations (Commandant des Opérations de Police ou de Gendarmerie, COPG)<sup>36</sup> is the departmental Director of public security in national Police areas or the Group Command for departmental Gendarmerie in national Gendarmerie areas. Coordinated by the COPG and in liaison with the Commander of Rescue Operations (COS), the police and gendarmerie forces carry out all public security and juridical police operations in the event of a chemical terrorist attack. In particular, they assist in neutralising terrorists that may be at the scene, in cordoning off the perimeter, and in sending out an emergency alert in matters of confinement.

The Director of Rescue Operations (DOS) and the COS shall evaluate the impact on police operations of all measures taken, through close cooperation with the Commander of Police or Gendarmerie Operations. This synergy is to result from establishing an Operational Command Headquarter (Poste de Commandement Opérationnel, PCO)<sup>37</sup> which unites the mobile command capabilities of the different response services, notably the Command Centre of the COS and the COPG.

- **Forensic investigations**

To carry out investigative acts, hearings of witnesses, technical and scientific police operations, identifications, and assisting autopsies.

#### 2.2.4.4 Managing victims at the event site

- **In the exclusion area**

At first, a specialised reconnaissance unit in appropriate protective suits enters the exclusion area under the responsibility of the rescue operations commander. If possible, it should be accompanied by a doctor (medical reconnaissance unit) who intervenes to assess the situation and assist decision-making: he assesses the necessary mobilisation of sanitary resources and gathers medical information which can be used in determining the kind of product used (based on symptoms). The main objectives are to extract the victims

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<sup>36</sup> COPG : Commandant des Opérations de Police ou de Gendarmerie (Head of Police Operations)

<sup>37</sup> PCO: Poste de Commandement Opérationnel (Operational Command Headquarter)

from the exclusion area and to determine the nature of the chemical in question. Care for the victims shall follow a rigorously defined sequence:

- In the controlled area
- At the exit of the exclusion area
- At the victim sheltering point (PRV)
  
- **Sheltering point**

All people present in the area must be grouped together at the sheltering point. Persons who were closest to the attack, especially those who have been determined to be contaminated or show symptoms of intoxication, are to be separated from the others. Able-bodied and self-sufficient individuals are grouped together on precise verbal orders, Wounded individuals are transported by a picking-up shuttle (“noria”).
  
- **Basic medical acts**

If necessary, basic medical acts (oxygenation, ventilation, administering antidotes) are carried out at the victims sheltering point, as well as the distribution of individual air filtering equipment (masks, hoods, etc.) after preliminary facial decontamination with an absorbing product (Fullers earth or talc for instance), or with water, with the equipment being kept in place during undressing operations and even showering.
  
- **In the controlled area**

Showering and decontamination

  - **Circuit reserved for non-contaminated individuals**

This circuit, after the highly advisable light procedure of bodily showering<sup>38</sup>, leads directly to the entry to a PMA in the support area. Passing through the PMA is advisable for all persons coming from the exclusion area (risk of delayed effects due to a toxic agent). In the presence of a too high number of individuals, those who are apparently unaffected can be directed to a "Sheltering Point for Involved Persons ", then leave the site after having supplied contact details, and after having received information about what to do in case of specific symptoms.
  
  - **Circuit reserved for contaminated individuals**

This comprises two decontamination chains: one for ambulatory patients (showering), the other for non-ambulatory patients (heavy module of type MDPH<sup>39</sup> for example.) Ahead of decontamination, each non-autonomous person is handled individually, with medical attention limited to essential survival

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<sup>38</sup> In emergency situations, depending on weather conditions, and while more appropriate means have not yet been put into place, provisional showering and/or rinsing using hydrants and hoses may be used.

<sup>39</sup> MDPH: Module de Décontamination pour Handicapé (Decontamination Module for Disable Persons)



actions, with, if necessary, the administering of appropriate antidotes for the toxic agent.

- **In the support area**

- **The Advanced Medical Post (Poste Médical Avancé, PMA)<sup>40</sup>**

When available capabilities make it feasible, one or several PMAs are to be installed. This PMA is to be located after the decontamination chains, in the support area (green area). This is the site of additional contamination control (with possibly some blood samples taken to help identify the toxic agent) and determining a degree of urgency for evacuation.

- **The evacuation dispatching point (Point de Répartition des Evacuations, PRE)<sup>41</sup>**

At the exit of the PMA in the support area, the evacuation dispatching point (PRE) groups all patients who are then evacuated to hospitals that have been previously designated by the SAMU with the means of evacuation depending on the condition of the victim (medical or non-medical transport). The emergency medical-psychological cell (CUMP) may be present at all stages outside the danger areas. It is imperative to register the identity, means of transport and destination of each person leaving a PMA.

- **Organisational principles: referent hospitals**

An organisation has been put into place at the level of the seven areas of defence, particularly concerning chemical threats. Within this framework, for each defence area, at least one referent hospital has been designated, working in close collaboration with the territorially appropriate Health Emergency Centre (SAMU).

- **Role of hospital establishments**

Within the framework of this type of organisation, one or more hospitals shall be designated in each department for which one shall plan to set up at the entrance a means of decontamination (field shower for instance or other) at the entrance where individuals who could not receive attention at the attack site shall be directed in priority. These hospitals, designated as "designated establishments for chemical threats", shall always dispose of appropriate means for such a task, as well as means of protection for hospital staff.

- The specific organisation to be set up at reception to isolate the victims (separation from standard emergencies, specific circuits)
- Practical details for establishing preliminary decontamination (showers)
- Means of protecting personnel against secondary contamination (off-site transmission)

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<sup>40</sup> PMA: Poste Médical Avancé (Advanced Medical Point)

<sup>41</sup> PRE: Point de Répartition des Evacuations (Evacuation Dispatching Point)

### 2.2.5 Role of the Army

In principle, the Army will not intervene in case of biological or chemical events, unless as a last resort when the civilian means are insufficient or lacking. Anyway, its intervention must be considered as a strong political signal. Its action should be justified, targeted and integrated in the civilian operation. Its contribution should be:

- ✓ Supply of detection, identification or decontamination means
- ✓ Implementation of specific know how relating to the CBRN domain (Second Regiment of CBRN Defence – Fontevraud)
- ✓ Putting specialized teams from Navy or Air force at disposal
- ✓ Medical support in case of biological attacks
- ✓ Non specialized support with units equipped with CBRN Individual Protection Equipment
- ✓ Transportation of personnel or equipment needed to respond to a CBRN event

## 2.3 ITALY

### 2.3.1 General background and governing principles

Italy is a democratic republic with a population of 59.7 million inhabitants (2007) spread over an area of 301,230 km<sup>2</sup>. Italy is subdivided into 20 regions (“regioni”). Five of these regions have special autonomous statuses that enable them to enact legislation on some local matters. It is further divided into 109 provinces (“province”) and 8,101 municipalities (“comuni”). Italy's population density of 198.2 persons per kilometre is the fifth highest in the European Union. The highest density is in Northern Italy, which constitutes one third of the area and almost half of the Italian population.

- ✓ National decisional structure
  - Prime Minister
  - Ministry Council
  - Strategic Politic Committee (Prime Minister and Minister of Foreign Affairs, Minister of Defence, Minister of Interior)
- ✓ National coordination structure
  - Military-Politic Committee (Representative of Prime Minister, Ministry of Foreign Affairs, Ministry of Defence, Ministry of Interior, Intelligence. Representative from other government structures can be involved)

### 2.3.2 Emergency preparedness and response on a strategic level

Legislative Decree 30.7.1999 n. 300 – art. 14, gives the jurisdiction of Civil Defence to the Ministry of Interior operating by means of Department of Firemen, Public Rescue and Civil Defence which is the Central Direction for Civil Defence.

This provides NATIONAL CIVIL DEFENCE PLANS (Organisation Level) to give support to:

- ✓ Sector Plans for Public and Private Administration providing essential services (Organisation Level, partially operative)
- ✓ Local Plans (operative level only)

The National Civil Defence Plan for CBRN terrorist attacks covers s the one which provides support for biological and chemical events.

### 2.3.3 Biological incidents

#### 2.3.3.1 Regional level emergency preparedness and response

Local Health Unit (USL) is the most widespread structure under the Ministry of Health. All Medical Personnel of the National Sanitary Service refer to this Structure. In case of confirmed threat against public health, the Prefect (the local representative of Government) and the Civil Defence are involved.

#### 2.3.3.2 Operational emergency preparedness and response

Biological incidents differ from chemical in that the incident may evolve slowly, and in most cases there is no accident scene. Types of incidents may include:

- ✓ Natural outbreak of disease (epidemic disease, or non-transmissible between humans)
- ✓ Covert biological attack, sick people seek medical care from the health services
- ✓ Biological accident from for example a high-security laboratory
- ✓ Alleged release of a biological agent, but no sick people registered yet

Principal organisation and emergency measures taken in the above cases.

- **Natural outbreak of disease (epidemic disease, or non-transmissible between humans)**

If a suspect clinical case is reported:

- Medical personnel inform the Prevention Department of the Local Health Unit (USL) in the area
- Samples are sent to a reference laboratory and a pre-alert information are sent to the Ministry of Health, the Prefect and the Department of Civil Defence
- If the suspicion is confirmed, the Prime Minister is informed
- The Minister of Health declares the Sanitary Alert Status

- **Ministry of Health**

- Activates the Crisis Response Cell
- Activates the application of diagnostic and therapeutic protocols
- Activates the application of decontamination protocols

- Alerts reference hospitals (four specialised structures in Milan, Rome, Bari and Catania), hospitals near the event area and the regional reference laboratory (for example, Esperimental Zooprofylactic Institute in Foggia has been identified for analysis of *Bacillus anthracis* suspect contaminated items and/or clinical specimen and samples)
  - Gives support and information to the public
  - Contacts WHO and EU
- **Department of Civil Defence**
    - Is in contact with Prefectures involved in the outbreak
    - Convokes, if necessary, Committee for Risk Prevention and Assessment
    - Collects information from sanitary structures involved
    - Informs the Prime Minister
- **Prefect**
    - Activates the LOCAL CIVIL DEFENCE PLAN
    - Ensures and coordinates the activity of Local Health Unit (USL) distribution of pharmaceuticals for chemoprophylaxis and/or treatment for infected persons
    - Coordinates the requirements for medical personnel, vehicles etc.
- **Police, Carabinieri**
    - Check contaminated areas incoming and outgoing
    - Give inquiring support with their scientific section
    - Guarantee public order
- **Local Health Unit**
    - Activates the Public Sanity Service and Veterinary Service
    - Activates the Epidemiological Surveillance System
    - Organises the Data Collection System about confirmed and suspected cases, chemoprophylaxis and treatment reporting to the Ministry of Health and the Civil Defence Department
    - Collects samples in contaminated (or suspect) area and sends them to a reference laboratory
    - Proceeds with area decontamination
- **Covert biological attack, sick people seek medical care from the health services**

This event is managed as described in natural outbreak of diseases. Specific requirements apply to sample collection, chain of custody, identification of biological agents and characterization for forensic attribution of responsibilities of the events, and the subsequent unravelling of the real cause of the event.

- **Biological accident from for example a high-security laboratory**

This event is managed similar to the chemical accident described in the next chapter for first responders and area identification. For subsequent actions (chain of medical events, therapy, reporting system, data collection and so on) the actions are similar to management of natural outbreaks of disease.

- **Alleged release of a biological agent, but no sick people registered yet**

Surveillance, intelligence activity, sampling requested.

## 2.3.4 Chemical incidents

### 2.3.4.1 Regional level emergency preparedness and response

In accordance with national legislation (Civil Defence Plan for CBRN terrorist attack), the Prefect is responsible for the operations, representing the Government. In the Prefecture, the Crisis Unit is immediately formed; The Chief is the Prefect, and the local Commander of Police, Carabinieri and Fire Brigade take part in this Unit. If a co-operation with the Armed Forces is requested, military personnel will join the Crisis Unit. Each Prefecture has a Local Plan taking into account the situation of the territory. In addition another “Crisis Response Cell” is created in the operations room of the Ministry of Interior for a highest management.

### 2.3.4.2 Operational emergency preparedness and response

Chemical incidents comprise large scale chemical accidents, terrorist attacks using traditional chemical warfare agents, attacks using toxic industrial chemicals (TIC) or attacks on industrial complexes resulting in the release TIC, etc.

Principal responsibilities of:

- **First responders (i.e. police, fire brigade, ambulance personnel)**

There are four emergency numbers in Italy:

- 112 Carabinieri
- 113 Police
- 115 Firemen
- 118 Medical Emergency Centre

Most likely, people will call 113 that co-ordinates also the other emergency numbers. The first service arriving and realizing that a C terrorist attack has been performed calls the Fire Brigade and waits for their arrival. Firemen are the only that can manage the situation limiting the “RED area”. Police and Carabinieri will contribute only to restore and maintain public order avoiding people entering the operation areas.

- **Firemen**
  - Take the lead of the operation on the scene (Fireman Officer)
  - Avoid further release and exposure of personnel
  - Start evacuate ambulatory patients victims and rescue as many as possible from the risk zone
  - Identify, demarcate and establish the limits of the risk zone, (accident area, RED, decon area, YELLOW and support/command/triage area, GREEN) and evacuation zone
  - Take samples (if possible) from the scene and make the police bring them to the Joint Technical Logistic NBC Centre (CeTLI NBC) for analysis. Any kind of sample can be processed and analysed by Chemical Section of CeTLI NBC
  - Start a visual triage of
    - Disabled victims
    - Contaminated ambulatory patients
    - Non contaminated ambulatory patients
  - Medical treatment can only start after patients have been decontaminated. First Aid is given immediately, people in serious conditions are transported to hospitals
  - Establish three gates for personnel and victims control according to the INITIAL and SUBSEQUENT level of contamination:
    - At the exit of the red zone (INITIAL: only CBRN protected personnel. SUBSEQUENT: only decon protected personnel)
    - At the exit of the yellow zone (INITIAL: only decon protected personnel. SUBSEQUENT: only ordinary protected personnel)
    - At the exit of the green zone (INITIAL: only ordinary protected personnel. SUBSEQUENT: no protected personnel)

#### **Specific Equipment**

- Smoke diver's equipment, i.e. self contained breathing apparatus, fire fighters garment
- Sealed Chemical Suit with oxygen tank
- CBRN Suit
- Decontamination equipment
- Portable devices for detection of Chemical Warfare Agents and TIC

- **Sanitary Rescue Director**
  - Is in close contact with Fireman Officer leading the operation
  - Contacts specialized structure (described below) to get information about specific medical treatments, availability and use of antidotes

- Coordinates all medical personnel
- Reports from the accident scene to the medical dispatch centre about required resources, how many ambulances, possible helicopters for evacuation of seriously injured patients

**Specific Equipment**

- Only medical equipment (he only works in the green area)

○ **Ambulance personnel**

- Provide medical first aid, stabilise patients (in green zone after decontamination)

**Specific Equipment**

- Only medical equipment (they only work in the green area)

○ **Police and Carabinieri**

- They work only in the green area
- Cordoning off and securing the area (around green area)
- Victim identification (in green area)
- Management of their belongings (in green area)
- Handle the public and the media

**Specific Equipment**

- No specific equipment

○ **Hospitals**

In the Ministerial Decree of 24 September 2001, four specialised structures (in Milan, Rome, Bari and Catania) have been identified to support hospitals which are near accident areas in case of both C and B incidents. Anti Poison Centres are also involved.

○ **Military units**

Military Unit, the NBC Regiment, can be involved as it has field detection equipment, sampling and analysis capabilities. The Joint Technical Logistic NBC Centre (CeTLI NBC) can be involved as it has laboratory level analysis capability.

○ **Crisis Response Cell of Ministry of Interior**

The operations room in the Ministry of Interior will coordinate all information to the media, also in order to direct traffic away from the scene. The time aspect is crucial. When panic is generated, people will try to phone causing an overload of line; Therefore communication between the emergency services could be

compromised. Mass media have to communicate the reality, but avoid giving the population false alarms or unrealistic descriptions of the situation.

- **Forensic work**

The engaged organisations are responsible for forensic work.

### 2.3.5 International cooperation

International Police and/or therapeutic products (if necessary)

## 2.4 NORWAY

### 2.4.1 General background and governing principles

The Kingdom of Norway is a constitutional monarchy with a parliamentary system of government. Norway has 4.7 million inhabitants distributed on an area of 386 000 km<sup>2</sup> (including the islands Svalbard and Jan Mayen)<sup>42</sup>. Norway is divided in 19 counties and 430 municipalities (in 2008). The capital, Oslo, is both a municipality and a county<sup>43</sup>.

The Norwegian emergency preparedness and response to biological and chemical incidents builds on the general principles of the rescue service and civil protection and primarily on existing structures and resources. The general governing principles for the Norwegian civil emergency preparedness and the rescue service are:

- ✓ The principle of responsibility: The entity that is responsible for a discipline and/or service provided in a normal situation is also responsible for necessary emergency preparations and the handling of extraordinary events
- ✓ The equivalency principle: The organisation that is established during crises and in war shall be as similar as possible to the organisation under normal conditions
- ✓ The subsidiarity principle: A crisis shall be managed at the lowest possible operative level
- ✓ The cooperation principle: All governmental, non-governmental and private resources available are used

The main principle for all emergency preparedness and handling of all types of crises is that the service (sector) that is responsible under normal conditions also retains responsibility for that service (sector) in crises and war. The equivalency principle states that the same organisation and chain of command apply under normal conditions and in crises and war. From these two principles it follows that the respective services are responsible for planning, organising and financing emergency preparedness within their areas of responsibility.

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<sup>42</sup> Statistics Norway (2008). Available at: <http://www.ssb.no/english/>

<sup>43</sup> Ministry of Local Government and Regional Development (2008). Available at: [http://www.regjeringen.no/nb/dep/krd/tema/Kommune-\\_og\\_fylkesforvaltning/fakta-om-kommunene-og-fylkeskommunene.html?id=415265](http://www.regjeringen.no/nb/dep/krd/tema/Kommune-_og_fylkesforvaltning/fakta-om-kommunene-og-fylkeskommunene.html?id=415265)



The third principle is that a crisis shall be handled at the lowest effective operational level. The municipalities based on their many important daily roles and functions, play an important role under severe accidents and catastrophes. Local authorities remain in charge of the crisis until the magnitude or consequences are too large to be managed locally. Regional and national authorities only intervene if the crises can no longer be dealt with locally.

The principle of cooperation means that all governmental, non-governmental and private resources are to be prepared for, trained and used in rescue operations and emergency situations. Private actors, from for instance industry, and non-governmental organisations (NGOs) like the Red Cross etc., also play an important role, and are reimbursed for their expenses. The principle of cooperation also calls for a smooth interdisciplinary and inter-agency coordination and training.

Terrorist attacks causing fatalities have not occurred in Norway. The general public perception is that the CBRN-threat level in Norway is low. The Police Security Service (PST) prepares on an annual threat assessment outlining anticipated developments within PST's areas of responsibility. According to PST the threat level with respect to terrorist attacks in Norway as of today (2008) is low. With respect to the CBRN-threat level in 2008 PST states that:

*“PST's assessment is that it is hardly likely that a non-state player can carry out a terrorist strike with CBRN-material in Norway resulting in mass murder. Several non-state players, however, show an interest in CBRN-materials. Despite a terrorist strike by non-state players being hardly likely, PST's assessment is that a terrorist strike carried out using such material would have a deep psychological effect on a civilian population – even though it is believed that such an attack in itself would cause less damage than an attack carried out with conventional weapons.”*

PST (2008)<sup>44</sup>

PST emphasises however that the threat level may change rapidly and urges all sectors to maintain awareness. In October 2004 PST raised the general threat level from low to moderate, in part based on threatening statements against Norway issued by the al-Qaida ideologist Ayman al-Zawahiri on 21 May 2004 and again on 1 October 2004. The general threat level was decreased from moderate to low in June 2006, and has been kept at this level since then.

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<sup>44</sup> PST (2008), The Norwegian Police Security Service's (PST's) Threat Assessment for 2008. Available at: <http://www.pst.politiet.no/System/english/Annual%20%20threat%20assessment/PST%20Threat%20Assessment%202008.pdf>

## 2.4.2 Emergency preparedness and response on a strategic level

### 2.4.2.1 Strategic management

The Government (Norwegian: regjering) makes political decisions concerning the overall aims and the framework for emergency preparedness, crisis management and the rescue service. According to the responsibility principle, each ministry is responsible for planning, equipping, training and handling crises within its area of responsibility (sector). The Government Crisis Council is headed by the secretary general (Norwegian: departementsråd) of the ministry with the prime responsibility to handle the crisis. The ministry that is most severely affected by the crisis will take the lead. The governmental Crisis Support Unit will provide support.

The Ministry of Justice and the Police (MOJ) holds a special responsibility to coordinate emergency preparedness and social safety and security across sectors. In 2000 the MOJ established an interagency contact group for emergency preparedness against chemical, biological, radiological and nuclear (CBRN) incidents. In 2003, the group finalised a national framework plan describing responsibilities, organisation and available resources for national emergency preparedness against CBRN incidents. The group also proposed improvements, in accordance with its mandate. The MOJ decided to continue the group as a national advisory group on CBRN emergency preparedness (CBRN Expert Group) with participation from relevant bodies. The Directorate for Civil Protection and Emergency Planning (DSB) chairs the CBRN Expert Group. The members are:

- ✓ The Directorate for Civil Protection and Emergency Planning (DSB): Chair
- ✓ The National Police Directorate,
- ✓ The Norwegian Police Security Service (PST)
- ✓ The Norwegian Directorate of Health
- ✓ The Norwegian Institute of Public Health,
- ✓ The National Competence Centre for NBC Medicine, Ullevål University Hospital
- ✓ The Norwegian Coastal Administration
- ✓ The Norwegian Food Safety Authority
- ✓ The National Veterinary Institute
- ✓ The Norwegian Radiation Protection Authority
- ✓ The Norwegian Defence CBRN School
- ✓ The Norwegian Defence Microbiological Laboratory
- ✓ The Norwegian Defence Research Establishment (FFI)

The CBRN Expert Group updated the report on national CBRN emergency preparedness in 2007<sup>45</sup>.

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<sup>45</sup> DSB (2007), Directorate for Civil Protection and Emergency Planning (DSB), Beredskap mot masseødeleggelsesmidler, Tønsberg, Norway, ISBN: 978-82-7768-110-8. (In Norwegian). Available at: [http://www.dsb.no/File.asp?File=Publikasjoner/masseodeleggelses\\_1\\_web.pdf](http://www.dsb.no/File.asp?File=Publikasjoner/masseodeleggelses_1_web.pdf)

### 2.4.2.2 The Norwegian Search and Rescue Service

This section describes the strategic and operational organisation for handling of acute crises. The Rescue and Emergency Planning Department of the MOJ is responsible for coordinating the Norwegian Rescue Service and has the administrative responsibility for the main rescue coordination centre. There are two national rescue coordination centres (Norwegian: Hovedredningsentral (HRS)), which coordinates all rescue service in Norway, whether at sea or on land. The next level is the local rescue centres (Norwegian: lokal redningsentral (LRS)) headed by the Chief Constables in the 27 police districts. The LRS is described in more detail under chemical incidents.

The County Governors (Norwegian: Fylkesmann) of the 19 counties are responsible for coordinating emergency preparedness planning and superintend emergency preparedness planning on a regional and local level. MOJ is the superior authority of the County Governor in matters of emergency preparedness. In crisis situations on a regional and local level, the Chief Constables have the immediate, operational emergency management responsibility in the function as head of the LRS.

The Incident Commander at the scene of an accident, catastrophe or terrorist action is the senior Police officer. The Incident Commander reports to the LRS, and forms a command centre together with subject leaders from the other blue light services (fire and medical services), and the other support services such as the civil defence, non-governmental organisations (NGOs), the home guard etc. Figure 2.6 shows the organisation of the Norwegian Rescue Service.

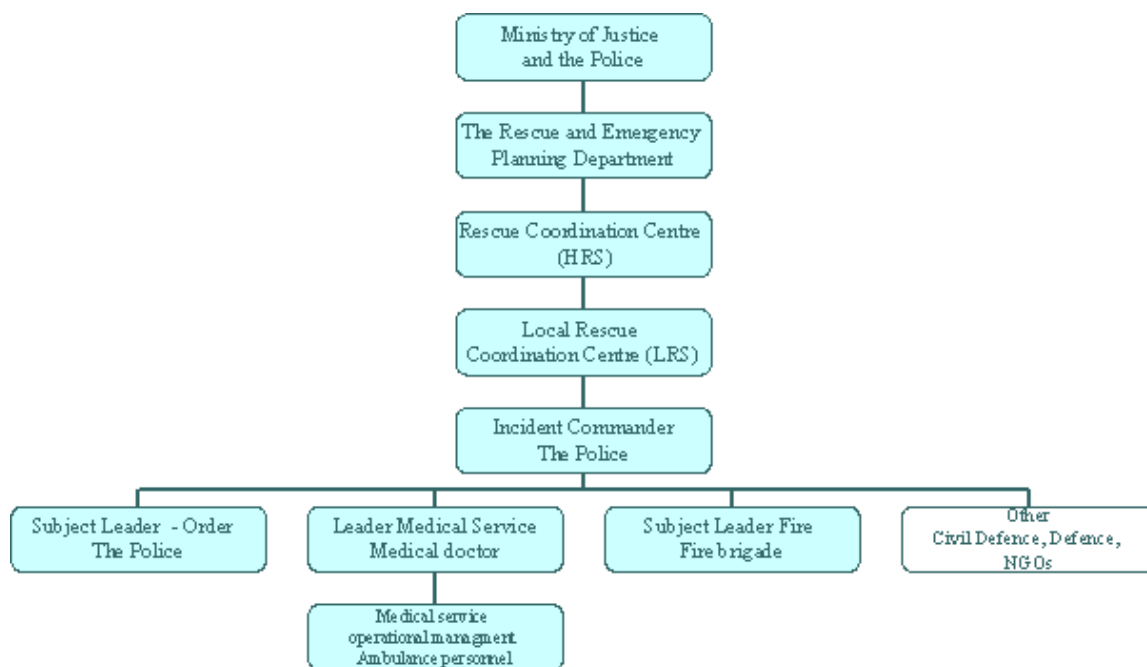


Figure 2.6 The Norwegian search and rescue service.

### 2.4.2.3 The Norwegian Health Service

The information in this chapter is based on the “Comprehensive national health and social preparedness plan” recently issued by the Ministry of Health and Care Services (MOH) in 2007.<sup>46</sup>

The (430) municipalities provide primary health services and social services to the local population. The municipal health service consists of general practitioners at local health centres, and a casualty department for immediate aid with 24 hour service. The chief municipal medical officer has the overall responsibility for emergency planning and handling health related crises such as outbreaks of communicable diseases and of food-borne and water-borne diseases. The Norwegian Food Safety Authority's district offices assist the chief municipal medical officer.

The regional health authorities<sup>47</sup> (RHF) are responsible for seeing that specialist health services are provided to the population in their area. These services are provided through the health trusts<sup>48</sup> (HF) and agreements with private-sector entities. In case of an accident and/or disaster resources are mobilised through the Norwegian Emergency Medical Alarm Centres, which have a mandate to request supplementary resources both within a particular region and from other regions.

The County Governor is an advocate for and facilitator of the preparedness work in the county and coordinates the planning with municipalities and other government agencies. The County Governor is also delegated responsibility for coordination at the regional level during crises and disasters in peacetime. The County Governor is the state's regional liaison and is responsible for alerting the Directorate of Health of major events.

The MOH has the overall responsibility for preparedness planning and consequence management in the health and social sector, and for necessary coordination with other ministries. Norway has established a national emergency preparedness plan for pandemic outbreaks<sup>49</sup> and is preparing a similar plan for smallpox.

**The Directorate of Health** ensures cooperation, both in the preparedness planning and in a crisis situation. The Directorate of Health's crisis management occurs in close cooperation with the Norwegian Institute of Public Health. In situations related to food products or animals, the crisis management occurs in close cooperation with the Norwegian Food Safety Authority. The Department for Poison Information at the Directorate of Health has expertise in risk assessment and the treatment of acute poisoning from chemicals and operates a round-the-clock advisory service. The Directorate of Health coordinates the security of pharmaceutical supplies in

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<sup>46</sup> MOH (2007), Ministry of Health and Care Services, Comprehensive national health and social preparedness plan, Version 1.0 approved 31 January 2007. Available at: [http://www.regjeringen.no/en/dep/hod/Documents/rapporter\\_planer/planer/2007/comprehensive-national-health-and-social.html?id=463818](http://www.regjeringen.no/en/dep/hod/Documents/rapporter_planer/planer/2007/comprehensive-national-health-and-social.html?id=463818)

<sup>47</sup> There are five regional health authorities (per 2006).

<sup>48</sup> There are 34 health trusts (per 2006).

<sup>49</sup> Ministry of Health and Social Affairs (2006), National Emergency Preparedness Plan for Pandemic Flue. Available at: <http://www.regjeringen.no/Upload/HOD/Vedlegg/Planer/Pandemiplan.pdf>

cooperation with the Norwegian Medicines Agency, the Norwegian Institute of Public Health and regional health authorities. The Director General at the Directorate heads the Ministry of Health and Care Service's advisory Pandemic Committee.

**The Norwegian Institute of Public Health** is the state's institute for the control of communicable diseases. Important tasks include monitoring, including the reception of reports and warnings, contagion tracking, vaccine preparedness, advisory services, information and research. The institute is a technical advisor on the control of communicable diseases, and through its field epidemiological group it can assist municipalities and hospitals in investigating outbreaks of communicable diseases. The group can also provide assistance abroad in response to a request from the World Health Organisation (WHO) and the EU. The institute is responsible for the Norwegian Surveillance System for Communicable Diseases (MSIS), takes part in the EU's Early Warning and Response System for outbreaks of communicable diseases (EWRS) and is a national contact centre for matters pertaining to the control of communicable diseases and/or notification to the WHO. The institute is the secretariat for the Pandemic Committee.

**The Food Safety Authority** is responsible for coordinating the crisis response in case of animal disease outbreaks, including zoonoses, and outbreaks of disease related to food and feed. **The National Veterinary Institute** has state-of-the-art expertise in veterinary bacteriology, virology, pathology, immunology and epidemiology, and implements monitoring and control programmes to document the status or absence of animal diseases. The institute surveys and monitors chemical and microbiological agents in feed and food, and has an advisory function in risk assessments.

**The National Competence Centre for NBC Medicine** is delegated to the Eastern Norway Regional Health Authority and based at Ullevål University Hospital (UUS). The centre fills the role as a national resource centre in the field of CBRN medicine and treatment institution for CBRN injuries. Key tasks are related to transport and clinical treatment of patients, competence building and advice.

#### 2.4.3 Biological Incidents

The health services and food and agriculture authorities are responsible for preventing and mitigating the consequences of natural outbreak of diseases in humans, animals and plants, and will also be in charge of handling possible biological terror events.

The consequences of a natural outbreak of disease and a covert biological attack will be quite similar. Due to the incubation period, it may take days or even weeks for people to develop symptoms and seek medical care. An intentional release of a biological agent may differ from a natural outbreak in that the agent may not be naturally occurring, thus may cause suspicion amongst health personnel.

The incidents of suspected accidental release of biological agent from a facility and suspected or alleged release of a biological agent (i.e. powder letters, etc.) will require actions which may include evacuation of people, cordons, isolation, medical treatment of suspected victims,

sampling and subsequent laboratory analysis to identify possible biological agents, and possible decontamination.

### 2.4.3.1 Regional level emergency preparedness and response

On a regional level the County Governor and the County medical officer will be responsible for strategic management of the crisis. The Directorate of Health has the national responsibility, and will be alerted by the regional health authorities (RHF) and the County Governor. Figure 2.7 gives a schematic overview of the alerting system within the health sector in crisis situations. Figure 2.8 gives an overview of the alerting system in the case of outbreak of animal and zoonotic disease, outbreaks related to food and other crises handled by the Food Safety Authority.

The Norwegian Institute of Public Health gives advice to the municipalities and authorities. The Institute is responsible for health monitoring, including alerts and reports, and is the national laboratory for preparedness regarding biological incidents. The institute operates the Norwegian preparedness laboratory for medical microbiology and coordinates the microbiological emergency preparedness through a national microbiological preparedness committee. The Department of Infectious Diseases at UUS is responsible for medical treatment and/or isolation of persons exposed to biological agents and also furnishes expertise to other hospitals.

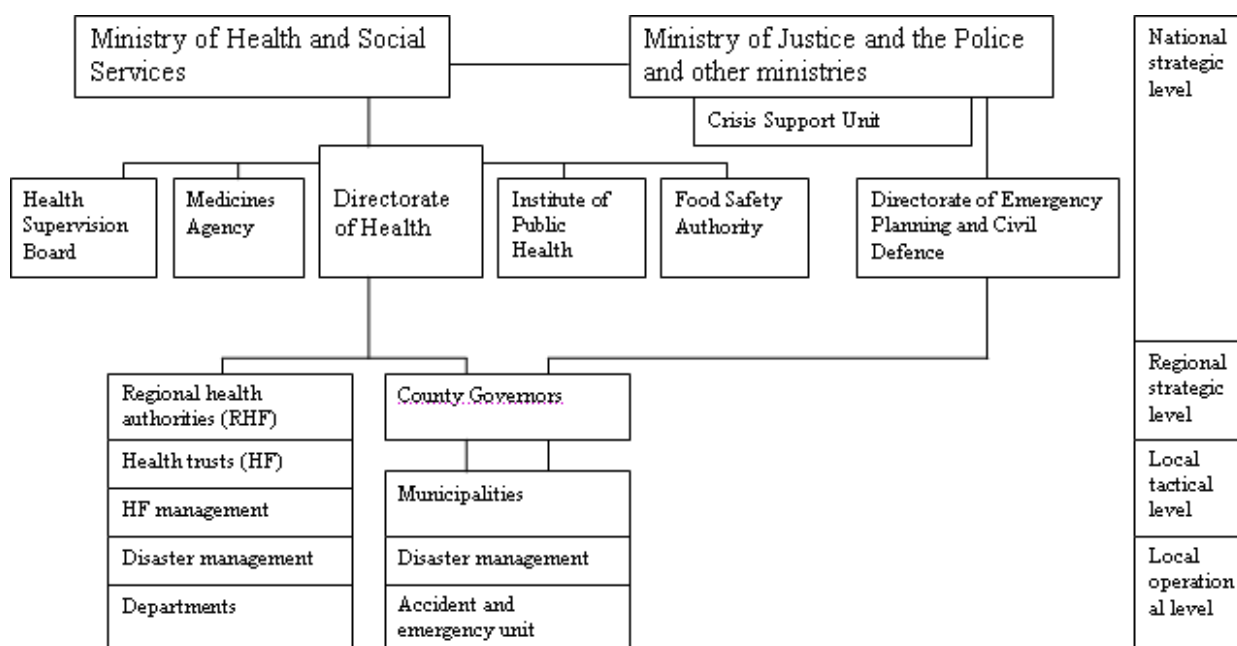


Figure 2.7 System for warning and reporting in the Norwegian health service sector<sup>50</sup>

<sup>50</sup> Reproduced from: MOH (2007), Ministry of Health and Care Services, Comprehensive national health and social preparedness plan, Version 1.0 approved 31 January 2007. Available at: [http://www.regjeringen.no/en/dep/hod/Documents/rapporter\\_planer/planer/2007/comprehensive-national-health-and-social.html?id=463818](http://www.regjeringen.no/en/dep/hod/Documents/rapporter_planer/planer/2007/comprehensive-national-health-and-social.html?id=463818)

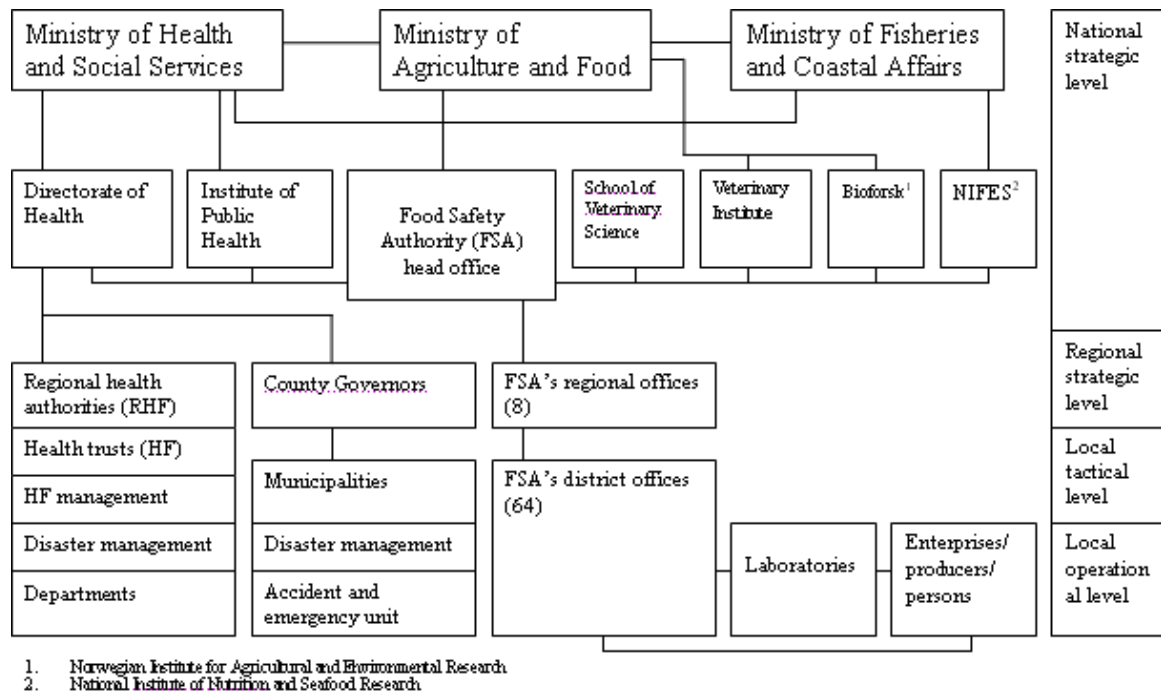


Figure 2.8 System for warning and reporting when the Norwegian Food Safety Authority handles the crisis<sup>50</sup>

#### 2.4.3.2 Operational emergency preparedness and response

The prime responsibility for handling outbreaks and controlling communicable diseases will be the municipal health service represented by the municipal medical officer, the health trusts (HF) and the regional health authorities (RHF). The incidents are reported to the county medical officer and the Directorate of Health, which then alerts the MOH. Medical doctors and laboratories alert the Institute of Public Health through the Norwegian Surveillance System for Communicable Diseases (MSIS) upon suspicion of outbreak of certain communicable diseases and food and water borne diseases. Reporting through MSIS is obliged even if only one case of “an unusual diagnosis” occurs.

The diagnostics will be performed by municipal health services and hospital laboratories. Samples from patients may also be sent to the Institute of Public Health.

It is likely that discovering that the cause of the outbreak is an intentional release may take time. If the source of infection is naturally occurring, it may not even be discovered unless the perpetrators announced the incident or are caught. If the cause of infection is not naturally occurring in that region, this will be highly suspicious. The Police Intelligence Service (PST) is responsible for investigating intentional biological attacks. Thus, several agencies/institutes will be involved in both covert and overt attacks.

In cases of human disease, the health authorities will be responsible (see Figure 2.7). If it is a food or water borne disease or animal disease transmissible to humans, the Food Safety Authority will have the main responsibility in cooperation with health authorities (see Figure 2.8).

In case of suspected intentional releases of pathogens, the police are responsible for securing the area. The police may call upon special services within the police (bomb squad in Oslo for instance) which have specialised training and equipment, or request that the fire rescue service take samples, and subsequently sanitises the area.

In other cases, with suspected natural outbreak of disease (for instance Legionella), the municipal health service (with advice from FHI) is responsible for environmental sampling and forwarding samples for analysis. A separate field epidemiological team at FHI is available for natural outbreaks. In case of food or water borne disease, designated laboratories of the Food Safety Authority will analyse samples. Animal samples will be analysed by the Veterinary Institute. Samples from humans will be analysed at hospital laboratories or transferred to the Institute of Public Health.

Norway does not have a designated expert team for sampling of environmental samples and decontamination after an intentional biological attack (per June 2008).

#### 2.4.4 Chemical incidents

Chemical incidents comprise chemical accidents, terrorist attacks using traditional chemical warfare agents, attacks using toxic industrial chemicals (TIC) or attacks on industrial complexes resulting in the release TIC. All cases are acute crises requiring immediate countermeasures to mitigate possible consequences.

##### 2.4.4.1 Regional level emergency preparedness and response

The national emergency preparedness against acute pollution is maintained by three parties:

- ✓ Private emergency preparedness
- ✓ Municipal emergency preparedness
- ✓ National emergency preparedness

The primary emergency preparedness is maintained by the private sector, i.e. entities that produce, store, transport and use products that may cause severe pollution. The Norwegian Pollution Control Authority pose certain regulations on entities, such as petroleum refineries, storage facilities and land based industry that handle environmentally hazardous chemicals.

The municipal emergency preparedness against pollution is based on risk and vulnerability assessments of the local situation. The municipalities are responsible for the fire rescue service. The municipalities are organised in 34 regions, each with an inter-municipal committee for acute pollution, governed by a host fire service equipped with special resources, equipment and competence. Additional resources may also be called upon, for instance Civil Defence units, in particular their mobile decontamination units.

The Coastal Administration has a national responsibility for emergency planning and mitigating the effects of acute pollution both at sea and on land, and shall always be alerted if there is a risk of acute pollution, or an incident has occurred. The Coastal Administration's emergency centre



contacts other national services, if needed. Expert advice can be obtained via the Coastal Administration from an industry counselling network, also available 24 hours. This network is part of a European network of experts from industry in 15 countries. Military resources may be called upon, especially for expert evaluations on the effects and countermeasures for chemical warfare agents.

The Ministry of Justice and the Police (MOJ) is responsible for all search and rescue service in Norway. Disasters comprising a large number of casualties will initially be handled locally by the blue light services (police, fire rescue service, ambulances) and hospitals (local and regional) and the local rescue centre (LRS). The Chief Constable of the LRS alerts the national rescue coordination centre (HRS) and the Directorate of Civil Protection and Emergency Planning, and the Ministry of Justice and the Police. See Figure 2.6 in Chapter 2.4.2.2. The LRS requests additional resources, if necessary. The LRS alerts the municipal crisis management, which in turn alerts the County Governors.

Each sector involved in the crisis, adheres to its pre-defined information channels to the strategic disaster management level. For the health services this is given in Figure 2.7. Important national bodies are the Department for Poison Information at the Directorate of Health, the National Competence Centre for NBC Medicine at the Ullevål University Hospital, which is a treatment and expert body for C injuries, and the Norwegian Institute of Public Health. The municipal health service and the specialist health service treat injuries. The Department for Poison Information at the Directorate of Health handles information and inquiries both from individuals and with regard to the treatment of patients in the primary and specialist health services.

#### 2.4.4.2 Operational emergency preparedness and response

- **First responders**

There are three emergency telephone numbers in Norway; fire rescue centre (110), police (112) and emergency medical coordination centre (113), respectively.

For chemical accidents, the first call is usually to the fire rescue service, and immediately the first emergency vehicle responds. The fire rescue centre then alerts the police and health service, since all three services respond to chemical incidents, a so-called “triple-alarm”. In parallel, the Norwegian Coastal Administration is alerted, which holds the national responsibility for such incidents.

The Incident Commander (the police) manages all response activities at the scene of the incident, cordons off the necessary area, directs traffic and the public. The fire rescue service combats the chemical leak, mitigates the consequences, and is the only service to enter the contaminated hazardous zone. The protection level of the fire rescue service will depend on the situation. For large toxic chemical spills, chemical divers with impermeable suits will be used.

The medical emergency call service (Norwegian: akuttmedisinsk kommunikasjonsentral (AMK)) directs ambulances and alerts hospitals to prepare for treatment of chemical injuries. AMK constitutes the backbone of the health sector's warning system. If life and health are at risk, the local rescue centre (LRS) will also become functional under the leadership of the police. The LRS, or alternatively the Rescue Coordination Centre (RCC) in the event of huge disasters, is responsible for coordinating these efforts.

If the chemical incident is caused by an attack, the police will be responsible for the forensic work. Samples will probably be taken by the Police Bomb Squad of the Oslo Police, which has a national CBRN responsibility within the police, and is trained and equipped also for this purpose. Alternatively, the fire rescue service can be requested by the police to take samples, or military resources may be called upon.

- **Hospitals**

Hospitals receive patients and treat injuries.

- **Civil Defence**

The Civil Defence is a support service which can provide valuable resources in case of mass casualties, such as tents, water pumps, mobile decontamination units, etc.

- **Military units such as the Home Guard, Army NBC-units, etc.**

Military units will usually not be called upon in the case of chemical incidents involving toxic industrial chemicals (TIC). In case of an intentional release of highly toxic chemicals such as chemical warfare agents, defence advisors with special competence are likely called upon. This could be from the Norwegian Defence CBRN School, the Norwegian Defence Medical Corps, the Norwegian Defence Research Establishment (FFI) or others. FFI is the Norwegian Defence designated laboratory for identification of chemical warfare agents, and operate a laboratory declared to the Organisation for the Prohibition of Chemical Weapons (OPCW).

- **Response squads in the private industry**

According to the Seveso Directive and the national directive for major accidents (Norwegian: Storulykkesforskriften) all major industrial facilities are obliged to perform risk and vulnerability assessments, and through proper emergency preparedness planning and establishment of response squads, mitigate consequences of accidents at the industrial facility.

#### 2.4.5 International cooperation

The health services and the Food Safety Authority participate in international alert and response systems. These include:

- ✓ A Swedish-Norwegian agreement for analysis of samples requiring a bio-safety level 4 laboratory. Norway sends such samples for analysis at the BSL4 laboratory in Stockholm, Sweden
- ✓ A Nordic health preparedness agreement for mutual information and assistance
- ✓ EU's rapid alert system for terror events RAS-BICHAT (Rapid Alert System – Biological and Chemical Agent Attacks)
- ✓ EU's Early Warning and Response System for outbreaks of communicable diseases, (EWRS)
- ✓ World Health Organisation's (WHO) alert system about outbreaks of communicable diseases established through the International Health Regulations.
- ✓ EU's rapid alert system for food and feed (RASFF)
- ✓ WHO and/or FAO's alert and response system for serious events involving food safety (INFOSAN EMERGENCY)
- ✓ EU's and the World Organisation for Animal Health's (OIE) alert and response system for outbreaks of serious infectious animal diseases, including those that may be transmitted to people (zoonoses)

## 2.5 SPAIN

### 2.5.1 General background and governing principles

Spain is a parliamentary monarchy. Spain is divided into seventeen autonomous regions and two autonomous cities, each with its own elected regional parliament, government and president. The autonomous regions are divided into 50 provinces, headed by a provincial government and an elected provincial council. The Local Government consists of approximately 8,000 municipalities, each with a municipal council. Spain has 46 millions inhabitants on an area of 504.645 km<sup>2</sup>.

### 2.5.2 Emergency preparedness and response on a strategic level

#### 2.5.2.1 Governmental Level

The crisis response in Spain is based on the organisation of the National System for management of crisis situations, SNCSC<sup>51</sup>.

The national leadership and management of crises are conducted by the following bodies:

- ✓ The Standing Committee of the Government for Crisis Situations
- ✓ Commission Support
- ✓ The National Committee of Civil Emergency Plans
- ✓ The Department of Infrastructure and Monitoring Crisis Situations

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<sup>51</sup> <http://www.iugm.es/publicaciones/Gestion%20de%20crisis.pdf>

- **The Standing Committee of the Government for Crisis Situations**

It is the highest decision-making body of the national system of managing crisis situations. It was established by Royal Decree 2639/1986 of 30 December, and subsequently reorganized by Royal Decree 1194/2004 of 14 May. Its composition is as follows:

- The Prime Minister, who shall preside
- Presidents of the Government
- The Ministers of Foreign Affairs, Defence and Interior
- The Secretary of State Security and the Secretary of State-Director of National Intelligence Centre
- The Director of the PA government, which shall serve as Secretary of this Committee

Its functions are as follows:

- Approve the legislation required for the establishment of a driving emergency or crisis, both nationally and internationally, that may endanger life, safety or welfare of the Spanish population
- Approve plans, infrastructure programmes and actions that are necessary to ensure continuity of government action and the normal functioning of civil life in the situations referred to in the preceding paragraph
- Directing and coordinating actions to prevent, control and manage crisis situations

- **The Commission Support (CS)**

This Committee is chaired by the Secretary of the Standing Committee of the Government to crisis situations and is composed of senior officials of the Departments represented in this. It is the planning body, responsible for studies, coordination of work and advice to the Standing Committee and its main tasks are:

- Prepare meetings of the Standing Committee
- Cover the needs of simulation
- Advise and assist directly the Prime Minister and convey the decisions of the Board
- Other circumstantial functions

- **The National Committee of Civil Emergency Plans (CNPCE)**

The CNPCE is the interministerial body to support the Standing Committee of the Government crisis in relation to the provision and application of resources to deal with situations of crisis or emergency. It is chaired by the Secretary of the Standing Committee, who serves as National Authority for Civil Emergency Planning. Its objective is to provide protection in case of crisis or emergency.

Its members are: Director of Infrastructure and Monitoring crisis (DISSC), the Director of the Department for International and Security presidency of Government, coordinators of the various Sector Working Committees and the Permanent Representative of Spain to the High Committee for Civil Emergency Planning (SCEPC) of NATO. The Assistant Director General of Civil Defence, the Ministry of Defence, is the Member-Secretary and permanent body responsible for the support and work of the committee, assisted by a member of the DISSC as Deputy Secretary.

The CNPCE is available under its direct dependence of the Sector Working Committees. The functions of CNPCE are as follows:

- Issue guidelines for planning the development of different civil emergency plans in regard to setting objectives, implementation of alternative media and setting deadlines, to meet hypothetical crisis situations, and submit plans to the Standing Committee of the Government for Crisis Situations
  - Coordinate the various plans by providing resources to Sector Working Committees, and submit to the Standing Committee, for input of knowledge and approval, if necessary
  - Report regularly to the Standing Committee, about the state of preparedness within its area of competence to deal with situations of crisis or emergency
  - Raise the Commission delegated the proposals for amendments or drafting legislation necessary to cope with various situations of crisis or emergency, proposed by the various Sector Working Committees
  - Participate in the work to develop all organs of the High Committee for Civil Emergency Planning (SCEPC) of NATO
  - Maintain the necessary links with counterparts in other countries in coordination with the Ministry of Foreign Affairs
  - Brief the Standing Committee
- **The Department of Infrastructure Monitoring and Crisis Situations (DISSC)**

The DISSC is attached to the General Secretariat of the Presidency of the Government, but depends functionally to the Director of the PA government, who is also the Secretary of the Standing Committee of the Government for Crisis Situations. It is structured in the following units with organic level of Bureau:

- Alert and Monitoring Unit
- Driving Crisis Unit
- Infrastructure Unit

The DISSC provides support to the organs of the National System of Crisis Management and has the following specific functions:

- Maintain and ensure the proper functioning of the National Center for Management of Crisis Situations and special communications from the

Presidency of the Government, as well as protect their facilities and documentation

- Track situations of national and international crisis or emergency, in coordination with the competent bodies and authorities directly, and serve as an organ of support for the actions of the Presidency of the Government or the Standing Committee of the Government for Crisis Situations
- Study and propose, if necessary, the legislation required for the functioning and performance of the National System for Management of Crisis Situations, as well as scheduling and coordination exercises on crisis management.

### 2.5.2.2 National, Regional and Local Level

In Spain, crises are managed depending of the size of the event and the place. Spain has seventeen autonomous regions with their own parliaments, regional governments and emergency response systems. Response effort is co-ordinated at three levels; national, regional and local.

The National Response is composed of National Police, in large towns; Guardia Civil, in the countryside and rural areas; the army, only in case of necessity, the Department of Health and the Emergency Military Unit (UME).

Local and Regional Response is composed of Fire Brigade, local and regional Police and Medical Emergency Services.

- **National Police**

It is the countrywide police of Spain. These forces are under the sole authority of Spain's central government. Within this body is the Bomb Disposal Threat Unit (TEDAX), which was established in 1975 as a result of the increasing terrorist threat<sup>52</sup>. The mission of TEDAX –NBC now is the intervention and operation whenever there is a potential explosive, incendiary device or any type of CBRN attack, and also the collection, transport, analysis and research of mechanisms and elements of CBRN or explosive devices. This specialised group is structured in a central unit, based in Madrid, and 28 explosives and CBRN disposal teams strategically scattered in different provinces and incorporated in the Police Intelligence Provincial Squads. All the procedures to deal with biological and chemical threats are described in the Circular 50.

- **Fire Unit**

It is an organised system consisting of professionally persons (firemen). The basic function of the FU is to protect lives, health and property against fire, and to provide effective help in the course of other emergency events which endanger lives, health, property or the environment, and which demand rescue work.

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<sup>52</sup> [http://www.policia.es/galeria/nbq.htm?reload\\_coolmenus](http://www.policia.es/galeria/nbq.htm?reload_coolmenus)

- **The Guardia Civil**

It is a Spanish police force with a civil function and military structure which operates in small towns and rural areas. It has created several special units, UPIs, First Intervention Units, to tackle the threat of CBRN attacks<sup>53</sup>.

- **Autonomous Regional Police**

Within Spain there are two autonomous regional police forces: The Mossos D'Scuadra<sup>54</sup> and the Ertzaintza<sup>55</sup> operate throughout the regions of Catalonia and the Basque country, respectively. Both have specialist units dedicated to explosive deactivation, and now they are training and deploying specialist CBRN response teams.

- **Hospitals**

To care for patients; In the case of chemical attack they are in charge of supplying antidotes.

- **UME, Unidad Militar De Emergencias<sup>56</sup>**

It is a military unit, working in the civilian sector, establishing an organization and deployment and is part of a permanent joint force within the Armed Forces. Its main mission is to intervene anywhere in the country to contribute to the safety and welfare of citizens, along with the rest of state institutions and public administrations, in cases of grave danger, disaster or other calamity. The operational actions of the UME in such emergencies are specified in the planning, training and intervention. UME does not carry out tasks of prevention.

- **Civil Defence**

- **National Level**

- Civil Protection<sup>57</sup> is a subgroup of the Ministry of interior whose job it is to protect and safeguard both people and installations in the event of high-alert catastrophes threatening to result in massive loss of lives
- Red Cross<sup>58</sup> is an auxiliary response organisation during wartime and, increasingly, natural disasters

- **Regional and Local Level**

In each autonomous community there are special emergency services. As an example SAMUR<sup>59</sup> is a fast and effective response to public health emergencies throughout Madrid City. SAMUR cooperates with the local Fire Brigade to

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<sup>53</sup> <http://www.google.es/search?hl=es&q=guardia+civil++NBQ&btnG=Buscar&meta=cr%3DcountryE>

<sup>54</sup> <http://www.gencat.net/mossos/cme/index.htm>,

<sup>55</sup> <http://www.ertzaintza.net/ingles/html/home.html>

<sup>56</sup> <http://www.mde.es/ume/>

<sup>57</sup> <http://www.proteccioncivil.org/es/DGPCE/>

<sup>58</sup> <http://www.cruzroja.es/preportada/tv/index.html>

<sup>59</sup> [www.munimadrid.es/samur](http://www.munimadrid.es/samur)

respond to such emergencies (ambulance and paramedic service). Outside the city within the region it is, however, SUMA (112)<sup>60</sup> responds to such events.

- **Civil-Military Co-operation**

Civil-military co-operation in Spain is carried out in cases of emergency and upon request by civil authorities. (Real Ordinances Law and Basic Judgement Law from the National Defence). One of the tasks of the Armed Forces is to create a national alarm network in co-ordination with the different bodies within the Ministry of Defence (Civil Protection Law). The Armed Forces can be employed to carry out support to any public service. In the event of a chemical or biological attack, Valencia NBC Battalion is at disposal, and is specifically equipped to identify and gather biological and chemical samples, but also decontaminate the population.

### 2.5.3 Biological incidents

#### 2.5.3.1 Natural outbreak of disease

(epidemic disease, or non-transmissible between humans)

The main body responsible in cases of biological outbreaks is the, Instituto de Salud Carlos III<sup>61</sup>. The objective of the Institute's activity is mainly focused on public health service. It provides advisory services and cooperates with the Ministry of Health and Consumption and Autonomous Regions in all matters pertaining to health and disease processes. This includes health monitoring of in particular contagious diseases, epidemiological monitoring and diagnostics, the study of outbreaks of epidemics or other infectious environmental and health emergencies.

The general response in this class of incidents includes the following steps:

- **Diagnostics:** The initial diagnosis will be carried out in health centres or hospitals while more detailed diagnosis will be made in specific laboratories or hospitals; If the diagnosis confirms that the disease is one of those subject to mandatory declaration, then several protocols must be taken<sup>62</sup>
- **Data Gathering in the National Network of Epidemic Monitoring,** which collects data on the epidemic; analyse, interpret and distribute results and recommendations. The process: A report is made from the hospital or health centre on the number of positive cases. It is then sent to the head of the autonomous community of the patient. From here, it is sent to the Centre of Epidemic Studies, CNE, part of the Health Ministry.
- **An epidemic or outbreak is announced,** when the following conditions are met:
  - The number of cases is significantly higher than expected
  - An illness appears in an area clear until then, large-scale intoxication
  - In case of any possibly catastrophic incident that poses a threat to the community's health.

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<sup>60</sup> [http://www.madrid.org/cs/Satellite?pagename=SUMMA112/Page/S112\\_home](http://www.madrid.org/cs/Satellite?pagename=SUMMA112/Page/S112_home)

<sup>61</sup> [http://www.isciii.es/htdocs/servicios/servicios\\_enlaces.jsp](http://www.isciii.es/htdocs/servicios/servicios_enlaces.jsp)

<sup>62</sup> <http://www.isciii.es/htdocs/centros/epidemiologia/procedimientos/proedo00.pdf>



- Distribution of information to centres of epidemic studies in each respective community and to the EU through Surveillance<sup>63</sup> y Promedial
- Activation of special protocols created by the CNE
- Creation of a national preparation and response plan, the OMS recommends that health authorities elaborate their plans defining:
  - A structure of organising and co-ordination
  - Monitoring of the epidemic or virus
  - Control and prevention methods, i.e. vaccines
  - Health system response
  - Communication strategies
- Evaluation of emergency and response capability, for which it will be necessary to:
  - Measure the capacity of the health and emergency systems to establish requirements in the event of a pandemic
  - Ensure that within the system, both the emergency plan and people in charge of the pandemic response are correctly identified
  - Make available protocols, algorithms and management control guides; infection control, patient routes, organisation of health personnel, etc.
  - Ensure access to bio security labs
  - Equip health care workers with the necessary skills to be able to deal with such an emergency

### 2.5.3.2 Covert biological attack

Sick people seek medical care from the health services. This case is managed in the same way as the previous one until the moment a biological attack is suspected or confirmed. The police or the Civil Guard, relevant laboratories and the Ministry of Justice will intervene immediately.

Currently the RELAB, a network of laboratories permitting a coordinate response to biological attack, is being set up.

### 2.5.3.3 Biological Laboratory Accident

The laboratories own emergency action plan will be activated, regulated by the RD 664/1997 directive<sup>64</sup> including the following steps:

- ✓ Evaluation of biological risks
- ✓ Measures to be applied in the event of accidental exposure and decontamination
- ✓ Emergency medical assistance for the injured and people suffering effects of exposure
- ✓ Medical observation for the exposed
- ✓ Identification of biological agents, both toxic and infectious
- ✓ Location of high-risk zones
- ✓ Identification of people at risk

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<sup>63</sup> [www.surveillance.org](http://www.surveillance.org)

<sup>64</sup> [http://noticias.juridicas.com/base\\_datos/Laboral/rd664-1997.html](http://noticias.juridicas.com/base_datos/Laboral/rd664-1997.html)

- ✓ Identification of human resources and their functions: bio security inspector, security personnel, local health services, doctors, microbiologists, veterinaries, epidemiologists, fire services and police
- ✓ List of centres where people suffering effects of exposure may receive help
- ✓ Transport of infected persons
- ✓ List of storage places for immune serum, vaccines, essential medicines, material and special supplies
- ✓ Provision and storage of emergency material, protective clothing and disinfection teams. The action plan must be in line with the scientific work protocol and must be tried and tested through drills

In the event of an exterior leak, emergency measures of a biological nature, with the participation of all emergency services, will be applied.

#### 2.5.4 Chemical incidents

The response to a chemical event will depend on the place and the magnitude of the incident.

The response priority is as follows:

- ✓ Avoid the spreading of the catastrophe by containing the hazardous chemical
- ✓ Control and limit effects on people and the environment
- ✓ Rescue and attend to the affected
- ✓ Restore the basic public services

In the event of an industrial or transportation incident both protocols and means of response to the event are established according to the degree of severity. Those protocols are similar to those implemented in the event of terrorist attack, and the means placed at the disposal of the authorities depend whether an action is required at municipal, regional or national level.

##### 2.5.4.1 First responders in a Chemical aggression and its responsibilities

- **Emergency Number 112, Communication Central**
  - Locates the scene of the incident
  - Evaluates the incident with the information obtained and consults with the On-Call Division Chief
  - Contacts the Fire Department's Head Office to receive information about the substance
  - Consults the reports of intervention as soon as the product is known, and informs the Chief of the intervention
  - Marks a waiting point outside of the zone
  - Sends the first resources to the edge of the exclusion zone (an assisting unit, the EMT Civil Protection Team Chief and person in charge of on-call)
  - Informs the units of the need to use protective gear

- **Fire brigade**
  - They are the first that arrive
  - Mitigation of the event
  - Fire control
  - Neutralization of the hazardous chemical
  
- **Police**
  - Cordoning off and securing the area, preventing people to enter the zone,
  - Facilitating circulation of fire brigade and ambulances, if necessary organising evacuation of people
  - Detection of the chemical agent
  - Take samples and send it to the Reference NBC laboratory
  
- **SAMUR/ Sanitary Services**
  - Evaluation of victims and triage
  - Supervision of rescue activities
  - Facilitate protective gear to the components that the person in charge of the intervention determines
  - Take the measures that he or she considers to be opportune and/or the person in charge of the intervention indicates
  - Install a position for medical assistance AMP: for the medical assistance of patients, those affected and participants of the different institutions
  - Establish the first line of decontamination
  
- **Guardia Civil**

This group intervenes only in small towns and rural areas where there is no National Police. Have specific intervention CBRN units, called Unidades de Primera Intervención, UPI. Its functions are:

  - Search for and detect CBRN agents
  - Determine the origin of the incident, evaluate the associated risks, contain the chemical, take measures to mitigate effects
  - Collection and custody of samples, analysis, and safety and security during shipment to laboratories
  - Decontamination of personnel and material that have intervened in the incident or been affected
  - Cooperate with other emergency CBRN services

#### 2.5.4.2 Chemical Accident

Following the first Seveso Directive in 1982, the Seveso II Directive is intended to prevent major accidents involving dangerous substances and limit their consequences for man and the environment, with a view to ensuring high levels of protection throughout the Community.

The Directive's scope is applicable to any establishment where dangerous substances are present or likely to be produced, in quantities equal to or in excess of the quantities listed in the Seveso Directive. This list was reduced from 180 to 50 chemicals, but is accompanied by a list of categories of substances, which in practice broadens the scope. NB: Spain applies the EU's Seveso directive which regulates interventions in cases of disasters concerning chemicals.

## 2.6 SWEDEN

### 2.6.1 General background and governing principles

Sweden, has 9.2 millions inhabitants (2008) on an area of 449 964 km<sup>2</sup>. The country is organised in 21 counties and 290 municipalities.

The municipalities have this so-called geographic area responsibility on the local level, the county administrative boards on the regional level, and the Government on the central level. For the municipalities and the county administrative boards, this does not mean that they will be taking over the responsibilities of other parties. Area responsibility instead means that municipalities and county administrative boards should act to promote coordination between government authorities and other parties in order to achieve integration and a comprehensive view at the local and regional levels<sup>65</sup>.

There are three basic principles guiding Swedish emergency management: the principle of responsibility, the principle of parity and the principle of proximity<sup>66</sup>.

- ✓ Under the principle of responsibility, whoever is responsible for an activity in normal conditions should assume corresponding responsibility during major emergencies or in a situation of war.
- ✓ The principle of parity means that authorities should as far as possible be organized and located in the similar way during major emergencies and war as they are under normal circumstances and in peacetime.
- ✓ The principle of proximity means that major emergencies should be managed locally where they occur by authorised public personnel at the lowest possible decision making level, only supported by regional and national levels when necessary.

These basic principles emphasise a "bottom up" perspective. The municipalities have a key role to play in the work of emergency preparedness. Enhanced capability to manage emergencies on a local level also increases society's ability to manage serious crises on a regional and national level.

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<sup>65</sup> SEMA, <http://www.krisberedskapsmyndigheten.se> available 061020

<sup>66</sup> International CEP Handbook 2006 Published by the Swedish Emergency Management Agency (SEMA) ISBN: 91-85053-95-3

Sweden has no experience of large scale biological and chemical attacks and very limited experience of smaller incidents. The general threat level is supposed to be low or very low.

### 2.6.2 Emergency preparedness and response on a strategic level

### 2.6.3 Strategic Management

Sweden is a parliamentary democracy with a large number of authorities and agencies under the control of the Government.

The Ministry of Defence has the overall political responsibility for the Swedish Crisis Emergency Planning (CEP), but additional ministries, authorities and agencies at central level are also assigned complementary tasks by the government during major emergency situations. The emergency management system is based on sector and geographic area responsibility as captured in Figure 2.9.

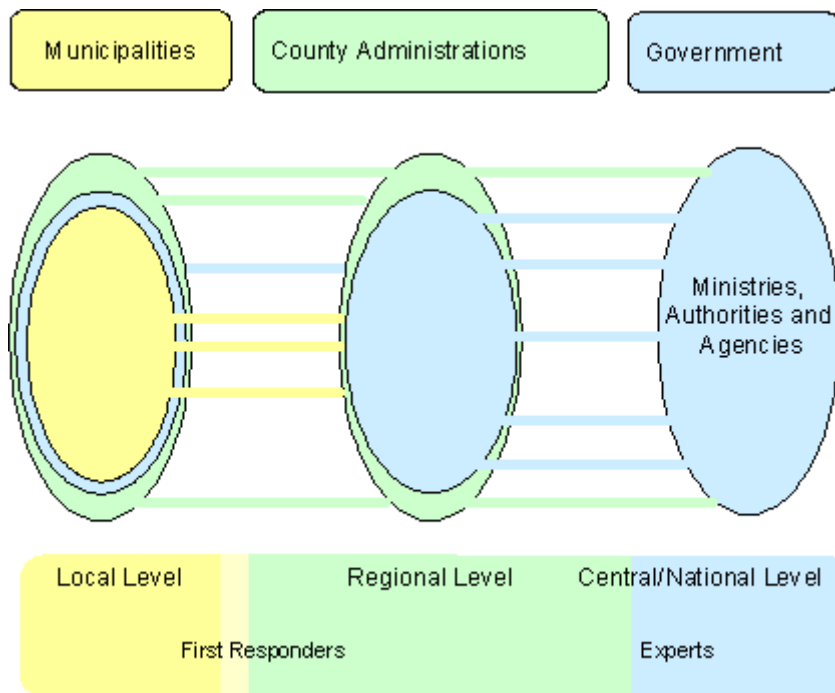


Figure 2.9 A schematic illustration of the Swedish CEP system and its contents

The need for coordination amongst various operations is emphasized in the Swedish system, both regarding preventive efforts and emergency management. The Swedish Emergency Management Agency (SEMA) has the role of follow-up and coordinates the society's work with CEP. SEMA works together with municipalities, county councils and government authorities, as well as the business community and several organisations, to reduce the vulnerability of society and improve the capacity to handle emergencies. However, the Swedish government has decreed that on 1st January 2009 a new authority will come into force to strengthen Sweden's civil protection and emergency preparedness. The new authority will be responsible for unifying, coordinating, and supportive tasks prior to, during and after emergencies.

There are six co-ordination areas forming the basis of the Swedish emergency management system. Each co-ordination area contains a number of central governmental authorities and agencies that share responsibility for planning and co-ordinating security and emergency measures within their specific sector. These authorities also involve other parties in the preparedness work, e.g. county administrative boards, municipalities, county councils, organisations and companies. There are six co-ordination areas, one of them is “Spreading of toxic substances”. The following authorities take part in the work in this area:

- ✓ SEMA (Chair)
- ✓ Swedish Coast Guard
- ✓ The National Food Administration
- ✓ The National Police Board including the National Security Service
- ✓ Swedish Institute for Infectious Disease Control
- ✓ The National Board of Health and Welfare
- ✓ The Swedish Board of Agriculture
- ✓ Swedish Rescue Services Agency
- ✓ The Swedish Nuclear Power Inspectorate
- ✓ The Swedish Radiation Protection Authority
- ✓ The National Veterinary Institute
- ✓ The Swedish Customs Service
- ✓ Swedish Armed Forces
- ✓ Swedish Defence Research Agency

#### 2.6.4 Biological incidents

First diagnosis will be made at hospitals. Surveillance of communicable diseases and analysis of the current epidemiological situation is a main responsibility for the Swedish Institute for Infectious Disease Control (SMI). The surveillance is carried out in close collaboration with the County Medical Officers of Communicable Disease Control. The basis for the surveillance is the registration of the 54 notifiable diseases according to the Communicable Disease Act. These pathogens are notifiable in parallel to the SMI and the County Medical Officers, both by the clinicians and the laboratories. The surveillance data are collected and analyzed, with the help of a computerized reporting system, SmiNet.

However, the surveillance is not limited to what happens within the Swedish borders. The epidemiological situation and development in the neighbouring countries, from which infectious diseases could quickly spread to Sweden, is followed closely. This is also done for more remote countries to which Swedes are travelling. Apart from traditional sources of information, such as the WHO and the communicable disease control institutes of other countries, various Internet resources are increasingly used.

If the outbreak is found to be caused by an intentional release of bacteria the police will be involved. Other institutes such as The Swedish Defence Research Agency, the National Laboratory of Forensic etc. can be involved.

## 2.6.5 Chemical incidents

### 2.6.5.1 Regional level emergency preparedness and response

If the situation calls for extensive rescue work in a local area, for example following a major chemical accident, the county administrative board may assume responsibility for the emergency and rescue services of the municipalities affected. In such situations the Government can also assign responsibility for the emergency and rescue services to another national authority.

### 2.6.5.2 Operational emergency preparedness and response

There is one uniform emergency telephone number in Sweden (112). The emergency calls are administrated by emergency services switchboards/regional alarm centres (SOS Alarm AB), and it is a well-functioning system.

The local emergency and rescue services have the prime responsibility for responding to emergencies in their own municipalities. They work closely with the police who see to the provision of barriers and the recording of any persons who require attention or who are in the potential risk area. The local emergency and rescue services also work with the medical service personnel who assist in assessing priorities, decontamination and the treatment of injured persons. All personnel involved in responding to an emergency are provided with the appropriate protective equipment capable of allowing them to work in a chemically contaminated area for a limited period.

The rescue services have legal support about the leadership. The chief officer of the fire brigade is the probable rescue leader in the initial phase. A staff is formed and organised according to the expounding of the incident.

Hospitals receive patients and treat injured.

It is unlikely that any military units will be called upon in the case of chemical incidents, the course of events are often too rapid for military units. However, if there is an intentional release of special chemicals such as chemical warfare agents, defence advisors and other experts with special competence are likely called upon.

The Seveso Directive and the national directive for major accidents state that all major industrial facilities are obliged to perform risk and vulnerability assessments and through proper emergency planning eliminate the consequences of accidents at the facility. Establishment of response squads are such an example.

## 3 International cooperation

Terrorist attacks may require the involvement of many different response teams, ranging from traditional civil protection capabilities to more sophisticated technical and scientific resources.

### 3.1 Activities within the European Commission

The European Commission is ready to assist Member States in the implementation of their solidarity commitment through the Community Civil Protection Mechanism. Established in October 2001, the Community Mechanism has quickly developed into the key instrument for European cooperation in the field of civil protection. Participation in the Mechanism has grown to a total of 30 countries (EU-27, Iceland, Liechtenstein and Norway), with others showing interest in joining the Mechanism. The Commission has worked closely with Member States to develop a series of actions and instruments aimed at enhancing preparedness and facilitating mutual assistance in the event of a major disaster.

The European Union has established for the period 2007-2013 a specific programme<sup>67</sup> which aims to support projects in the field of prevention, preparedness and consequence management for terrorist attacks and other security-related risks.

In the event of a crisis, the European Commission may be called upon to act in its own area of competence and to support the efforts of Member States. The Commission has developed over the years the operational capacity to assist in the response to a wide range of emergencies through several rapid alert systems (RAS), such as the MIC (Monitoring and Information Centre for Civil Protection coordination), ECURIE, RAS-BICHAT (for biological and chemical attacks and threats).

#### 3.1.1 The Monitoring and Information Centre

The Monitoring and Information Centre (MIC), operated by the European Commission in Brussels, is the operational heart of the Community Mechanism for Civil Protection<sup>68</sup>. It is available on a 24/7 basis and is staffed by duty officers working on a shift basis. It gives countries access to the community civil protection platform. Any country affected by a major disaster – inside or outside the EU – can launch a request for assistance through the MIC.

During emergencies the MIC plays three important roles:

1. Communications hub

Being at the centre of an emergency relief operation, the MIC acts as a focal point for the exchange of requests and offers of assistance. This helps in cutting down on the 30 participating states administrative burden in liaising with the affected country. It provides a central forum for participating states to access and share information about the available resources and the assistance offered at any given point in time.

2. Information provision

The MIC disseminates information on civil protection preparedness and response to participating states as well as a wider audience of interested. As part of this role, the MIC

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<sup>67</sup> <http://europa.eu/scadplus/leg/en/lvb/l33262.htm>

<sup>68</sup> Community Mechanism for Civil Protection



disseminates early warning alerts (MIC on natural disasters and circulates the latest updates on ongoing emergencies and Mechanism interventions).

3. Supports co-ordination

The MIC facilitates the provision of European assistance through the Mechanism. This takes place at two levels: at headquarters level, by matching offers to needs, identifying gaps in aid and searching for solutions, and facilitating the pooling of common resources where possible; and on the site of the disaster through the appointment of EU field experts, when required.

- **Inside the EU**

The Mechanism can be activated through the MIC by any participating state seeking prompt international assistance following a major disaster. A state usually calls on the Mechanism when the effects of the disaster cannot be matched by its own civil protection resources.

As soon as the MIC receives a request for assistance, the Centre immediately forwards it to its 24-hour network of national contact points. These contact points represent the participating states' civil protection authorities. They assess their available resources and inform the MIC whether or not they are in a position to help. The MIC then matches the offers made to the needs and informs the requesting state of the type and quantity of available assistance from the Community.

- **Outside the EU**

As the use of the Mechanism is not restricted to interventions within the European Union, any third country affected by a disaster can also make an appeal for assistance through the MIC. Following a formal request for assistance from a third country, different procedures are applied for the activation of the Mechanism. In such cases, the Commission needs to consult the Presidency of the Council so as to determine the course of action it needs to take. For instance, if the emergency takes place in an area affected by conflict or civil unrest, the Council through the Presidency may declare it to fall under the so called crisis management provisions. In this case the Council plays the lead role in co-ordinating the EU response. If it is not deemed a crisis management situation, the MIC follows its general operating rules.

### 3.1.2 RAS-BICHAT

Taking into consideration that the EU is a border-free area, it is essential for appropriate arrangements to be put in place to ensure prompt notification and exchange of information in the event of threats and attacks. The importance of joint action in the EU led to the establishment in October 2001 of a Health Security Committee, comprised of representatives of the Health Ministers, to promote cooperation in countering bioterrorism. The Committee agreed to a programme of cooperation on preparedness and response to biological and chemical agent attacks, code-named BICHAT, based on four objectives:

- ✓ Set up an alert and information exchange mechanism

- ✓ Create a capability for the detection and identification of biological and chemical agents that might be used in attacks
- ✓ Create a database on medicines stock and health services and a stand-by facility for making medicines and health care specialists available in case of attack
- ✓ Draw up rules and disseminate guidance on responding to attacks from the health point of view and coordinating the EU response and links with third countries and international organisations

## **3.2 Activities within the North Atlantic Treaty Organization**

### **3.2.1 Civil Emergency Planning**

The aim of civil emergency planning in NATO is to collect, analyse and share information on national planning activity to ensure the most effective use of civil resources for use during emergency situations, in accordance with Alliance objectives. It enables Allies and Partner nations to assist each other in preparing for and dealing with the consequences of crisis, disaster or conflict.

In a rapidly changing world, populations in NATO and Partner countries are threatened by many risks including the possible use of chemical, biological, radiological weapons by terrorists. However, terrorism is not the only challenge. Natural disasters, such as earthquakes and man-made disasters continue to pose a serious threat to civilian populations.

Civil emergency planning is first and foremost a national responsibility. However, NATO's broad approach to security, as described in the 1999 Strategic Concept, recognizes that major civil emergencies can pose a threat to security and stability. Countries can no longer rely on purely national solutions for large-scale emergencies, particularly given the complex nature of today's threats and the unpredictable security environment.

While the United Nations retains the primary role in coordinating international disaster relief, NATO provides an effective forum in which the use of civilian and military assets can be dovetailed to achieve a desired goal. Given the requirement for the military and civilian communities to develop and maintain robust cooperation, civil emergency planning in NATO focuses on the five following areas:

- ✓ Civil support for Alliance Article 5 (collective defence) operations
- ✓ Support for non-Article 5 (crisis response) operations
- ✓ Support for national authorities in civil emergencies
- ✓ Support for national authorities in the protection of populations against the effects of weapons of mass destruction
- ✓ Cooperation with Partner countries in preparing for and dealing with disasters

## 4 Conclusions

It should be noted that the opinions and comments expressed in this report represent the view and perception of the authors.

There are large differences between the participating countries when it comes to geography, size and density of the population, as illustrated in Figure 4.1.

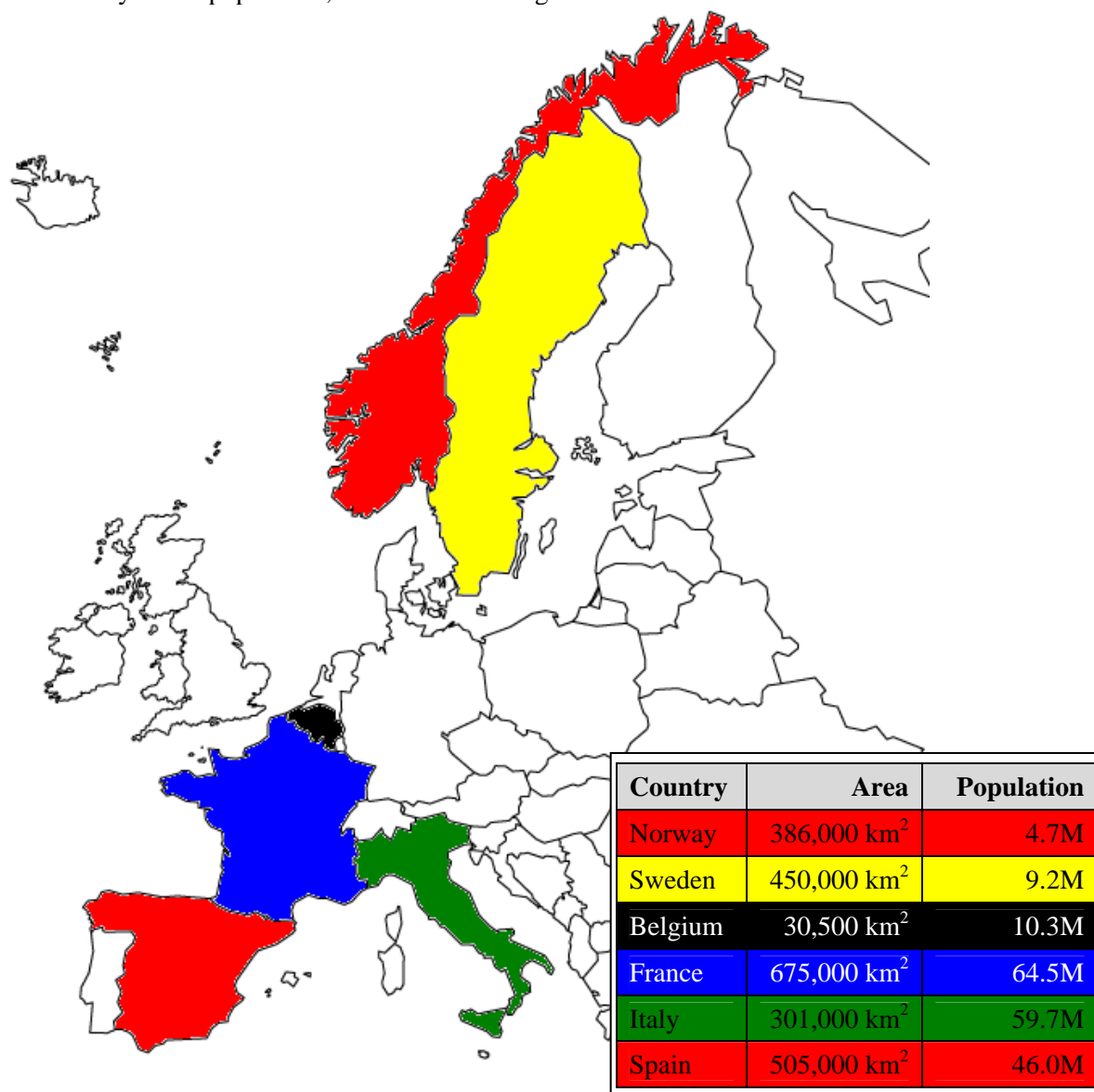


Figure 4.1 Illustration of area and population of the participating countries.

Some countries have already experienced terrorist attacks, or have been exposed to chemical or biological problems, for instance the Seveso accident in Italy, and old chemical weapons from the first and second world wars. The perceived level of C and B threat varies among the countries.

Although there are geographical and demographic differences, the results of this study show a remarkable similarity in the response patterns and methods used by each country. Crisis and

consequence management in case of biological and chemical incidents build on existing structures and resources. We see that the response pattern depends on the scale of the event. Operationally, small-scale incidents, both intentional and unintentional, will be managed at local level by the local first responders and support services. For larger incidents regional and national resources will be called upon. However, in the particular case of terrorist attacks, irrespective of the scale of impact, national authorities will always be involved (at least for forensic work and communication). In all participating countries, civilian authorities will be in charge of crisis and consequence management. Military CBRN experts and units could be called upon by civilian authorities if needed.

There are also some interesting variations worthy of further consideration and discussion, although the differences observed do not seem to impair effectiveness of emergency response. In some countries, military structures like the Italian Carabinieri, Spanish Guardia Civil and the French Gendarmerie, have operational tasks. This is not the case in Sweden, Norway and Belgium. Some countries have one and the same emergency telephone number (112), irrespective of the event. Implementation of this unified number across Europe should be considered.

The countries might be more prepared to handle a chemical attack, due to the experience with industrial chemicals accidents, than for a biological incident. In this case the psychological effects will add to the impact. It is important that health authorities provide concise understandable and adequate information to the public to avoid overreaction and panic.

Incidents which have international impacts will constitute special challenges for instance concerning communication (language, efficient channels), lack of compatibility of equipment, lack of interoperability, training, tracking of persons, forensic routines, etc. International training and joint exercises should be encouraged.

In conclusion, response to biological and chemical of incidents could probably be faster, more effective and possibly more cost-efficient for participating members when exchange of information and cooperation for preparedness planning are improved, and resources are pooled.

## Appendix A Questionnaire

### INFORMATION ON NATIONAL EMERGENCY PREPAREDNESS AND RESPONSE TO BIOLOGICAL AND CHEMICAL INCIDENTS WP6000

1. **General background and governing principles**
2. **Emergency preparedness and response on a strategic level**
3. **Biological incidents**
  - 3.1 **Regional level emergency preparedness and response**
  - 3.2 **Operational emergency preparedness and response**

Biological incidents differ from chemical in that the incident may evolve slowly, and in most cases there is no accident scene. Types of incidents may include:

1. Natural outbreak of disease (epidemic disease, or non-transmissible between humans)
2. Covert biological attack, sick people seek medical care from the health services
3. Biological accident from for example a high-security laboratory
4. Alleged release of a biological agent, but no sick people registered yet.

Describe the principal organisation and emergency measures taken in the above cases. Some questions would be:

- Diagnostics
- Reporting system
- If this is caused by a deliberate release of B-agent, how will the incident be unravelled?
- Who will be responsible?
- Who secures the area, takes samples, analyses samples, etc?
- Other?

4. **Chemical incidents**
  - 4.1 **Regional level emergency preparedness and response**
  - 4.2 **Operational emergency preparedness and response**

Chemical incidents comprise large scale chemical accidents, terrorist attacks using traditional chemical warfare agents, attacks using toxic industrial chemicals (TIC) or attacks on industrial complexes resulting in the release TIC, etc.

Describe the principal responsibilities of

- First responders (i.e. police, fire brigade, ambulance personnel)
- Hospitals
- Civil Defence
- Military units such as the Home Guard, Army NBC-units, etc.
- Response squads in the private industry
- NGOs, for instance Red Cross, etc
- Various ministries and affiliated entities (Directorates, Agencies, etc)
- Others

Please include key actors if the above list is insufficient.

5. **International cooperation**  
As part of national response plan